

Milan Vosta¹, Svitlana V. Musiyenko²

ENERGY SECURITY AND ENERGY POLICY OF THE EU IN THE CONTEXT OF RESOURCE IMPORT DEPENDENCY

The article defines the concept of "energy security", its importance for the EU and provides the assessment of the situation in the EU energy sector. The survey confirms that the EU highly depends on the imports of primary energy sources. Special attention is paid to the new ways of improving energy security of the EU and, as a consequence, the need for establishing the EU Common Energy Policy.

Keywords: energy security; energy resources; energy policy; import dependecny.

JEL classification: F23; F50; F60; L17; L70.

Мілан Вошта, Світлана В. Мусяєнко

ЕНЕРГЕТИЧНА БЕЗПЕКА ТА ЕНЕРГЕТИЧНА ПОЛІТИКА ЄС У КОНТЕКСТІ РЕСУРСНОЇ ІМПОРТОЗАЛЕЖНОСТІ

У статті досліджено поняття «енергетична безпека», її значення для ЄС, а також оцінено ситуацію в енергетичному секторі ЄС. Підтверджено високу залежність ЄС від імпорту первинних джерел енергії. Особливу увагу приділено можливості підвищення енергетичної безпеки ЄС і, як наслідок, необхідності Єдиної енергетичної політики ЄС.

Ключові слова: енергетична безпека; енергетичні ресурси; політика в галузі енергетики; імпортозалежність.

Табл. 3. Літ. 22.

Мілан Вошта, Светлана В. Мусиенко

ЭНЕРГЕТИЧЕСКАЯ БЕЗОПАСНОСТЬ И ЭНЕРГЕТИЧЕСКАЯ ПОЛИТИКА ЕС В КОНТЕКСТЕ РЕСУРСНОЙ ИМПОРТОЗАВИСИМОСТИ

В статье исследовано понятие «энергетическая безопасность», раскрыто ее значение для ЕС, а также дана оценка ситуации в энергетическом секторе ЕС. Подтверждена высокая зависимость ЕС от импорта первичных источников энергии. Особое внимание уделено возможности повышения энергетической безопасности ЕС и, как следствие, необходимости Единой энергетической политики ЕС.

Ключевые слова: энергетическая безопасность; энергетические ресурсы; политика в области энергетики; импортозависимость.

Introduction. Today's economic development is strongly associated with the concept of energy security. Financial speculation in this field leads to rising prices for raw materials, but the major reason is the development and industrialization of Asia, especially China, India and other South East Asian countries. Further important cause for concern is the rapid depletion of the raw materials sources.

1. Energy Security: dimensions and principles. Energy security describes the efforts of individual countries to ensure a sufficient amount of energy, in particular fuel, so as to decrease their dependence on imports of energy sources. Energy security, as a specific aspect of security, is defined by O. Krejci as the security which ensures the continuity of oil, gas and electricity supplies at reasonable prices, while at the same time limiting/eliminating damage to the environment caused by the production and supply of these commodities (Krejci, 2011: 12).

¹ University of Economics, Prague, Czech Republic.

² University of Economics, Prague, Czech Republic.

Energy security deals with the following threats to the continuity of supply at a reasonable price: raw materials' price shocks; interruptions in the supply of raw materials due to natural disasters and/or political problems; the depletion of traditional energy sources as well as their substitution by alternative sources (Prorok, 2008). The European Commission defines energy security as the uninterrupted physical availability of energy products at the market at affordable prices for all consumers, taking into account the environmental protection and sustainable development principles (European Commission, 2000).

The issue of energy security at the European level really came to the forefront of concern during the oil shocks of the 1970's. The efforts invested in creating a common EU energy policy is energy security in action. The EU energy policy is currently focused on creating an internal energy market. A member state has two options when it comes to ensuring energy security. If it has a sufficient amount of own energy resources, then it is self-sufficient in terms of energy. The other option, and the more likely one, is to import fuel at the best price possible. The second option is more complicated, as the demand for fuels can change significantly being closely linked to the rates of fuel consumption. Imports are also tied to the conditions prevailing in a supplier country. The stability of international situation, as well as the relationships between the states (political problems, transport corridors) are crucial factors effecting price fluctuations. International stability is also vital, especially the prevention of energy crises (Lasicova and Usiak, 2012).

In principle, energy security has several historical milestones, which helps documenting the relationships history within energy policy, including its economic consequences. In the early 20th century, the concept of energy security was concerned with supplying armies with fuel. This changed with the first oil shock in 1973 (Cherp and Jewell, 2011: 1). Another milestone was the Islamic revolution in Iran, and the deterioration of its relations with the USA and also the involvement of the Soviet Union in Afghanistan (Krejci, 2011: 14–15). At present, several recent events affecting energy security may be mentioned. And that is the protection of critical energy infrastructure from terrorist attacks. The terrorist component ("terror premium") is, according to oil analysts, already included in the oil price. Energy security also means the West protecting the energy infrastructure of some fragile countries (Koknar, 2009). High priority here is given to energy security in its several dimensions. The following can be considered among the key aspects of energy security: physical accessibility (geological, technical and geopolitical), affordability (energy availability, price fluctuations), energy and economic efficiency, as well as environmental factors (including social responsibility) (Sovacool and Brown, 2009).

The prevailing opinion today emphasizes on physical availability of resources. The emphasis is on independence and diversification in raw materials to ensure adequate and uninterrupted supply of domestic energy while minimizing the dependence on foreign sources. Here, cost means the price of the energy source. This determines the amount of energy sources chosen by consumers. Price stability is as important as the price level. Price fluctuations impact the consumer behavior, and also influence on trade development. In particular, long-term fluctuations affect trade negatively. The quality of material resources and the related services also play an important role.

According to Yergin (2006), there are some basic assumptions of security which appear in the official EU documents. These are the principles that should help countries ensure their energy security. The most important one is to diversify sources. It is recommended that the individual member states, and the EU as a whole, within the framework of its integration project, stops being dependent on imports from a single supplier country. Diversification of suppliers ensuring market stability is advantageous for both importers and exporters. Another principle is resilience, or elasticity. In this case, countries should create adequate supplies of raw materials which they can store and build sufficient infrastructure of fuel and energy supply. Yet another idea is that under market complexity, individual states should seek to maximize their connections at the world market, with the greatest number of participants, which could bring them a number of advantages. The last principle is awareness. This means that a country entering the energy resource market should know this market well, and should be able to anticipate further developments, as well as being able to respond to them effectively. The question of energy security within the EU development strategy is important from the perspective of the real political power of the EU. A common energy policy could become a focal point of whatever strategy is adopted (Balaz et al., 2011: 40–41).

2. The EU Energy Situation and its Import Dependency. The energy situation within the European Union, which has long been dependent on energy resources imports, mainly from Russia, is quite problematic. There has been a slight, relative decline in the consumption of fossil fuels in the recent years. The total energy consumption increased in the period 1995–2011 at a moderate pace, and the in 2005 it amounted to 1644 mln tons. In 2011 it hovered at 1662 mln tons (European Commission, 2014). The indicator of the EU energy dependence in 2012 amounted to 53.4% of the value of all imported primary energy sources put together. More than half of the domestic demand is currently covered by imports from the countries outside the EU. The only country in the EU that was in 2012 a net exporter of primary energy sources was Denmark (-3.4%). Its energy dependence, however, for the past 5 years decreased by 30%. On the other hand, the economies most dependent on imports of primary energy sources are Malta, whose import in 2012 exceeded domestic consumption (100.5%), Ireland, Italy, Cyprus, Lithuania, and Luxembourg. Their dependence on imports exceeds 80%. Among the least dependent countries are Czech Republic (25.2%), Estonia (21.1%), Poland (31.7%), Romania (20.3%) and Great Britain (26.6%) (European Commission, 2014).

The most important primary energy source, which forms the basis for consumption in the EU is oil. In the last 10 years oil production in the EU decreased from 3185 ths barrels per day to 1,437 barrels per day (BP, 2014). Total oil production in the EU represents only 1.7% of the world production (as of 2013). The most important oil producers in the EU are the United Kingdom, which in 2013 yielded 60% of the total EU oil production. Of less importance are Denmark (12%), Italy and Romania. For comparison, Norway as the largest European oil producer, in 2013 extracted more oil than all European countries together (BP, 2014). In the last 10 years there has been a decline in the EU production and consumption of oil. The decline in consumption was not directly proportional to the decrease in production. Oil is the only source of energy for Malta, and for Cyprus too. Many EU countries

are heavily dependent on oil, it is the main energy source in some member states. Oil accounts for more than half of primary energy consumption in Belgium, Denmark, Greece, Spain, Croatia, Italy, Lithuania, Netherlands, Austria and Portugal. The largest consumer of oil and petroleum products in 2013 was Germany, with the total volume of 112.1 mln tons, followed by France (80.3 mln tons) and Great Britain (69.8 mln tons) (European Commission, 2014; BP, 2014).

Table 1. Primary energy import dependency of the EU in 1995–2012, selected countries, % (European Commission, 2014)

	1995	2000	2012
Imports from outside the EU			
EU 28	43.0	46.7	53.4
Index 1995	100.0	108.5	124.0
Outside the EU and intra-EU imports			
Germany	56.8	59.4	61.1
Great Britain	-16.4	-16.9	42.2
France	48.0	51.5	48.1
Czech Republic	20.6	22.8	25.2
Poland	-1.2	9.8	30.7
Slovakia	68.5	65.5	60.0

The main suppliers of oil to the European Union in 2012 were Russia, Norway and Saudi Arabia, their common share of oil imports to the EU was 54% (European Commission 2014). The once increasing flow of oil from Libya was interrupted by the Arab Spring, thus Libyan imports have decreased in recent years. On the other hand, there is increased supply from Nigeria, Azerbaijan and Kazakhstan. The largest importers of oil to the EU are the Netherlands, Germany, France, United Kingdom and Italy. The rate of import dependency on oil in the EU is growing, and in 2012 it reached 88%. Since 1995, the rate of import dependency on oil and petroleum products increased by 14.8%, and it is expected that this trend will continue (European Commission, 2014).

The second most important source of primary energy in the EU is natural gas. The total EU consumption accounts for almost 23.5% (Table 2). The largest supplier is Russia, which uses its dominant position as political leverage, and adapts its pricing policy according to political needs. The basic trend is the widening gap between EU production and consumption. Gas production in the EU has been declining in recent years, as is the case with oil, but import dependence is growing. Since 1995, the import dependence indicator for natural gas has increased by 22.4%, and in 2012 reached 65.8%.

Table 2. Consumption of primary energy sources in the EU between 2010 and 2013, %, adjusted by the authors of the (BP, 2012; 2014)

Ranking	1	2	3	4	5	6
Source	oil	gas	coal	nuclear	renewable	water
2010	38.2	23.8	16.9	12.1	4.8	4.1
2013	36.1	23.5	17.3	11.8	6.6	4.9

The largest producers of natural gas in the EU are the Netherlands (2% of the world production) and Great Britain (1.1%). They are followed by Germany,

Romania, Denmark and Italy. However, the overall production is approximately 30% of the total EU consumption (BP, 2014). Natural gas consumption in the EU has grown, especially in the past decade. Since 2011, consumption is decreasing, showing high elasticity of demand for this commodity in relation to GDP. The proof of close ties between demand and GDP growth is the very interconnected market, which offers flexibility to consumers. The largest volume of natural gas in the EU is imported by Germany (21.5% of the EU imports), Italy, Great Britain, France and Spain (European Commission, 2014). The Netherlands and Denmark are fully independent of natural gas imports. Nearly absolute dependence is exhibited by Estonia, Finland, Lithuania, Luxembourg, Portugal, Slovakia, Spain and Sweden. Dependence on gas imports in many countries exceeds 90% (European Commission, 2014). The Netherlands plays an important role in the supply of natural gas to other states. Its export to the EU is almost equal to Algerian gas exports to the EU (BP, 2012). The main suppliers of natural gas to the EU are: Russia, Norway and Algeria. The volume of imports from those countries in 2012 accounted for 76% of the total gas imports to the EU (European Commission, 2014).

The European Union is also an important import market with liquefied natural gas and absorbs 29% of the total world imports of LNG (liquefied natural gas). The main suppliers of LNG to the EU are Africa and the Middle East. The largest importers of LNG in the EU are the United Kingdom and Spain. The main suppliers of liquefied natural gas to the EU are Qatar, Algeria and Nigeria (BP, 2012). It can be concluded that the diversification of gas imports to the EU is still smaller than in the case of oil. The third most important source of primary energy, used in the EU, is the old reliable coal. Its position, however, in many countries continues to decline, and the long-term trend in the EU is the decreasing difference between the production and consumption of coal in the last 10 years. The EU largest coal producer is Poland, even though its production over the past ten years has decreased. Germany is the EU second largest coal producer while Czech Republic was placed third in 2013. The largest coal consumer in the EU is Germany, which in 2013 consumed 28.5% of the total EU coal volume. Poland consumes almost 20% of the EU coal output, while the UK uses 13%. Other large consumers are Czech Republic and Italy (BP, 2014). Dependence on coal imports in the EU is lower than that for oil and gas imports. However, it has been growing over the past 20 years, and it continues to grow.

The largest importers of solid fuels in the EU in 2012 were Germany, Great Britain, Italy, the Netherlands, Spain and France. The UK imported the most of coal. Given the traditional dependence on coal for the production of electricity, and industrial production, the EU dependence on this fuel remains rather high. Czech Republic and Poland are independent of solid fuel imports as such (European Commission, 2014).

The territorial structure of coal suppliers in the EU is characterized by a slightly greater diversification than that for the supply of oil and gas. The largest exporter of solid fuels to the EU is Russia, which has 26% of the total EU imports of solid fuels (as of 2012). Russia is also the dominant supplier of oil and natural gas, and its share of the market is growing. Russia is followed by Colombia and the USA with 24% and 23% market shares respectively. As of today, coal imports from the USA are growing, as is the local market for inexpensive shale gas (European Commission, 2014).

It can be said that energy import dependency of the EU is increasing in the long term. While in 1995 it stood at 43%, in 2012 it already exceeded 53%. In 2013 it even approached 54%. Gas and coal import dependency is increasing in the EU, but most EU member states are dependent on imports of oil and petroleum products (87.8%), followed by gas (65.8%). The EU is the least dependent on imports of solid fuels (53.4%), especially hard coal (42.2%) (European Commission, 2014).

Table 3. EU 28 Energy Import Dependency in 1995–2012, %
(European Commission, 2014)

Fuel	1995	2005	2010	2012
Solid fuels	21.5	30.6	39.4	42.2
Petroleum and products	74.0	75.7	84.4	86.4
Natural gas	43.4	48.9	62.1	65.8
Total	43.0	46.7	52.7	53.4

3. First Energy Security and Energy Policy. The analysis shows that the European Union as a whole is heavily dependent on fossil fuels imports. High dependency is a characteristic of most individual countries. Import dependence is an issue associated with energy security. The EU is under threat, not only from the risks related to the lack of fuel, but also to the transportation and storage of fuel. This import dependency places the EU in a vulnerable position because of deteriorating relations between Russia and Ukraine, inter alia. The EU energy security was most threatened in 2009, when the supply of natural gas, piped through Ukraine, was interrupted by Russian-Ukrainian dispute. Before that in 2005 and 2006, the gas supply was also blocked due to yet another Russia-Ukraine disagreement. These gas crises have demonstrated the complexity of gas transportation through transit states. They also highlighted the extent of EU dependence on Russia, which supplies the EU with 32% of its natural gas (2012). Because of the very narrow diversification of gas suppliers to the EU, Russia occupies the dominant position among the three supplying states. Russia supplies nearly 80% of the total EU gas. The European Union is forced to lead a rather commercial foreign policy, because efforts at bilateral meetings during the crises proved to be ineffective (Ratner et al., 2013). In addition to the complexity of the situation, recent developments in Ukrainian-Russian relations are not helping.

In 2011, two events occurred being directly related to the energy security of the EU. The Arab Spring uprisings across the Arab world ultimately led to oil prices increase, which have more than doubled in the last 3 years. The second event was the earthquake and subsequent tsunami which struck Japan in spring 2011. In addition to the environmental consequences arising from this event, there were also general economic and political consequences. Both these events significantly affected the European Union. The increase in the price for crude oil, higher transportation costs and debates regarding other options, including the use of nuclear energy; have once again highlighted interest in energy security.

These externalities have led to the fact that EU energy policy focuses more on protecting energy supplies from within its own market. In 2011, the adoption of the Regulation on the security of gas supplies, which obliges the member states follow norms and standards on storage facilities for natural gas led to the reconstruction of

old reservoirs, as well as the construction of new ones. Furthermore, it was the elaboration and improvement of supply standards to be applied under limited gas supply or gas potential crises. The EU has also made preventive and contingency plans, designed to increase the efficiency of the use of common gas reserves under crisis. The European Commission has also issued the "Infrastructure Package". It is included in all new parts of infrastructure necessary to connect the EU to energy sources. In addition, the package presents the proposals on the reconstruction of the existing facilities to increase capacity, and the increase in the possible use of other energy sources. It is necessary to reconstruct one-way infrastructure, and enable consumers quickly and seamlessly adapt to the new situation. Funding for these projects will involve the companies which operate these devices (European Commission, 2011a).

The EU energy policy is one of its most important policies, although in the past it was often neglected. It was not until the early 1990 that the EU energy policy has started taking its present form. The original initiative did not involve energy dependence, but environmental protection. In 1995 the "White Paper: An Energy Policy For The European Union" was introduced. It was the first work to define the situation of internal and external energy import dependence. It emphasized the seriousness of the growing dependence from energy resources imports due to growing consumption (European Commission, 1995). In 2000 the EU introduced its Green Paper "Towards a European Strategy for the Security of Energy Supply". This document pointed to the necessary reorganization and diversification of the energy sources imports, and at the same time warned against the increasing fuel import dependency. It also limited the extraction of scarcely economically viable resources within the EU (European Commission, 2000). Further developments in energy policy were directed towards greater diversification of resource management, energy demand, improved supervision of external energy supplies and the establishment of the internal market.

Another important document was the Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy"; introduced in 2006 after the first Russian-Ukrainian crisis. This paper contained the major declaration of the EU energy policy, namely, energy sources diversification. It emphasized the consistency of the EU on energy issues. This is instead of individual approaches of each member state, which in the long term cannot be successful. Other important elements in the document give priority consideration to the construction and reconstruction of energy infrastructure. Although the document did not specify the procedures for diversification, it did offer some possible new options for the supply of energy sources, focusing on Africa and the Caspian region. The success was also an agreement on common coordinate action against Russia and on the preparation of the Action Plan (European Commission, 2006). Another important document was the Communication from the Commission to the European Council and the European Parliament entitled "An Energy Policy for Europe" which later became part of the so-called "Action Plan for the years 2007–2009". This Action Plan identified a number of proposals and solutions to be implemented under Common EU Energy Policy. The creation of an internal market for electricity, increasing energy security import, strengthening international energy policy, energy efficiency etc. are essential for ensuring energy security for the EU (European Commission, 2007). The third energy package (2009) was designed to foster liberalization, interconnection and regional cooperation at the

energy market. Also, rules were introduced for the internal market in oil and gas (euroactiv.cz, 21.07.2009).

The fundamental objective is to ensure competitiveness, sustainability and energy security in the EU by means of the internal market creation. This common market should support the improved coordination of the external energy policy as well as to promote energy efficiency. This is related to improving the current state of energy infrastructure as well as the construction of new facilities. However, it is also associated with the use of new forms of energy, such as liquefied natural gas. The creation of an internal energy market still faces different national approaches. An important factor is the difference in the levels of energy sources availability, as well as the focus and the composition of the energy mix in the EU.

The "Europe 2020" strategy was adopted in 2010. Under this strategy the European Commission has proposed 5 measurable objectives to be met by 2020, to be adopted as national targets. This includes the following objectives: employment, research and innovation, climate change and energy, education, fighting poverty (European Commission, 2010).

Energy policy comprises the crucial second and third objectives. Priority is to be given to reducing energy dependence through the development of technologies that will lead to greater energy efficiency and energy savings. The main goal is the achievement of the "20-20-20" balance, first introduced in 2008 as part of the energy-climate package, with the aim to reduce greenhouse gas emissions by at least 20% as compared to the 1990 levels, or by 30% if the conditions are right. Another objective is to increase the share of renewable energy to 20% of the total consumption. The last target is to increase energy efficiency by 20%.

The European energy strategy document "Energy 2020: A Strategy for Competitive, Sustainable and Secure Energy", adopted in March 2011, is a strategy for competitive, sustainable and secure energy, it is expected to be part of the overall reform of the EU energy sector. "Energy 2020 Strategy's" top priority is energy-efficient Europe, which focuses on energy savings in transport and construction. The key priority is the creation of a common energy market by 2015, for which it is essential to coordinate the energy policies of all member countries.

Conclusion. The EU energy security is directly related to its import dependence, which in the EU is huge and is growing steadily. Ensuring energy security is a complex issue involving a number of risk factors. Enhancing energy security is included in the ever-evolving energy policy, which suggests some possibilities, but it is also the subject for many discussions. Energy consumption in the EU has many characteristics, with fossil fuels being a dominant feature in consumption patterns. Opportunity for strengthening the energy security would appear with changing structure of the fuel-energy balance, significantly greater use of renewable energy sources as well as greater use of non-conventional energy. It is also essential to expand the portfolio of suppliers of strategic raw materials, including their participation in strategic projects. Complicated changes are not only related to the consumption of crude oil and petroleum products consumed by the transport sector. There are still no major changes in this sector.

In the case of electricity, which accounts for most of the consumption of primary energy sources, there will probably be greater use made of the potential of nuclear

energy, but there is currently a lack of uniformity in the approaches of individual countries in this field. The key point of energy policy leading to import dependence reduction is the use of renewable resources. These resources should, by 2020, cover 20% of the total energy consumption. That means that they should account for 34% of all electricity generation, and 21.4% of heat production. Their use should also increase in the transport sector, which is estimated to use about 11.7% energy resources. High share of natural gas in primary energy consumption could be partially substituted in the future by shale gas, the reserves of which are relatively large in the EU. However, since the development of commercial extraction, with many attendant problems, including environmental pollution, as well as disadvantageous dispersal areas in terms of population density, it is not really impossible to say what will take the place of imported gas.

One possibility could be to strengthen energy security through of diversification of energy resources suppliers. The European Union should focus on geographically accessible regions, and from this perspective, the key regions would be the Caspian, Africa, including the Gulf of Guinea, and undoubtedly the Middle East. In this connection, some countries, especially Turkey and Georgia, are becoming increasingly important as transit countries. The Mediterranean countries will become ever more significant in fuel transportation. However, barriers remain in all regions in the form of political instability and the need for investments in the current energy infrastructure. In the case of the extension of gas suppliers range, there is still a possibility for increasing the LNG supply. This method has two main advantages: a relatively wide base of potential suppliers and the lack of dependence on third countries for transit. However, the EU has only a small number of LNG terminals for processing, their capacities are insufficient. Another obstacle is the high total cost of transportation, as well as of gas processing. These options for strengthening the energy security of the European Union all have rather limited potential. The EU must establish a single internal energy market, and not just its legislative framework, but also the completion of the infrastructure needed to supply the local markets; only then the EU energy security would have any sense.

Acknowledgments. *This article is part of the research activities of the Faculty of International Relations, University of Economics (Prague), financed by the institutionalised support for the development of research activities.*

References:

- Abrham, J. (2011). Economic, social and territorial differentiation of the European Union. Prague: MAC. 147 p.
- Balaz, P., Margan, F., Ruzekova, V., Zabojsnik, S. (2011). Energy Security in the Globalization Period and its Influence on European Union Competitiveness. Trnava: SPRINT dva. 288 p.
- BP (2012). BP Statistical Review of World Energy. London // www.bp.com.
- BP (2014). BP Statistical Review of World Energy. London // www.bp.com.
- European Commission (1995). White Paper: An Energy Policy For The European Union. Brussels: Commission of the European Communities // europa.eu.
- European Commission (2006). A European Strategy for Sustainable, Competitive and Secure Energy. Brussels: Commission of the European Communities // europa.eu.
- European Commission (2007). Sdeleni Komise Evropske rade a Evropskemu parlamentu energeticka politika pro Evropu. Brussels: Commission of the European Communities // eur-lex.europa.eu.
- European Commission (2010). EVROPA 2020: Strategie pro inteligentni a udrzitelny rust podporujici zacleneni. Brussels: Commission of the European Communities // eur-lex.europa.eu.

European Commission (2011b). The European Files. Security of Energy Supply in Europe, Nr. 22 // ec.europa.eu.

European Commission (2014). EU Energy in Figures. Statistical Pocketbook 2014. Luxembourg: Publications Office of the European Union // ec.europa.eu.

European Commission (2000). Green Paper: Towards a European Strategy for the Security of Energy Supply. Luxembourg: European Commission // ec.europa.eu.

European Commission (2011a). Energy 2020: A Strategy for competitive, sustainable and secure energy. Luxembourg: Publications Office of the European Union // ec.europa.eu.

EUROSTAT (2014). Final energy consumption by sector // epp.eurostat.ec.europa.eu.

Cherp, A., Jewell, J. (2011). The three perspectives on energy security: intellectual history, disciplinary roots and the potential for integration. *Current Opinion in Environmental Sustainability*, 3: 1–11.

Koknar, A.M. (2009). The Epidemic of Energy Terrorism. In: G. Luft and A. Korin. *Energy security challenges for the 21st century: a reference book*. USA: Greenwood publishing group.

Krejci, O. (2011). Geopolitika a Energetika. In: *Energeticka bezpecnost a mezinarodni politika* (s. 11–23). Praha: Professional Publishing.

Lasicova, J., Usiak, J. (2012). *Bezpecnost' ako kategoria*. Bratislava: VEDA. 264 s.

Prorok, V. (2008). Energeticka bezpecnost – pojeti a pristupy. In: *Energeticka bezpecnost – geopoliticke souvislosti* (s. 9–20). Praha: Vysoka skola mezinarodnich a verejnych vztahu Praha.

Ratner, M., Belkin, P., Nichol, J., Woehrel, S. (2013). *Europe's Energy Security: Options and Challenges to Natural Gas Supply Diversification*. CRS Report for Congress // digital.library.unt.edu.

Sovacool, B.K., Brown, M.A. (2009). *Competing Dimensions of Energy Security: An International Perspective*. Working Paper No 45, 13 January 2009 // www.spp.gatech.edu.

Treti liberalizacni balicek v energetice, 21.07.2009 // www.euractiv.cz.

Yergin, D. (2006). *Ensuring Energy Security*. Foreign Affairs, New York: Council on Foreign Relations, 85(2): 69–82.

Стаття надійшла до редакції 12.06.2015.