

International Journal of Energy Economics and Policy

ISSN: 2146-4553

available at http: www.econjournals.com

International Journal of Energy Economics and Policy, 2015, 5(4), 1016-1021.



How Secure is the European Union Energy Policy after the Ukraine Crisis?

Yasin Kerem Gümüş*

Faculty of Management, Sakarya University, 54187 Sakarya, Turkey. *Email: ykgumus@sakarya.edu.tr

ABSTRACT

The political tensions which have emerged between Russia and the West after Ukraine crisis put the European Union (EU) energy security problem at the top of the EU agenda. While dependency on Russia and bilateral agreements appear to be weaknesses of EU energy security, decline in demand among EU members and improvement in energy efficiency pose to be strengths. The EU has also some opportunities to deal with the crisis such as decline in oil prices and diversification of energy supply while falls in domestic energy production and Ukrainian question pose threats to the EU energy security.

Keywords: Energy Policy, European Union, Ukraine Crisis, Energy Security

JEL Classifications: Q41, Q48

1. INTRODUCTION

This paper will analyze the Energy Security Policy of the European Union (EU) in the wake of the Ukraine crisis of 2014. This crisis has brought several issues to light, which shall be explored throughout the paper. For example, it is now widely acknowledged that the high- and growing-dependence of EU member states on imports from Russia constitutes a clear weakness in energy security. The crisis may also compound a number of existing problems within the EU, leading to greater weakness in future.

The paper is set out in four parts. The first section evaluates the weaknesses of EU energy security; the second section, its strengths. Section three discusses the opportunities resulting from the Ukraine crisis; while the final section looks at threats faced by the EU. It will be argued that EU energy security appears unstable in the immediate wake of the crisis; and that in the longer term, its success and stability are very much in the balance.

2. WEAKNESSES OF EU ENERGY POLICY

The Ukraine crisis highlighted several clear weaknesses in EU energy security, exacerbated by growing geopolitical tensions with Russia. This weakness was underscored by a number of

commentators in the years prior to the crisis. Urganci and Gumus (2010), for example, noted that EU member states consume vast amounts of energy, and produce very little of their own (European Commission, 2006; 2007; 2014a; 2014b). In 2010, the EU imported 82% of its oil and 57% of its natural gas. It is anticipated, moreover, that these figures will rise dramatically over the coming quarter of a century.

Most of these supplies come from Russia, leading to a situation of energy dependency. As Urganci and Gumus (2010. p. 1) put it: "In this market, Russia has the lion's share." Butler (2014. p. 14) agreed, arguing that the "Ukraine (crisis) has put energy security at the top of the agenda and forcibly reminded Europe of its dependence on Russia, particularly for gas." The extent of EU dependency on Russia is highlighted by the statistics: Approximately 50% of its gas and 30% of its oil is exported from Russia (Butler, 2014; European Commission 2014a; 2014b). It is important to note, however, that dependency is not uniform throughout the EU (European Commission, 2014b). Germany is most dependent, followed by Turkey and Italy; but while the overall problem underscores real weakness in energy security, it is arguably flawed to speak of the EU as a whole without recognizing the many substantial distinctions between its member states (Urganci and Gumus, 2010).

In order to fully analyze the state of EU energy security – in particular, its weakness in relation to Russia - It is necessary to examine the issues more closely. The EU's dependence is based, first and foremost, on Russia being geographically the closest country to it with the supplies and natural resources necessary to fulfill demand (Butler, 2014). Moreover, while theoretically, energy could be imported from countries such as Kazakhstan, Turkmenistan, Egypt, or Qatar, poor quality routes between the EU and these countries mean that the transport of large quantities of oil or gas are not feasible (CNN, 2014a; Butler, 2014). As a result, the EU finds itself dictated to by simple geography in terms of which country or countries it can buy supplies from, and which it cannot. This entails a fairly considerable weakness in terms of energy security given its precarious political relations with Russia in the wake of the Ukraine crisis (CNN, 2014a, 2014b; Urganci and Gumus, 2010).

In many ways, Urganci and Gumus (2010) discussion of this problem foreshadowed the crisis: And its implications for energy security. As they put it: "As the leading energy exporter, Russia is the main actor regarding EU energy security. Therefore, the EU has been largely affected by Russia's energy strategy. Member countries" political relations with Russia have been affected due to this energy dependence (Urganci and Gumus, 2010. p. 2). Looking to recent history, moreover, offers fairly compelling evidence of the relationship between geopolitics and EU energy security *viz*. Russia. For example, during the Russian-Ukraine gas disputes, which took place in 2005-2006 and 2009, supplies were heavily disrupted not only to Ukraine, but 18 other European countries.

Although, as suggested earlier, EU member states have different levels of dependency and therefore should not necessarily view themselves as all facing the same problem in terms of energy security, significant collateral damage can result from merely one European nation being seriously affected. The crises of 2005-2006 and 2009 are evidence of such a state of interdependency. Urganci and Gumus (2010, p. 2) concluded that, "these energy crises have proved that the EU should behave as a union instead of behaving as individual states for European energy security."

The difficulties noted thus far are compounded by a wide range of other problems, most of which are interrelated. Political tensions affect not only energy supply but also energy prices: Tensions can lead to the imposition of sanctions and other prohibitive mechanisms such as export duties, which drive up the price but have nothing to do with the actual level of available resources (European Commission, 2007). On this point, Urganci and Gumus (2010) noted how Russia had used its position as a supplier to the EU in order to increase its political power and gain a stronger foothold in international politics. Moreover, demand is increasing at a quick rate within EU countries while supply is falling, which suggests that availability will gradually decline and prices will rise. Internal political and social issues in exporting countries, such as Russia, also have to be considered, as these can affect prices and availability, or the willingness to engage in international trade.

All these factors lead to particular weaknesses in EU energy security, and all are worthy of analysis. However, Urganci and

Gumus (2010) focused their attentions on the lack of a real union within the EU: Put simply, on too much independence among member states. This point presented itself most clearly during the Russia-Ukraine and Russia-Belarus gas and oil crises, leading to widespread acknowledgement that EU energy policy needs to be more unified and more coherent in a collective sense if its security issues are to be addressed. So much so that in 2007, an elaborate, detailed plan of action was put together and unveiled: Identifying sustainability, security of supply, and competitiveness, as the three central problems which needed urgently to be addressed.

However, this apparent movement towards unification and co-operation within the EU has been undermined on a number of occasions by the creation of bilateral energy agreements between member states and non-member states. One such agreement was signed in 2005 between Germany and Russia, stipulating that the two countries would work together to construct a gas pipeline running beneath the Baltic Sea. Germany had sovereignty and the freedom to operate independently in this area; but for many other EU members, the creation of this pipeline meant that they would then be bypassed in terms of supply (Stang and Dreyer, 2014). The episode also reignited more serious political and military issues between the EU and Russia. Swedish officials, for example, argued that the pipeline was being used as a pretext for Russia to intensify its military presence around the Baltic Sea, an area of major strategic significance (European Commission, 2014a; Spiegel, 2006).

In terms of European unity (or lack thereof), bilateral agreements of this kind bear witness to exactly the kind of weakness emphasized by Urganci and Gumus (2010). By establishing independent relations with Russia, Germany implicitly undermined the drive to create an interdependent energy policy. Moreover, should a crisis develop which affected other EU member states, would Germany – dependent as it clearly is on Russia – have either the ability or will to intervene in support? Its agreement with Russia effectively incentives political manipulation on the part of the latter; even, potentially, aggression (Urganci and Gumus, 2010; Barysch, 2007).

That said, the desire of some countries to "go it alone" in terms of energy supply does reinforce the point made earlier about differing levels of dependence among EU countries; and hence, the need to view them independently. Germany has a far higher level of reliance of Russia than any of its neighbors; it is therefore entirely understandable that it should want to forge closer relations with Moscow. Furthermore, the creation of the pipeline helped shore up the energy security of Germany – although not the EU as a whole – which again calls into question the idea of speaking of collective strengths and weaknesses. If the EU is viewed as a single entity, though, its lack of unity must be regarded as a substantial weakness and clear threat to its security (Urganci and Gumus, 2010).

In any case, lack of unity over energy policy is surely a reflection of a greater problem arising from the structure of the EU. The Union is relatively fragmented, with individual national interests often taking precedence over collective wellbeing. Germany has been the clearest example of this in a number of areas: Not only

over energy security, but also when we consider its deep, continued reluctance to shoulder the burden of the Eurozone crisis on behalf of its weaker neighbors. This has effectively exposed the EU to the "divide and rule" approach employed by Russia. Were countries on a more even footing in terms of size and political power, this would surely not be such a problem. In addition, on a more micro level, the way in which the EU is run on a day-to-day basis, and that it has a rotating presidency means that there is a lack of "institutional memory regarding Russia-EU relations."

3. WHAT ARE THE POWERFUL SIDES OF EU ENERGY POLICY?

Yet in spite of what this paper has argued thus far, there are reasons for confidence in the energy security of the EU. To begin with, according to recent data, demand among EU member states appears to have been in slow decline since 2006, when it reached an apparent peak. This has owed to a number of factors, only some of which point towards long-term security. Improvements in energy efficiency and structural change to a number of EU economies will probably help strengthen the European position in the long-run. The European Commission (2014b) argued that these changes provide evidence of the EU's ability to adapt to changing circumstances, such as the rising price of oil and other fossil fuels. However, the financial crisis provides another explanation: The effects of which will surely recede in time, causing energy demand to begin to rise again.

To focus in more detail on the arguments in support of the adaptability of EU energy policy set out by the European Commission (2014), while the usage of gas has increased steadily over the last two decades, use of renewable energy sources has also risen, with these production methods contributing to a doubling of renewable usage to nearly 11% by 2012 (European Commission, 2014a; MSNBC, 2007). By contrast, the EU's share of solid fossil fuels, where prices have risen more rapidly, have declined from 21% to 17%; and of oil, from 37% to 34%.

Such data suggests that the EU may well have what it takes to weather the problems resulting from the Ukraine crisis. Yet having said this, its share of nuclear energy has remained stable at just 13%: Which, given the value of this resource, suggests that it is not properly amenable to a wider range of sources. Aversion to nuclear energy may well diminish with time, however (European Commission, 2014a).

Reliance on foreign supplies and the weaknesses resulting from this were discussed at length in the previous section. However, it is important to note the distinctions of different types of energy in this respect. Although the European Commission (2013; 2014) concluded that oil dependency remained a high risk area, the same is not necessarily true of gas. Markets for gas have shown increasing resilience in recent years; albeit in the very short-term, transportation problems in Ukraine are likely to cause disruption to winter supplies: Especially to Hungary, Greece, Romania, and Bulgaria. The EU imports 60% of its gas, and its regions of supply are relatively diverse: This reduces the damage likely to

occur as a result of any supply-side shocks. Additionally, there is considerable resilience in terms of infrastructure, derived from the "flexibility of transport infrastructure in terms of location, number and available capacity of pipelines and LNG terminals" (European Commission, 2014a, p. 8). The ability to operate pipelines in two directions, moreover, has created further resilience in recent years.

The relative strengths and weaknesses of EU energy security are very much dependent upon time factors. When looking at short term considerations, there are clearly a number of problems. However, in the more medium term, the European Commission (2014a) has argued that "the 2030 framework for energy and climate policies will generate substantial energy security benefits." For example, the growing focus on the development of indigenous energy sources is likely to strengthen the EU's position over the coming decade, especially as a result of the proposed renewable energy targets. The targets aimed at reducing overall consumption, via the energy efficiency framework, is likely to further improve the situation.

The 2030 framework also proposes a governance scheme to enhance levels of co-operation between member states, which will hopefully serve to offset current weaknesses and mitigate problems created by the Ukraine crisis. This scheme is based around "national plans for competitive, secure and sustainable energy which aims to increase enhance regional coordination and coherence between EU and national energy policies" (European Commission, 2014a. p. 12).

The development of security indicators, laid out in the 2030 framework, is likely to contribute to the EU's ability to preempt shocks; and therefore, to help provide greater security. For this purpose, the Framework set out three main energy security indicators: "Diversification of energy imports and the share of indigenous energy sources used in energy consumption; deployment of smart grids and interconnections between member states; and technological innovation" (European Commission, 2014a. p. 13). Monitoring these indicators as events play out at a global and national level will help to enhance energy security.

Much of this is, it should be acknowledged, largely conjecture; but efforts have been made to project forwards in order to determine EU energy security under different circumstances. So, for example, the European Commission (2014) provided for different projections. In the first projection, the 2030 framework's policies and proposed measures are successfully implemented: Leading to a substantial fall in net imports of energy from abroad, as well as an increase in energy efficiency and fuel diversification. A contributing factor to this will involve the use of indigenous supplies of renewable energy. This suggests that an increase in energy security within the EU is very much attainable.

4. WHAT ARE THE OPPORTUNITIES ARISING FROM THE UKRAINE CRISIS?

The volatility of the armed conflict in Ukraine, combined with the dynamic nature of global gas and oil markets, makes for an ever-shifting geopolitical and economic landscape, in which both Russia and the EU must tread carefully. It should also result in the emergence of certain opportunities for the EU, as it continues working toward a viable, sustainable energy strategy. Although over the long-term, global gas and oil prices have risen (a major factor contributing to the geopolitical resurgence of Vladimir Putin's Russia), more recently, oil prices have declined markedly to 5-year lows (Johnson, 2014). While this decline is unlikely to remain permanent, the sudden appearance of a "buyer's market" has strengthened the EU's bargaining position, and at the same time weakened that of Moscow. Given Russian economic reliance on oil – 50% of its revenues come from fossil fuel exports (Umbach, 2014) - A prolonged dip in energy prices (and consequently, revenues) would help "tame the bear": Encouraging a more cautious, less aggressive foreign policy stance on the Kremlin's part, and perhaps even undermining Russian involvement in the Ukrainian insurgency itself. Indeed, this recent development has already borne fruit by contributing to Moscow's abandonment of its South Stream pipeline plan, a major source of controversy in the EU, and hitherto employed to great effect by Russia as part of its strategy of "divide and conquer" (Gloystein, 2014).

Another opportunity is seasonal in nature. When exploiting its status as energy provider, Russia has always enjoyed greatest leverage over Ukraine and Europe during the winter months, when demand for energy (particularly heating) is highest (Umbach, 2014). If the current winter proves relatively mild, gas stocks should remain high, empowering Europe to withstand a shortage should Russia opt to restrict supplies as a means of pushing back over Ukraine.

Of course, European energy security policy is based on much more than merely hoping for warm weather. Central to its strategy is the idea of intra-union self-sufficiency: The creation of power networks which reduce its dependence on Russia. The EU has made a concerted effort to develop "interconnectors" that strengthen the supply infrastructure and reduce European vulnerability to Russian caprice. "New gas interconnectors between Central and East European countries have interconnected 'EU energy islands' and allow a much better crisis supply of gas, together with new reverse-flow capacities" (Umbach, 2014). That this strategy has focused in particular on the nations of Central and Eastern Europe has a certain geographical significance, establishing a kind of energy "buffer" for Russia's Eastern neighbors, especially those in the vicinity of Ukraine.

Europe is also host to some opportunities of extracting fossil fuel resources from within its own borders. Romania, Bulgaria, Greece and Cyprus all have significant deposits of gas (Umbach, 2014). If they were able to bolster their own "offshore conventional and onshore shale gas projects, it would increase their gas production, create many more sustainable jobs and offer export gas via much shorter and cheaper pipelines than Russia's to other European countries." In turn, this would further strengthen the EU's hand against Russia on energy policy and by extension, on Ukraine.

New sources of energy offer another avenue for Europe to reduce its dependence on Russian fossil fuels and hence undercut Russia's geopolitical clout. However, this opportunity brings with it certain caveats. Although a glut of supplies on the global market gives Europe more options from which it can benefit (Fuchs, 2014), these alternative sources may be more short and medium term than longer term solutions; but then again, perhaps by that point, the Ukrainian conflict will have been resolved or at least cooled to the point that it no longer casts such a long shadow over Russia-EU relations. The uptick in American gas and oil production presents a further opportunity for the EU, as it offers a friendlier, more stable source of fossil fuels: Albeit, the US will not be a viable supplier until 2016 at the earliest (Koranyi, 2014). Many dramatic changes in relations between Moscow and Brussels, centering first and foremost on the unpredictable situation in Ukraine, could take place before then.

Europe also enjoys other opportunities to counter Russian power by diversifying its energy sources. Certain nations in the Middle East and Asia could step up their exports - for example, Kazakhstan, Turkmenistan, Egypt, and Qatar - But the infrastructural impediments to transporting fossil fuels over such long distances, noted earlier in this paper, renders this unlikely (Urganci and Gumus, 2010). Moreover, both Kazakhstan and Turkmenistan are vulnerable to Russian hegemony and could be subject to the same kind of political pressure exerted on Ukraine as Moscow seeks to expand its regional sphere of influence.

5. ANY THREATS TO EU ENERGY SECURITY?

The energy security policy of the EU is also guided by certain threats, both internal and external: A state of affairs greatly complicated by the unpredictability and volatility of events in Ukraine. The crisis looms in the background of every disagreement over energy, even those which are only indirectly affected. In recent days, a sharp increase in fighting around Donetsk and the opening of new fronts has threatened an intensification of the violence. However unlikely, a major expansion of the war in Kharkiv (Ukraine's second largest city, and a pro-Kiev stronghold despite its eastern location) or the region west of the Dnieper River (featuring Dnipropetrovsk and Kiev itself) could prove a "gamechanger," forcing the EU to more forcefully oppose Russia (via sanctions or other more aggressive means), and thus inflaming tensions over energy policy (Economist, 2015).

This threat is dual in nature: If Russia cuts off gas supplies to Ukraine, it would also affect European supplies, as 53% of Russian gas exports travel via pipelines which traverse Ukraine (Umbach, 2014). At the same time, in response to possible sanctions passed by the EU, Russia could retaliate directly by withholding energy (Economist, 2015). At present, Ukraine is experiencing some of the worst fighting seen in months, and nobody knows if it will abate.

Another threat arises from declining output of domestic and regional energy suppliers (such as Norway, the Netherlands, and Algeria). If such falls in production continue, they will imperil efforts to diversify suppliers and obtain energy independence from Russia: Both of which represent the crux of the EU's short and

long term energy plans (Ebinger and Verrastro, 2014).

Additionally, the "asymmetric" nature of the EU-Russia energy relationship poses another threat. While Europe and Russia are mutually interdependent to a large extent – Europe needs Russian fossil fuels, and Russia needs Europe as a buyer of its energy exports – that interdependence is tilted, however precariously, in favor of Russia, which "can live at least 1 year without any European/Western investments and technologies, (while) Europe cannot survive even 30 days without Russian gas" (Umbach, 2014). Indeed, fully 30% of EU gas imports come from Russia (Umbach, 2014). As Koranyi (2014) noted:

"Who stands to lose most if energy again becomes a weapon that is used in the ongoing standoff over Ukraine? In the short-term, it is clearly the EU and especially its vulnerable member states in Central and Southeast Europe and the Baltics. Despite major progress in integrating these countries into the EU's emerging single energy market and interconnect them with each other, their dependence on Russia on gas supplies is still substantial."

Such reliance will place Europe in a difficult, even intractable bind should it be forced to engage Russia more directly over the Ukrainian question.

Finally, internal discord within the Union poses a significant threat. Russia has shrewdly exploited disagreement within the EU over questions relating to energy, and sought to bargain at individual, national level rather than with a unified bloc. "The other (threat) is EU national governments and their state-owned companies. They like the clout of national energy markets and dislike the way that cross-border trade in gas and electricity erodes it" (Economist, 2015).

The EU has also struggled to execute some of its long-term energy plans. For example, the dispute over the South Stream pipeline underscores the threat posed by squabbling among member states (Johnson, 2014). Hungary has positioned itself closer to Moscow, backing the consensus of EU member states on the issue. Bulgaria, on the other hand, has thwarted construction of the pipeline (which would pass through its territory), despite the \$400 million it could earn in gas transit fees (Johnson, 2014). Germany, meanwhile, has maintained a delicate balancing act: Pursuing its national economic and energy interests alongside its role as a leader within the EU and its opposition to Russian military interference in Ukraine. Germany, as this paper has noted, is especially reliant on Russia as an energy provider (Fuchs, 2014).

6. CONCLUSION

This paper has set out the various strengths and weaknesses of EU energy security in the wake of the still ongoing crisis in Ukraine. Its most serious weakness is that of its clear, unambiguous dependence on imports of oil and gas from Russia. Given the political tensions which have emerged between Russia and the West as a result of the conflict, this could pose tremendous problems in the medium

term. That Russia has frequently revealed itself as wholly unafraid of taking advantage of its strong international position only underlines this.

Other weaknesses revolve around the fragmented nature of the Union: Which when it has come to energy policy, have enabled Moscow to conduct a very successful strategy of "divide and rule": Picking off and agreeing key bilateral agreements with Germany, the EU member state most clearly dependent on it, so turning EU members against themselves. In terms of any possibility of a common front against Russia, this has all too frequently resulted in political paralysis in European capitals.

However, EU energy policy also enjoys several often understated strengths. These include the growing incorporation of indigenous renewable sources into energy policy, and new frameworks designed to enhance cooperation. Successful implementation of policies aimed at the medium and longer term will, as this paper has argued, secure European energy security and isolate Russia; while growing levels of production in the US should provide it with an alternative major energy partner.

Ultimately, though, the energy position of the EU is difficult to assess in terms of the future: It is essentially too early to speak definitively of strengths and weaknesses. The geopolitics of the Crimea are still unfolding, as is the response of the EU and the West. Its outcome could have disastrous consequences for European energy security – or alternatively, if the worst does not come to pass, the Ukraine crisis may cool down and recede; and along with it, the threat to energy security in Europe.

REFERENCES

- Barysch, K. (2007), Russia, realism and EU unity, Centre for European Reform, July. Available from: http://www.cer-live.thomaspaterson. co.uk/sites/default/files/publications/attachments/pdf/2011/policybrief russia final 20july07-800.pdf.
- Butler, N. (2014), The beginnings of a common European energy policy, 06 August. p14. Available from: http://www.blogs.ft.com/nick-butler/2014/06/08/the-beginnings-of-a-common-european-energy-policy/.
- CNN. (2014a), Is Crimea gone? Annexation no longer the focus of Ukraine crisis. Available from: http://www.edition.cnn.com/2014/03/31/politics/crimea-explainer/.
- CNN. (2014b), Ukraine crisis: Why it matters to the world economy. Available from: http://www.money.cnn.com/2014/03/02/news/economy/ukraine-economy/.
- Ebinger, C., Verrastro, F. (2014), The geopolitical realities of the Ukraine crises, the limits of U.S. energy assistance, and the need to tone down the rhetoric, Brooking Ins. Available from: http://www.brookings.edu/research/opinions/2014/03/21-ukraine-energy-rhetoric-ebinger-verrastro.
- Economist. (2015), Only connect. Available from: http://www.economist.com/news/europe/21639577-european-union-heads-battle-national-governments-energy-only-connect.
- European Commission. (2007), An Energy policy for Europe, Communication from the Commission to the European Council and the European Parliament, 20 November. Available from: http://www.europa.eu/legislation_summaries/energy/european_energy_policy/127067_en.htm.

- European Commission. (2013), European energy security strategy. Available from: http://www.ec.europa.eu/energy/security_of_supply en.htm.
- European Commission. (2014a), In-depth study of European energy security. Available from: http://www.ec.europa.eu/energy/sites/ener/files/documents/20140528 energy security study 0.pdf.
- European Commission. (2014b), Communication from the commission to the European, 23 July, Parliament. Available from: http://www.ec.europa.eu/energy/efficiency/events/doc/2014_eec_communication_adopted.pdf.
- Fuchs, R. (2014), Germany's Russian energy dilemma, Deutsche Welle. Available from: http://www.dw.de/germanys-russian-energy-dilemma/a-17529685.
- Gloystein, H. (2014), Russia's South Stream pipeline falls victim to Ukraine crisis, energy rout, Reuters. Available from: http://www.reuters.com/article/2014/12/02/us-russia-europe-pipeline-idUSKCN0JG0BU20141202.
- Johnson, K. (2014), Can OPEC kill the U.S. oil boom? Foreign Policy. Available from: http://www.foreign policy.com/2014/12/01/can-opec-kill-the-u-s-oil-boom/.
- Johnson, K. (2014), Putin's pipe dreams. Foreign Policy. Available from: http://www.foreignpolicy.com/2014/12/02/putins-pipe-dreams-

- south-stream-russia-turkey-natural-gas.
- Koranyi, D. (2014), Transatlantic energy security and the Ukraine-crisis: A blessing in disguise? NATO Review, 2014, 5.
- MSNBC. (2007), Low-carbon economy' proposed for Europe. Available from: http://www.msnbc.msn.com/id/16560106.
- Spiegel. (2014), Unprotected in the East: NATO Appears Toothless in Ukraine Crisis. Available from: http://www.spiegel.de/international/germany/ukraine-crisis-shows-up-cracks-in-nato-a-970248.html.
- Spiegel. (2006), Sweden Afraid of Russian Spooks, Spiegel. Available from: http://www.spiegel.de/international/baltic-sea-pipelinesweden-afraid-of-russian-spooks-a448652.html.
- Stang, G., Dreyer, I. (2014), What energy security for the EU? Paris: European Union Institute for Security Studies. p1-4.
- Umbach, F. (2014), Russian-Ukrainian-EU gas conflict: Who stands to lose the most? NATO Review, http://www.nato.int/docu/review/2014/NATO-Energy-security-running-on-empty/Ukrainian-conflict-Russia-annexation-of-Crimea/EN/index.htm.
- Urganci, F., Gumus, A. (2010), Is the European union really a "union"? The weaknesses of the European Union's energy policy brief. Available from: http://www.indiana.edu/~eucenter/documents/ Is the EU really a union.pdf.