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EU and Ukraine – state of affairs in energy security

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Introduction

At the outset of this study we will shortly explain the theoretical approaches dealing with energy security as phenomena, focusing mainly on the political science and international relations scholarship. Further we will analyze the new European energy security architecture with particular focus on natural gas. This is in order to show current and future trends from the EU perspective. Third part will deal with Ukraine and its position within this broader European architecture. The main aims of this paper are to shortly provide an introduction to particular aspects and definitions of energy security; introduce the current state of affairs of the new European energy security architecture and analyze the position of Ukraine in this framework.

It is obvious that a consensus on the importance of energy in general - in its many different forms exists throughout the meanings of all relevant actors including practitioners and researchers. Since the energy shocks in 1970's, the term of energy, or more precisely security of energy supply, has gained more attention as "present asymmetries between the geographical distribution of resources and energy consumers had been consolidated by oil shortages in the petroleum-dependent countries"¹. Energy security thus evolved into a frequent term in different research areas from technical fields up to social sciences and humanities.

Ukraine finds itself in very complicated situation both in regards to internal politics and external influence. Moreover, Ukraine does not possess large amounts of own energy sources – in particular oil. In this case the biggest trading partner is Russian federation which is absolutely aware about this situation and uses its position with an aim to win own geopolitical aspiration. However, it is not only the external factor as the Ukrainian political elites and business often concentrate on own benefits and tend to ignore national security interests.

What is energy security?

At the very beginning, a total majority of research or analytical papers dealing with energy security try to outline what energy security means. Mostly, they come to figure out that to define this issue is very complicated as it might be operated in different levels (from individual to global), sectors

¹ N. Choucrist, *International Politics of Energy Interdependence*, Lexington Books, 1977, pp. 185–6.

(energy as political, environmental, etc. issue), methodological approaches (qualitative or quantitative) or from different scientific fields (technical or social sciences, etc.). The aspect of energy and security is thus inherent to a number of research angles and fields, making energy security highly multidisciplinary subject of research.²

Currently there exist numerous approaches to understanding the concept of energy security. Historically this term appeared in the realm of countries importing energy, which, in general, perceived mostly own interests. The concept of energy security is largely dependent on the context, in which it is interpreted.³ Different national features, not only economy, but also geology and geography significantly affect the perception of energy security.⁴ It is natural that countries do not want to find themselves in the situation of potentially threatening own energy security – which in general is understood as “reliable supply of energy, securing access to energy resources and fuel in the required quantity and quality at reasonable prices.”⁵

European experts so far in the definition of energy security emphasize especially the “security of supply.” Security of supply is particularly important for the EU as it finds itself in the position of extremely high import dependence. F. Ciuta continues in differentiating the reference of energy security. According to him, besides the security of demand, “[D]ebates surrounding the potential participation of NATO in energy security refer most often to the security of energy infrastructure (Cornell, 2007; Clarke, 2007; Gallis, 2006; Shea, 2006). Corporate actors often focus on supply-chain security (Kain, 2007; Lightburn, 2007), and it is also possible to identify formulations of energy security with an almost exclusively environmental focus (UK Department of Trade & Industry, 2007; White House, 2006, 2008)”⁶.

Ciuta further continues in stating three factors that have a significant impact on the relationship between energy and security – energy security as

² L. Chester. “Conceptualising energy security and making explicit its polysemic nature,” *Energy Policy* Vol. 38, 2010, pp. 887–95.

³ B. Kruyt, Detlef P. van Vuuren, H. J. M. de Vries, H. Groenenberg, “Indicators for energy security,” *Energy Policy* Vol. 37, No. 6, 2009, pp. 2166–81.

⁴ B. K. Sovacool, M. A. Brown, “Competing dimensions of energy security: an international perspective,” *Annual Review of Environment and Resources* Vol. 35, 2010, p. 78.

⁵ “Európska stratégia energetickej bezpečnosti,” [European Energy Security Strategy] COM (2014) 330 final, European Commission, May 28, 2014. Available online: <http://www.ozepoort.sk/1doc/StrategiaEnergBez.pdf> (accessed on December 15, 2016).

⁶ F. Ciuta, “Conceptual notes on energy security: total or banal security,” SAGE, April 2010. Available online: http://www.relooney.com/NS4053-Energy/0-Energy-Security_24.pdf (accessed on December 17, 2016).

a “special thing” – total mover, energy security as multicontextual and liminal; and third, security as being banal. Within the first he is operating with totality of energy on practice and concept of security. In his view, energy is

a prime mover, a complex category, a total field. Nothing exists that is not energy, or not affected by energy. Energy security is therefore a homologous field, which means that security ceases to be a bounded domain of meaning and practice. The totality of energy has thus the potential to normalize security and render it politically unexceptional.

Within the second aspect Ciuta emphasizes that security concepts are multiple and complex in different contexts and connotations.

What is the significance of this variation? Is it proof that theorists and practitioners alike have now embraced the multiplicity and construct of security concepts, so their coexistence and interchangeability does not surprise or anguish anymore? In this sense, energy security may be symptomatic of the spillover of theoretical debates concerning the broadening of security into the space of security policy, an effect considered at once inevitable and undesirable by critics of the moves to broaden the security agenda.

This is what he calls the “limitality” of security as an “in-between category of theory and practice.” The third factor lies in the “banality” of the term as such. He is asking whether it is still relevant “to talk of security given how wildly diverse its meanings, objects and subjects have become with the addition of energy. An argument that has gained increasing theoretical purchase recently, this is a call for conceptual and contextual multiplicity that challenges both traditional security studies and securitization theory (Balzacq, 2005; Ciuta, 2009; Doty, 1998; Fierke, 1997; Hansen, 2000; McDonald, 2008; McSweeney, 1999).”⁷ Finally, Ciuta tries to sum up the logic of energy security on the following characteristics:

- a. the principle of subsistence replaces that of survival;
- b. the segregation of energy;
- c. the multiplication of actors; and
- d. the indeterminate pull towards non-specific energy security policies determined by the hierarchy between the dimensions of the environment, growth and sustenance.

Of these, the most important is the distinct logic of security, because (b) and (c) are shared by other views of security.

Here it is proved again that energy security has different meanings depending on authors and actors involved. Terminological and analytical richness of energy security and other terms is an inherent feature to social sciences which makes it more differentiate as well as unsystematic at the same time. Hence it depends on the individual preferences when

⁷ Ibid

analyzing certain aspects of energy security as well as the very aim of the whole research as both these levels are analytically very significant. The lack of categorical boundaries in regards to energy security may cause several discrepancies when preparing e.g. national strategies on energy security, etc. However, we might sum up that the most suitable definition of energy security

is that used by International Energy Agency, which states that energy security is the uninterrupted availability of energy sources at an affordable price. Energy security has many dimensions: long-term energy security mainly deals with timely investments to supply energy in line with economic developments and sustainable environmental needs. Short-term energy security focuses on the ability of the energy system to react promptly to sudden changes within the supply-demand balance.⁸

Energy security and strategies and policies concerning this issue are among the top priorities of the European Union. As mentioned above, EU belongs to those regions which understand energy security rather as security of energy supplies. This perception and reality are closely connected to aforementioned dimension of geopolitical interest of its largest energy supplier – Russian federation. So how does the EU energy security with focus on natural gas look like?

The EU natural gas security architecture

Energy security of countries, which are highly dependent on import of fossil energy sources, depends mainly on geopolitical aspects, import routes, opportunities of their storage and substitution. Energy policy remains despite its increasing incorporation into agenda of many international institutions, in particular the EU under shared competencies, largely subject to individual decisions by member states – this involves, for example, choice of energy mix, which greatly determines the level of energy security of the country. However, European Commission increased the importance of own role in the issue of energy security under the 2016 “winter package.” According to these new rules, EU member states have to inform the Commission

⁸ “What is energy security?” Official website of International Atomic Energy Agency. Available online: <https://www.iaea.org/topics/energysecurity/subtopics/whatisenergysecurity/> (accessed on (accessed on December 15, 2016)).

about any plans on inter-governmental agreements in natural gas and oil with non EU countries. Such agreements cannot be signed until the Commission provides its statement.⁹

Although energy related issues belong to the responsibility of the national governments of the EU Member States and it is a question related to national sovereignty,¹⁰ gradually, joining the energy markets within the EU into one strong, coherent and complex block moves some questions regarding the energy policy to the level of framework of the EU energy agenda.¹¹ The basics of today's Union energy policy as well as some concrete proposals for the implementation of energy policy such as defined in key documents are as follows: complete the internal market for natural gas and electricity; ensure that EU internal energy market guarantees security of supply and solidarity among the EU Member States; carry out an interactive debate within the EU on different energy sources to address the challenges of climate change; reinforce common external energy policy and so on.¹² All of this under the project of Energy Union which emerged as a direct reaction to Russo – Ukrainian natural gas disputes - among others, however, we will tackle this issue further in the text.

As a first step, EU energy strategy for the years 2011–2020 was finally adopted at the EU summit in Brussels on 4 February 2011. It aims to create a stable framework for long-term investment in energy and priority implementation of the Third Energy package. The strategy is based on three fundamentals – supply security, management with low CO₂ emissions and energy competitiveness. The strategy identifies five priority areas, namely: more efficient and greener economy (saving energy and progress towards a system of low-carbon consumption); the integration of the European

⁹ “Štáty únie sa už nedohodnú s dodávateľmi plynu za chrbtom Komisie,” [Member states of the EU will not make deals behind Commission's back anylonger] *TASR*, December 8, 2016. Available online: <https://euractiv.sk/clanky/energetika/staty-unie-sa-uz-nedohodnu-s-dodavatelmi-plynu-za-chrbtom-komisie/> (accessed on December 17, 2016).

¹⁰ “Central European Day of Energy,” CEEP Report, 2016. Available online: http://www.ceep.be/www/wp-content/uploads/2016/12/CEEP-Report-2016-12-FINAL-WEB.pdf?utm_medium=email&utm_campaign=CEEP+Report+-+December+2016+%28Special+...&utm_source=YMLP&utm_term=cxmj_ceepreportheadleft_1.pn... (accessed on December 17, 2016).

¹¹ V. Gonda, “Energetické záujmy EÚ a formovanie spoločnej energetickej stratégie,” [EU's energy interests and the formation of a common energy strategy] *Znalostná ekonomika a jej odraz v ekonomickej teórii a hospodárskej praxi*, Bratislava, 2010, pp. 1–4.

¹² “EU White Paper on Energy Policy for the EU,” 1995; “Green Paper – Towards a European strategy for the security of energy supply,” 2000; “Green Paper on Energy Efficiency,” 2005, but above the “Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy,” 2006.

market infrastructure (creating a modern integrated networks); the development of technologies (achieve leadership in technological innovation); the definition of a common foreign energy policy (strong and coordinated external energy policy); protecting the rights of consumers (businesses and households).¹³

In this regard, EU faces numerous different challenges in this field as the “area of energy” in general could be most precisely labeled by high portion of uncertainty in its future development. The EU energy policy framework counts with several documents which content defines more or less precisely the state of affair within the EU and its member states regarding the energy security. However, the question still remains – how to implement it in the most convenient way both for the EU and its member states as well as for the external suppliers?

Reasonable and proportional setting of energy mix is also one of the key priorities. In this regard, the EU natural gas security of supply and the role of natural gas itself play a crucial paper. An extraordinary development has occurred in last decades in constructing robust interconnected network of natural gas pipelines and LNG, both within the EU and between the EU and its natural gas supply countries. Since several few years such a considerable change has undergone in the field of natural gas supply due to several reasons.

Subject in one of the experts’ debates is whether the main focus concerning gas should be paid to the medium and long term EU natural gas supply. However, in any case it should not be surprising talking about demand as we do not forget about the supply either. In fact, natural gas demand and supply are two faces of the same coin.

Today there is a great uncertainty about what role the natural gas will play in the future mid-to-long term European energy mix. In a situation of general uncertainty, this lack of clarity on future European gas import requirements could postpone upstream and mid-stream investment decisions, thus potentially generating to the EU gas security of supply. Underinvestment may, indeed, threaten the adequate provision of new supplies by exporters or in the development of necessary new infrastructure due to contradictory estimates in gas demand.¹⁴

¹³ “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Energy 2020. A strategy for competitive, sustainable and secure energy,” European Commission, December 9, 2010. Available online: <http://eur-lex.europa.eu/legal-content/es/TXT/?uri=CELEX:52010DC0639> (accessed on December 16, 2016).

¹⁴ M. Hafner, S. Tagliapietra, “Rethinking the EU gas security of supply architecture,” FEEM (Fondazione Eni Enrico Mattei), Review of Environment, Energy and

Here the EU and its member states play a crucial role as the general policy framework in this field is set and implemented by them. Afterwards, the market subjects apply and implement the use of natural gas and resulting demand. “While natural gas was considered to be the “fuel of choice” for some time, it could become the “fuel of consequence” especially where alternatives for gas in power generation are facing specific problems of their own.”¹⁵

As we have already mentioned, when talking about demand, we have to bear in mind rather a long term vision. J. de Jong with his team to certain level criticizes the policy basis of the EU in this respect. He points out to the fact that the EU has reached a consensus on an energy policy framework for the period up to 2020, however, the vision and policies beyond this 2020 horizon are unclear and under consideration. In his words, it “would be very useful to approach these policies and the resulting role for natural gas with the view in mind of giving the levels of demand security that would help suppliers to offer the required levels of supply security.”¹⁶ The discrepancies regarding the projections of future EU demand for natural gas might have the potential to seriously affect the domestic consumption, production and import requirements. A. Macintosh goes even further when saying the uncertainty in future EU natural gas demand is a real threat rather than a potential risk.¹⁷

Natural gas suppliers

The energy security and security of resource supplies is one of the crucial parts of the economic sectors with significant specific aspects and autonomous position. To ensure prosperity, fundamental economic and social functions of the state, it is essential to ensure stable access to sufficient energy and raw materials. A priority task is to limit as much as possible

Economics (Re3), March 23, 2012, p. 1. Available online: <http://www.feem.it/getpage.aspx?id=4690> (accessed on December 16, 2016).

¹⁵ J. De Jong, J.-M. Glachant, M. Hafner, N. Ahner, S. Tagliapietra, “A new EU gas security of supply architecture?” *European Energy Journal* Vol. 2, Issue 3, July 2012, p. 33. Available online: http://www.clingendaelenergy.com/inc/upload/files/A_new_EU_gas_SoS_architecture_2_1.pdf (accessed on December 16, 2016).

¹⁶ Ibid, p. 33.

¹⁷ A. Macintosh, “Security of Europe’s gas supply: EU vulnerability,” *CEPS Policy Brief*, No. 222, Brussels, Centre for European Policy Studies, 2010, p. 8. Available online: <https://www.ceps.eu/publications/security-europe%E2%80%99s-gas-supply-eu-vulnerability> (accessed on December 17, 2016).

economically necessary “uncertainty dependence” on external sources by diversifying routes and suppliers of strategic raw materials.

According to A. Ritter¹⁸,

More than 80 per cent of the global natural gas reserves are located in areas that allow EU gas imports through pipelines. In addition, liquefied natural gas (LNG) supplies are transported by cargoes to the EU’s regasification terminals with sea access. Thus, the EU will not run out of natural gas in the foreseeable future.

In his research paper A. Ritter focuses on the EU risk management of natural gas security of supplies. Hence, he considers EU’s ability to identify and evaluate the risks emerging from dependency on energy sources highly important.

As a growing international actor the EU relies on objective risk assessments in order to be able to manage those risks successfully. Thus, while it is not useful to stoke fears of energy insecurity, the EU should at the same time not underestimate the potential risks stemming from its strong import dependency either.

Natural gas production in the EU is currently concentrated in two countries – the United Kingdom, in which case the noticeable long-term downward trend in production is evident, and the Netherlands, which production is already for years at its peak. In addition, due to the increased frequency of earthquakes in the central exploitation area, probably even a decrease in the process of exploitation will occur, up to a 20 per cent reduction.¹⁹ The main external energy suppliers of the EU are Russia, Norway, Middle East and North Africa (MENA) region and the Caspian basin.

For the countries of the Caspian region, however, we may see a higher affinity of these countries to Asia nowadays. In this case, the planned export of Azerbaijani natural gas through TAP, in principle, it is the only exception. Possibility of diversifying sources in direction of North Africa, includes import from Libya, Egypt and Algeria. These countries have significant natural gas reserves in the amount of 8.1 Tcm (trillion cubic meters) and in 2011, their combined exports to the EU reached 50 per cent of Russian volume.²⁰

¹⁸ A. Ritter, “The EU’s gas security of supply: risk analysis and management,” *EU Diplomacy Papers*, October 2010, pp. 4. Available online: [file:///C:/Users/Acer/Downloads/edp_10_2011_ritter%20\(2\).pdf](file:///C:/Users/Acer/Downloads/edp_10_2011_ritter%20(2).pdf) (accessed on December 16, 2016).

¹⁹ T. Boersma, Greving, G, “Shaken, not stirred: how earthquakes affected natural gas production in the Netherlands,” 2014. Available online: <http://www.Brookings.Edu/Research/Opinions/2014/02/05-Earthquakes-Natural-Gas-Netherlands-Boersma-Greving> (accessed on December 16, 2016).

²⁰ “BP Statistical Review of World Energy June 2013,” BP Global, 2013. Available online: http://www.bp.com/content/dam/bp-country/fr_fr/Documents/Rapportsetpublications/statistical_review_of_world_energy_2013.pdf (accessed on 17 January, 2017).

A further increase in imports from these countries is, however, limited by political instability caused by the recent events of the Arab spring, reducing the scope for additional investments in the region needed to production growth, as domestic subsidized consumption limits the export potential from currently operating fields. The overall potential of the region in terms of foreign direct investment was in addition negatively affected by the terrorist attacks on Algerian complex of extraction of natural gas “Amenas” in January 2013, during which 23 foreign employees of BP, Statoil and Sonatrach were killed.²¹

New discoveries of natural gas in the Levant basin is another issue subjected to current discussions for diversification of sources. Estimates of natural gas reserves from 2013 (EIA, 2013)²² assume about 3.4 trillion cubic meters of natural gas, of which the largest proportion belong to Cyprus and Israel. Nonetheless, there is no need to remind that this area also suffers from instability due to unresolved questioned of divided Cyprus and the ongoing civil war in Syria. Apart from the question of regional (in)stability, the absent infrastructure necessary for natural gas production and exports should be taken into account. Therefore it cannot be expected that natural gas from this area should not have any significant pricing comparative advantage in regard to other suppliers.²³ But even in positive scenario, we cannot expect to export exceeding 13–14 million m³ per year (EU consumption is around 443 billion. M³ / year, and imports from third countries approximately 290 billion m³/year).²⁴ Of course, Norway and Central Asian countries, especially Turkmenistan as well as Iran are another suppliers that may contribute to the diversification of sources. Furthermore, as underlined by F. Birol, director of IEA and euro-commissioner D. Ristori during the Central European Energy Conference 2016 in Bratislava, nowadays we face the LNG revolution interconnected with developments in the US and Australia.

²¹ “Algerian crisis over after assault ends with death of seven remaining hostages,” *The Guardian*, January 2013. Available online: <https://www.theguardian.com/world/2013/jan/19/algerian-crisis-over-death-hostages> (accessed on December 17, 2016).

²² “Country Analysis – Brazil,” EIA, 2013. Available online: <http://www.eia.gov/countries/cab.cfm?fips=br> (accessed on December 17, 2016).

²³ O. Okumus, “Changing prospects for natural gas in the Eastern Mediterranean,” *European Energy Review*, 2013. Available online: <http://www.europeanenergyreview.eu/site/pagina.php?id=4112> (accessed on December 17, 2016).

²⁴ S. M. Obadi, M. Korček, *Energetická bezpečnosť Európskej únie so zameraním na ropu a zemný plyn: teoretické pohľady a empirické dôkazy*, Bratislava: Ekonomický ústav Slovenskej akadémie vied, 2014, pp. 232. Available online: http://Ekonom.Sav.Sk/Uploads/Journals/258_Obadi_Korcek_B5_Kniha_2014.Pdf (accessed on December 17, 2016).

The means of achieving energy security in the EU's context is diversification of sources - in two levels in particular. Firstly, the diversification of the energy mix is crucial. In other words, we have in mind replacement of oil and natural gas with renewable energy sources. Support for the plan is also evident from the „generous“ support schemes aimed at developing renewable energy sources.²⁵ Therefore, it is necessary to apply a second type of diversification, based on building a broader base of partner countries from which it will be possible to acquire oil and natural gas. Diversification of this kind, the EU countries should become safer in relation to the risks arising from high dependence on limited number of suppliers.²⁶

Another important issue needed to be mentioned is the role of European Network of Transmission System of Operators for Gas (ENTSO-G) which is a crucial player in the context of internal EU infrastructure for natural gas and future development planning.

Simply put, when dealing with new EU architecture of security of natural gas supplies, the basic argument is the uncertainty of future energy mix of the EU and its member states, and the role of natural gas in this mix. As this is a medium to long term issue, so should be the policies dealing with this. As M. Hafner and S. Tagliapietra correctly point out the

discussions on the EU's Road Maps 2050 are presenting useful opportunities. Such a view could also give a clear signal to the upstream sector in the value chain, both within the EU but more importantly for the EU's external suppliers. This view could be seen as a basis for further developing, focusing and articulating the EU's external energy relations, energy diplomacy and policy in building secure and reliable relations with the EU's main natural gas suppliers and transport and transit routes.²⁷

The short term vision, according to Hafner and Tagliapietra, “should equally cover three policy chapters: the Infrastructure Package implementation (including enhancing of Project of Common Interest process, stre-

²⁵ “Commission proposes new rules for consumer centred clean energy transition,” European Commission, November 30, 2016. Available online: <http://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition> (accessed on December 17, 2016).

²⁶ “Towards Energy Union: the Commission presents sustainable energy security package,” European Commission, *Press Release*, February 16, 2016. Available online: http://europa.eu/rapid/press-release_IP-16-307_en.htm (accessed on December 17, 2016).

²⁷ J. De Jong, J.-M. Glachant, M. Hafner, N. Ahner, S. Tagliapietra, “A new EU gas security of supply architecture?” *European Energy Journal* Vol. 2, Issue 3, July 2012, p. 37. Available online: http://www.clingendaelenergy.com/inc/upload/files/A_new_EU_gas_SoS_architecture_2_1.pdf (accessed on December 17, 2016).

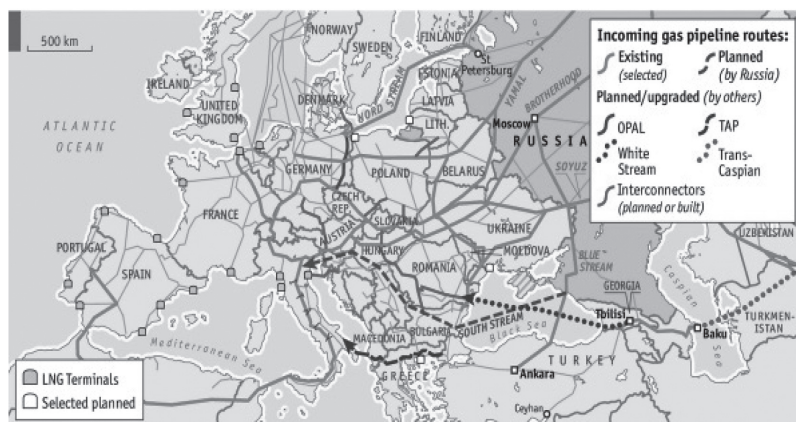
amlining the Cross-Border Cost-Benefit Analysis approach, expediting efficient cross border licensing and permitting; and specifying the role of public versus private money), the (expedited) implementation of the Third Energy Package, and the fine-tuning of the concept of solidarity.²⁸ ... The long-term vision for the role of gas could be less meaningful if not supported by the short-term actions that are required.”²⁹

As we have already mentioned above, Energy Union is a project which is developed also with an aim to face the EU dependency on external natural gas and oil suppliers which was strongly demonstrated during the “gas crises” in 2006 and 2009 between Russia and Ukraine. Based on the previous ideas of Donald Tusk on energy security (published in April 2014 in *New York Times*), the official introduction of the Energy Union project was launched on 25 February 2015 by the European Council as “Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy” and underlines the EU’s ambition to attain secure, sustainable, competitive, affordable energy for every European. As stated in the European Council Conclusions on the Energy Union from March 2015, the EU “is committed to building an Energy Union with a forward-looking climate policy on the basis of the Commission’s framework strategy, whose five dimensions are closely interrelated and mutually reinforcing (energy security, solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of demand; decarbonising the economy; and research, innovation and competitiveness)³⁰”. Another step was identification of so called projects of common interest (PCIs), which must be projects with significant impact on energy markets and market integration, while at the same time comply with climate and energy goals or diversification of sources. For better illustration, current state of affairs looks as follows:

²⁸ As stated in Regulation (EU) No 994/2010 which is a key instrument in case of energy supplies interruption.

²⁹ *Ibid*, p. 39.

³⁰ “European Council Conclusions on the Energy Union,” Council of the European Union, March 19, 2015. Available online: <http://www.consilium.europa.eu/en/press/press-releases/2015/03/conclusions-energy-european-council-march-2015/> (accessed on December 17, 2016).



The role of Ukraine

Where does Ukraine stand within the aforementioned context? First of all, we would like to draw the attention to the fact that there is generally lack of deeper analysis and research on the role of Ukraine in broader European energy security. Basically, the majority of this research is reduced to its position as a transit country, which, of course, is true. On the other hand there is a considerable and quality research on the role of Russian Federation and relation between EU and Russia. Compared to this, only few materials are available on the issue of Ukraine.

Most experts agree on the fact that Ukraine is the most important transit territory when it comes to energy trade between the EU and Russia. “In 2015, Ukraine imported 63 per cent of imported gas from the EU using reverse flow; share of import of oil products from Russia decreased to 20 per cent of all import; and Ukrainian government is planning to import in 2016 more than 30 per cent of nuclear fuel from other sources than Russia. There is no electricity import from Russia in the energy balance for 2016. The share of Russian energy resources is decreasing, which makes Ukraine closer to the EU market.”³¹

The dependency between Russian and Europe is mutual – “more than 90 per cent of Russian gas exports go to Europe, as does about 80 per cent of Russia’s crude oil exports (revenues from oil and gas exports make up

³¹ O. Pavlenko, “The European Union and Ukraine: cooperation for the strengthening of energy security,” EU-Ukraine Civil Society Platform, February 2016. Available online: http://www.eesc.europa.eu/resources/docs/energy_ukr.pdf (accessed on December 17, 2016).

more than 50 percent of the Russian budget).”³² Here the mutual relation between EU and Russia is driven by the following interests – Russia aims to possess a greater control over European natural gas pipelines; maintain the European (and Ukrainian) dependency on Russian natural gas; change the transportation routes with aim to bypass Ukraine and diminish the role of Baltic States and Poland. The position of Ukraine is thus complicated as it aims to maintain the status of important transit country for Russian natural gas and crude oil and at the same time it looks for ways to decrease dependence on Russian natural gas and oil.

According to A. Duleba, for long time Ukraine has suffered from three key issues that were considered as obstacles in implementation of European rules in energy sector – corruption; lack of transparency; and Russian factor. Regarding the fact that Russia is the biggest trade partner of Ukraine in energy, Duleba further continues that “any attempt to reach a political settlement with Russia in the field of gas cooperation is linked to serious challenges for economic (energy in particular) and political security of Ukraine.”³³ In addition to this, Kapitonenko adds another three features or challenges Ukraine is facing in the field of energy in general: “First, outdated equipment and energy facilities, whose modernization requires substantial investment; secondly, high level of energy consumption by the Ukrainian industrial complex, due to lack of technological improvements; thirdly, increasing dependence on external energy sources, most notably natural gas.”³⁴ Moreover, he further identified two common interests in the EU-Ukraine relationship in the field of energy: first is that Ukraine remains the principal transit partner for Europe. Second is about the urgent need of European technologies for Ukraine.

Ukraine needs European technologies and investment to modernize its gas transportation system and decrease the level of internal energy consumption. These interests are interconnected: the more effective the Ukrainian transportation system is, the more reliable it will be as a transit state. From an economic perspective, the Ukrainian gas transportation system can generate benefits for all parties involved: producer, transit route, and importer.³⁵

³² “The role of Russian gas in Ukraine,” European Council on Foreign Affairs, April, 2014. Available online: http://www.ecfr.eu/article/commentary_the_role_of_russian_gas_in_ukraine248 (accessed on December 17, 2016).

³³ M. Gonchar, A. Duleba, O. Malynovskyi, *Ukraine and Slovakia in a post-crisis architecture of European energy security*, Bratislava: Research Center of the Slovak Foreign Policy Association, 2011, p. 45.

³⁴ M. Kapitonenko, “Ukrainian energy security: between mortgage and profit,” The German Marshall Fund of the United States, October 2012, p. 1. Available online: [file:///C:/Users/Acer/Downloads/1350600072Kapitonenko_UkraineEnergy_Oct12%20\(1\).pdf](file:///C:/Users/Acer/Downloads/1350600072Kapitonenko_UkraineEnergy_Oct12%20(1).pdf) (accessed on December 17, 2016).

³⁵ Ibid

In regards to Ukrainian efforts in increasing renewable energy resources, the background paper of International Renewable Energy Agency (IRENA) concludes that

increasing the renewable-energy share from 13,2 per cent under the Reference Case to 21,8 per cent in REmap 2030 would result in savings of USD 175 million per year in 2030, and when accounting for benefits resulting from reduced health effects and CO₂ emissions savings would increase to USD 1,3 billion per year based on conservative estimates, and yield USD 5,5 billion in savings in 2030 based on more aggressive estimates.³⁶

One of the most important ways of EU–Ukraine cooperation in the field of natural gas and energy security is the Ukraine accession to the Energy Community as of 2010 with status of contracting party. According to this status, the contracting parties

have legally adopted the European energy acquis that includes the TEP and are in the process of aligning national regulations with those of the EU, slowly building up the necessary legal and physical infrastructure. ... The cross-border gas market integration of the Energy Community will contribute to a well-functioning wholesale market in the greater Central and Southeast European (CSEE) region.³⁷

So how did the situation change in recent years? According to the analysis of Razumkov Center, the Ukrainian natural gas consumption in 2015 amounted 34 bcm out of which 59 per cent was produced domestically and 41 per cent was imported. Out of imported 16,4 bcm of natural gas, 63 per cent came from EU (9,7 bcm from Slovakia, 0,4 from Hungary and 0,2 from Poland) and the rest – 27 per cent came from Russia. From Ukrainian perspective, but very impressive in general is 0 per cent purchase of natural gas from Gazprom. Regarding the supply from EU, this was provided by ten companies (Statoil, E.ON, etc.) which means that Ukraine could be considered a country with an open gas market since 2015. Another important step was the adoption of the Natural Gas Market Law in 2015. Importance of this law lays in establishment of the need to “unbundle regional gas companies with separation of the regional gas network operator function from the natural gas vendor function”. Furthermore it is expected that this year, 2017, the unbundling of Ukraine’s major oil and gas corporation “Naftogaz in Ukraine” will be concluded. Central European countries, especially the Visegrad region cooperated with Ukraine in considerable way, especially in reverse deliveries of natural gas from European markets which amounts more than 21bcm/year. As already mentioned, Slovakia

³⁶ “REMAP 2030 Renewable energy prospects for Ukraine,” IRENA, April 2015. Available online: https://www.irena.org/remap/IRENA_REmap_Ukraine_paper_2015.pdf (accessed on December 17, 2016).

³⁷ “Single gas market and energy security in the Visegrad states: models, challenges and perspectives,” Report of the National Centre for Strategic Studies, 2016. Available online: <http://www.sfpa.sk/wp-content/uploads/2016/09/REPORT.pdf> (accessed on December 17, 2016).

played a crucial role, however another project is under construction – the Drozdovychy – Germanovychy pipeline between Ukraine and Poland with capacity of 7,0 bcm/year. This project will serve primarily on order to assure diversity of supplies as it should be supplementary to the Polish Northern Gate project which aims to deliver Norwegian gas to our region. Last but not least, Ukraine intends to invest in modernization of the pipelines, compressor and gas-metering stations on the main gas pipelines as Soyuz, Progress, etc. In terms of cooperation and relations with the EU, Ukraine is not only a passive actor, but tries to argue very strongly in several cases, where the EU might have failed, as it is seen in case of Russian involvement in OPAL pipeline, which according to Ukraine violates the principles of Energy community and European Energy Security Strategy.³⁸ Since 2014 we see an impressive development in Ukrainian energy sector that is without precedent. Ukraine is very well aware of its position towards Russia and in certain cases it also capable to remind the EU countries about the principles of energy security.

In addition, we may add an instance of good practice on regional level in the field of natural gas supplies. When Russia stopped the flow of gas to Ukraine in June 2014 Slovak and Ukrainian governments (with participation of national gas transit system operators, Naftogaz of Ukraine and Eustream, a.s.) agreed on the reverse gas flow. Thanks to this Ukraine gained access to an alternative route and source of the supply of natural gas. On September 2, 2014, a new interconnector running from Slovak Vojany to the Ukrainian border, with a new metering station, was launched into operation with an annual capacity of 10 bcm. Two months later its capacity was increased to 11.4 bcm per year; and finally, starting from March 2015 to more than 14.5 bcm per year. Reverse flow via Slovakia helped Ukraine to manage its basic energy needs and to survive the winter of 2014–2015. As for now, the transmission systems of Slovakia, Hungary and Poland together can ensure an alternative supply for Ukraine's natural gas import needs, which is around 20 bcm a year.³⁹

From the EU point of view, mutually beneficial for both the EU and especially Ukraine is the free and equal access to natural gas transport system in Ukraine. In this regard,

transfer of the point of acceptance of Russian natural gas for its European consumers to the Ukrainian-Russian border as well as providing European customers with the free and equal access to the natural gas transportation system of Ukraine – will be an ap-

³⁸ "Ukraine: Brief overview of natural gas and electricity markets," Razumkov Centre, CEDE paper, November 2016. pp. 1-5.

³⁹ "Slovakia: Brief overview of natural gas and electricity markets," SFP, CEDE paper, November 2016.

propriate response to Russian construction of the pipelines bypassing Ukraine.⁴⁰

Nonetheless, both the EU and Ukraine should be more active in developing mutual relations in the field of energy and natural gas supplies. Ukraine is highly dependent on EU support against Russian intentions to bypass Ukrainian territory.

Recommendations

As already mentioned, the general definition of energy security identifies most important factors that are 1. availability of energy sources at 2. an affordable price, while the third factor may be added – time horizon. Based on this concept of energy security, what should be done in Ukraine to enhance own energy security with specific focus on natural gas? What should EU and Slovakia do to assist Ukraine in this process? In order to provide specific answers, we identified the following points/recommendations:

- EU and Slovakia should continue in full support of Ukrainian efforts in liberalization of the national gas market. The aim of Gazprom gas dependency reduction was basically reached in 2016 when Ukraine imported 0 per cent of gas from Gazprom. This was possible also thanks to Slovak reverse flow mechanism.
- EU should support initiatives of the Visegrad region to assist Ukraine, especially through the reverse flows and building inter-connectors and additional transport structures, especially that between Poland and Ukraine and Hungary and Ukraine.
- EU countries should very carefully (re)consider the construction of North Stream 2 pipeline which brings a threat of complete bypassing of Ukraine and Slovakia as well. Slovakia should continue in its current position against this project and advocate more on EU level about possible consequences.
- EU, based on the priorities of the Energy Union itself, should find more ways to diversify not only routes but energy sources to avoid high dependence on one big supplier – as is the case in natural gas.
- Slovakia and EU countries should continue to assist Ukrainian authorities in process of different reforms in energy sector and provide own lessons learned that might be transferred to Ukraine, especially in the field energy efficiency.

⁴⁰ M. Gonchar, A. Duleba, O. Malynovskyi, *op.cit.*, p. 34.

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