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Review paper

ENERGY RESOURCES AND GLOBAL GEOPOLITICAL PROCESSES

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Abstract. *Rapid development of the human society over the last two centuries was based on the excessive and uncontrollable use of fossil, non-renewable energy resources. As modern society developed, the need for energy has grown bigger, while the reserves of the non-renewable energy resources have lessened. That is why, nowadays, it is not possible to solve the majority of the global problems without involving energy issues, whether the climate changes are concerned, new world economic crisis or current geopolitical conflicts. Among energy resources, in the modern world, due to their enormous importance as energy resources and raw materials in industry, oil and natural gas have been and still are, geopolitically, the most important 'goods'. Despite all efforts to develop alternative energy sources and to use energy rationally, the position of oil as an energy resource is not severely shaken. Oil reflects the division of the world economic and political power. Disposal of oil wells determines political and economic position of a country, as well as its inner stability or instability and perspective for development. Oil also dictates the position of particular countries in international trade on the global market, and that position depends on the fact whether or not the country is an importer or exporter of oil. For economic, but also military reasons, each country tries to provide sufficient oil supplies; therefore, steady supply of oil has become an important part of security politics of every country. This paper analyses spatial distribution of the reserves, production and consumption of oil and natural gas, with intent to indicate future trends in use. It also deals with possible geopolitical consequences of their use.*

Key Words: *geopolitical consequences, global problems, energy resources, oil, natural gas.*

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INTRODUCTION

Energy has always had a great importance in the development of civilization and raising the life standard of society. Deficiency of energy delays economic development, while the increased use of energy leads to increase in energy resources exploitation and decrease in non-renewable resources reserves [Tomić, P., et al., 1996, p. 148]. Considering the non-renewability of the fossil energy sources, it is more likely that the spatial distribution of its reserves will become more important, therefore, we will more often have geopolitical tensions and conflicts over the most profitable remaining deposits. The so-called strategic energy ellipsis, from the Arabian Peninsula to west Siberia, is not by chance the hottest geopolitical region in the world. Within, there are about 70% of proved oil and gas reserves in the world. Over the last twenty years the only remaining military super force, the USA, has spent thousands of billions of dollars, enormous amounts of energy and lost thousands of human lives in order to retain control of this area [Armaroli, Balzani, 2006, pp. 522-566]. However, on the global geopolitical scene nowadays, new economic world powers like China, India, Brazil, Turkey and others have engaged themselves in the battle over these energy resources.

We are witnessing the end of cheap primary energy resources, which were considered to exist in unlimited amounts until very recently. Over the last 140 years, thousands of billions of barrels of oil have been spent, and the current 'growing thirst' for energy is almost 1000bbl/s of oil, 93000m³/s of natural gas and 221t/s of coal. [Armaroli, N., Balzani, V., 2011, p.5]. A question is raised: Will future energy production be able to satisfy the demand and what are possible geopolitical consequences of the global deficiency of energy?

Energy crisis means restriction in energy resource supply on the world market at a certain period. It is often related to the shortage of only one energy resource, usually the one that has the highest importance in energetics, traffic, industry, etc. Modern world, which has been basing its development on cheap energy resources for a long time, since the '70s of the 20th century, survived few energy – oil crises which affected global economy as well as the economy of the most countries [Tomić, P., et al., 1996, p.148]. Along with the development of the technologies for the production of alternative sources of energy, countries that are the biggest consumers do not renounce their control over the areas rich in conventional energy resources. The aim of this paper is to point out the problem of tight control of energy resources which small number of countries has and geopolitical tension caused by it. That will be done by analysing the current spatial distribution, production, consumption and reserves of oil and natural gas.

OIL – RESERVES, PRODUCTION AND CONSUMPTION

One of the greatest challenges regarding energy that the world is facing today is production and consumption coordination. We have moved from the world in which energy production matched the biggest countries consumption, towards the world in which energy offer is not nearly enough to satisfy global demand. Inconsistency of supply and demand of the fundamental energy resources influences the global balance change among world leading economic and political powers. The fact that we do not have enough energy does not mean that supply and demand of energy resources decreases, but that there is not enough energy to satisfy rapidly growing needs in the world.

Currently, in the overall world balance (consumption), fossil fuels participate with 80%, with dominant participation of oil and natural gas of 57% [BP, 2011]. Even before the modern ways of exploitation appeared, oil was used in medicine, for lightning, as weapon and for other purposes by ancient civilisations in the Middle East and in America. This source of energy is now used for getting more refined sorts of energy (for example, for electrical energy), as raw material in industry, as fuel in traffic, agriculture and other. Today, oil is not extensively exploited only in Western Africa, north China, east Siberia, on the east coast of Latin America, the Arctic and Antarctic area.

Table 1. Leading countries in oil production, consumption and oil reserves in 2010.

	Production		Consumption		Reserves	
	country	thousands of barrel per day	country	thousands of barrel per day	country	billion barrels per day
1.	Russian Federation	10270 (12.9%)	USA	19140 (21.1%)	Saudi Arabia	264.5 (19.1%)
2.	Saudi Arabia	10007 (12.0%)	China	9057 (10.6%)	Venezuela	211.2 (15.3%)
3.	USA	7513 (8.7%)	Japan	4451 (5.0%)	Iran	137.0 (9.9%)
4.	Iran	4245 (5.2%)	India	3319 (3.9%)	Iraq	115.0 (8.3%)
5.	China	4071 (7.1%)	Russian Federation	3199 (3.7%)	Kuwait	101.5 (7.3%)
6.	Canada	3336 (4.2%)	Saudi Arabia	2812 (3.1%)	UAE	97.8 (7.1%)
7.	Mexico	2958 (3.7%)	Brazil	2604 (2.9%)	Russian Federation	77.4 (5.6%)
8.	UAE	2849 (3.3%)	Germany	2441 (2.9%)	Libya	46.4 (3.4%)
9.	Kuwait	2508 (3.1%)	South Korea	2384 (2.6%)	Kazakhstan	39.8 (2.9%)
10.	Venezuela	2471 (3.1%)	Canada	2276 (2.5%)	Nigeria	37.2 (2.7%)

Source: BP Statistical Review of World Energy June 2011.

Modern oil industry dates from the middle of the 21st century, when the first oil wells were drilled in Romania and the USA (Pennsylvania). Along with industry development, urbanisation process and higher life standard, the need for this energy resource was also growing. Up until the end of the 20th century, the most developed countries in the world had the highest demand growth, and then countries with rapid economic development appeared on the global market as buyers. Those countries were China, India, Brazil and others. The USA was the world's leading oil producer until *'the first oil shock'*. In the USA, 70% of oil production goes for traffic. According to the data from 2010 [BP, 2011], the USA is the third producer (after Russia and Saudi Arabia) and by far the biggest consumer of oil in the world (21.1% of the world consumption). According to the data from 2010, dependence of some countries on oil import is different. The USA, for example, satisfies 48% of its demand for oil by import, China 47%, Europe 82%, while in Japan, the entire oil demand is satisfied by import. Only 45% of the countries in the world are raw oil exporters, while more than 140 countries are forced to import either oil or oil products.

Even five out of ten of the largest oil consumers in the world (Japan, India, Germany, South Korea and Brazil) are not significant oil producers (Table 1). These are the countries that do not have sufficient oil reserves, so they satisfy their growing demands by importing this energy resource.

Rapid economic development over the last two decades has contributed to oil consumption increase in China, so that from 2003, this country is the world's second largest oil consumer. With 5.7MMB/d (million of barrels per day) of oil consumption, in 2003 China surpassed Japan (5.4MMB/d). In 2006, oil consumption in China (6.7MMB/d) was only one third of the USA oil consumption (20.7MMB/d), but in 2010 it increased to one half of the American consumption [BP, 2011.]. According to some predictions, by the year 2030, China will double its consumption, because it will use 16MMB/d. Imported oil will be one third of the daily use or 11MMB/d. This import and consumption growth is a consequence of the rapid economic development, increase in car numbers, as well as increase in population of China [Bustelo, P., 2005, p21]. In 1975, China manufactured 139,800 cars, and in 2009 around 13 million cars. In 2009-2010, China increased oil consumption by significant 10.4% and the USA by only 2.0% [BP, 2011]. Predictions about future oil consumption increased the interest of the Chinese people for research and production of oil outside its borders: in Kazakhstan, Turkmenistan, Russia, Venezuela, Iran, Saudi Arabia and especially in Africa. China will intensify its researches in the next few decades, as an answer to the geopolitical games related to the oil and gas deposits. Namely, in China, there is all present fear from the growing American hegemony on the Middle East, around the Caspian basin, in Middle Asia and in the countries of Northern Africa; as well as from dominant control of the important oil transport sea routes, especially in the Hormuz and the Malacca straits. These two maritime straits are important for the transport of oil from Iran, Saudi Arabia, Kuwait, Iraq, the Caspian basin, the African area and others.

Table 2. The biggest oil exporters and importers in 2010.

	Importers		Exporters	
	country/region	thousands of barrel per day	country/region	thousands of barrel per day
1.	Europe	9341	Middle East	16642
2.	USA	9159	Former Soviet Union	6386
3.	China	4710	West Africa	4443
4.	Other Asian-Pacific countries	4528	South and Central America	2635
5.	Japan	3711	North Africa	2260
6.	India	3254	Canada	1990
7.	Singapore	800	Mexico	136
8.	Australia	583	Other Asian-Pacific countries	796
9.	Canada	580	Europe	387
10.	South and Central America	419	East and South Africa	326

Source: BP Statistical Review of World Energy June 2011.

OIL PRODUCTION PEAK

The main question in the future use of this source of energy is connected to the moment when the oil production reaches its peak. According to some authors (Amarolo, N., and Balzani, V., 2011) *the peak of production will happen the moment value of energy necessary for getting a barrel of oil, exceeds the energy of a barrel of oil.* Economists see the end of oil era ('oil peak') as the moment the world production stops growing and starts to stagnate or fall. Oil production peak theory was presented by M.K.Hubert back in 1956. In his model, oil production curve is in the shape of a bell. He precisely predicted that oil production in the USA will reach the peak in the early '70s of the 20th century. From the global level, we can notice early phases of approaching to the Hubert's peak. The beginning of that phase should be characterised by very unstable and fluctuating prices of oil on the world market. There are different notions about when the world oil production will reach its maximum and later stagnation and fall. According to some opinions, 2005 was the first phase of the 'peak'. Some predictions have already been proven as wrong. For example, in 2008, Association for the Study of Peak Oil (ASPO) thought that oil production will peak in 2010. But still, most experts think that the end of the oil era can be expected between 2026 and 2039 [Farina, F., 2006, p.2]. Optimistic prognoses are that oil reserves on Earth will provide the growth of production and consumption in the following 100 years.

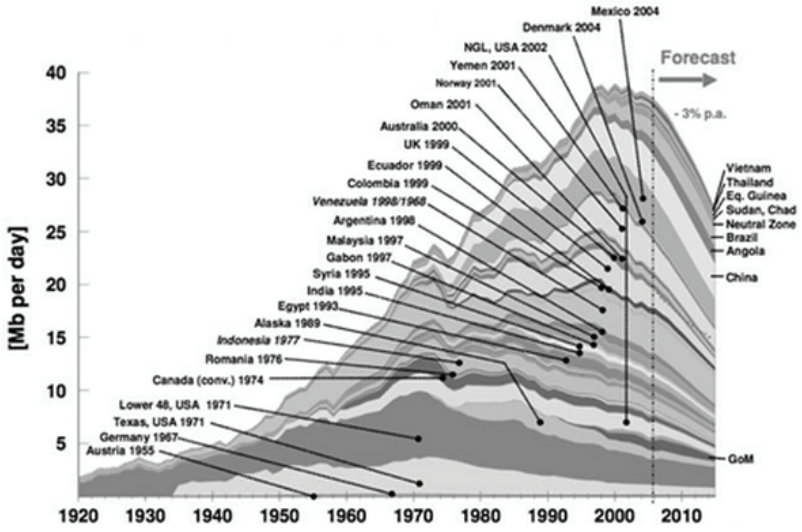

Fig 1. Oil production peak of some countries
Source: Energy Watch Group, Oil Report 2007

M. Radetcki, an expert in raw material economy, thinks that Hubert's oil peak prediction method does not have theoretic support in geology, engineering and economy. In his opinion, decrease in oil production is not connected with currently established oil reserves in the world, but with price forming policy by OPEC and large national and multinational

companies. On several occasions in the 20th and 21st century there was fear of oil shortage and energy crisis followed. This fear was particularly strong during the times when the oil price was very high on the world market. At those times, the oil production peak was always predicted 5 to 10 years ahead [Radetzki, M., 2010, pp.6566-6569].

Based on the foregoing, it can be concluded that it is very hard to predict oil production and consumption in the future, due to various reasons: rapid development of oil exploitation and production technologies, economic and political relations and all present globalisation process. All this is about single strategic energy resource and raw material, therefore, one should receive with caution the supply reports published by some countries and oil companies. Furthermore, methodology of determination of balance and potential reserves used by large oil companies is not internationally standardised, therefore, the reserves of oil are uncomparable. Finally, oil reserves are being manipulated with, not only for economic, but also for political reasons.

Oil demand is affected by permanent growth of world population. However, at the begining of the 21st century, the growth of oil demand and production was bigger than the world population growth rate. For example, between 2000 and 2005, oil production increased by 8.2%, while world population increased by only 6.2% [BP, 2011]. Because of the increased number of vehicles for personal use over the last decades, traffic has had more significant role in the increase of oil demand on the world market. Today, 7 billion people inhabit our planet, and they own 900 million vehicles [OICA]. In some more developed countries, growth rate of the motor vehicles number is much bigger than the population growth rate. In 2010, despite recession in some developed countries, 58.8 million of motor vehicles were produced in the world, which is 26% more than in 2009. The biggest increase in production was in the USA (35.4%) and in China (32.4%). It is obvious that growing demands for energy resources in traffic can only be satisfied with increase in oil production.

Ever since 'the second oil shock' that happened in 1979/1980, up until 2007, daily oil consumption had an upward line. It was increased from 63MMB/d in 1980 to 85.6MMB/d in 2007. Due to economic recession in 2008, oil consumption somewhat decreased and in 2009 was 84.1MMB/d. EIA (Energy Information Administration) predictions say that the daily consumption will be increased from 94.7MMB/d in 2020 to 105.4MMB/d in 2030 [EIA, 2009].

So far, the world oil industry was able to meet increased oil demand. There is a question: Will the production in 2030 be able to satisfy increased oil demand?

Most experts predict significant imbalance between growing needs and expected production. Namely, they think that even increase in production will not be able to satisfy the needs of industry, traffic, electrical industry and others. What are the reasons for such pessimism of the experts regarding oil production and consumption?

The first reason is the limit of world oil resreves. It is estimated that the existing world reserves are enough for the next 100 years, in the best case. Many big oil deposits in the Middle East, Latin and North America have reached their maximium, therefore, stagnation and decrease in production is expected. In some important deposits, oil has been exploited for more than 50 years, so that they cannot provide increase in production. The main problem is the fact that in the previous years, there have not been any new discoveries of oil deposits that would have any significant amount of oil reserves. Naimely, annual reports of leading oil companies show that there are discoveries of deposits that have

smaller amount of oil reserves which cannot provide any significant increase in production. On the other hand, the devlopment of science and technology provides profitable use of less rich deposits and deposits that are very deep in the ground, as well as extraction of oil from oil sands and oil shale. The best example for this is Canada where, thanks to the modern technological process, oil sand can be profitably exploited, so that reserves of oil in the sand are considered to be proved – balance reserves [Radetzki, M., 2010, pp.6566-6569]. Thanks to the reserves of oil in the oil sand, the total Canadian oil reserves increased from 8.7% in 1980 to 32BBO (billion of barrels of oil) in 2010 [BP, 2011]. In the future, we can expect a decrease in the production of 'easy oil' from aboundant and accessible deposits and increase in exploitation from less profitable deposits and from deposits that require more complicated technical equipment. Exploitation of oil from less rich deposits requires larger investments, increases cost of transport and decreases profitability, which in future can increase oil price and lead to oil crisis and recession on the world market.

The second reason which can affect oil production is unstable political situation in the areas that have vast oil reserves and are imporatant oil producers: Libya, Iran, Azerbaijan, Nigeria, Iraq, the countries in the Middle Asia and others. Closing of the strait of Hormuz, through which 60% of the world's oil export passes, by Iraq, could affect the stability of the world market. If that were to happen, the world would face oil defeciency and serious energy crisis, because the amount of lacking oil could not be compensated from other regions or by using alternative sources of energy.

NATURAL GAS – PRODUCTION, USAGE AND RESERVES

During the last decades, natural gas has become not only an irreplaceable source of energy, but also very important raw material in industry. Until the '60s of the 20th century, the USA stood up with extensive exploitation, built pipeline network, distribution as well as usage of gas. Until late '60s, the USA had the biggest proved gas reserves and were the biggest producer and user of this energy resource. After the discovery of vast gas reserves in Russia, in the Middle East and in the North Sea during the '60s and the'70s, the importance of natural gas as an energy resource and raw material in industry has been constantly increasing. At the same time, the participation of natural gas in the total energy production in the world has been also increasing. The participation of gas in the total production of the primary energy in the world has increased from 16% in 1973 to 21.1% in 2008 [IEA, 2010]. In the last couple of years, improvement in drilling technologies provided exploitation of the huge reserves of unconventional gas in the USA, therefore, this country has once again become the world's leading natural gas producer [Armaroli, Balzano, 2011, p.96].

Russia is the biggest exporter and the second biggest producer of natural gas in the world. However, over 70% of natural gas production is placed on national market. The rest of the production is transported through pipelines to the former USSR republics, European Union market and others. The biggest users of Russian natural gas are: Ukraine, Belarus, Germany and Italy.

The world's biggest natural gas producer and user is the USA, which imports missing amounts of gas from Canada (15%), Mexico and other countries. Because of its geographical position, the USA is not a part of the main transnational gas projects.

The reserves of natural gas in the world are distributed extremely unevenly. Namely, more than half (nearly 55%) of world reserves of conventional natural gas are concentrated in only three countries (Russia, Iran and Qatar). And precisely this kind of distribution of the reserves has not only economic and political, but also geopolitical importance. That is why this energy source is an important item of international trade.

There is big competition for the construction of the pipeline through which natural gas could be transported from the north Siberia and the Middle East. Western Europe countries have been the main competitors in the usage of natural gas as energy source and as raw material for a long time. Since the '90s of the 20th century, the number of gas users has increased: Eastern Europe countries, China, India and others. Today we have many projects for the construction of the pipeline towards Europe, over which there are often political and diplomatic conflicts. With their construction, Europe would get steady supply of natural gas from several sources and areas. In that respect we should mention seaway pipeline 'North Stream' which is 1224km long and put into operation in 2011. Through this pipeline, Germany is connected with Russia (Greifswald-Vyborg). In this way, a steady supply of natural gas is provided for Western Europe and unreliable transport through Ukraine and Belarus is avoided.

Table 3. Leading countries in production, use and reserves of natural gas in 2010.

	Production		Usage		Reserves	
	in billions of m³		in billions of m³		in thousands of billions m³	
1.	USA	611.0	USA	683.4	Russia	44.8
2.	Russia	588.9	Russia	414.1	Iran	29.6
3.	Canada	159.8	Iran	136.9	Qatar	25.3
4.	Iran	138.5	China	109.0	Turkmenistan	8.0
5.	Qatar	116.7	Japan	94.5	S. Arabia	8.0
6.	Norway	106.4	Canada	93.8	USA	7.7
7.	China	96.8	G.Britain	93.8	UAE	6.0
8,	Algeria	80.4	S. Arabia	83.9	Venezuela	5.5
9.	S. Arabia	83.9	Germany	81.3	Nigeria	5.3
10.	Indonesia	82.0	Italy	76.1	Algeria	4.5

Source: BP Statistical Review of World Energy June 2011, www.bp.com/statistical review

Nowadays, through the longest pipeline in the world (6500km) natural gas is being transported from west Siberia through European Russia to Western Europe, particularly to Germany, France and Italy. Seaway gas transport has recently started to be used and one of the first, in 2004, connected Libyan deposits with Sicily, i.e. Italy through Tunisia [Armaroli, Balzano, 2011, p.101]. Geopolitical competitions about transport of natural gas from Russia and the Caspian basin, through Turkey and the Balkan Peninsula have been intensified in the last couple of years. Out of fear that it would be left out, Russia built seaway pipeline 'Blue Stream' through the Black Sea to Turkey, which enabled transport of natural gas to Europe. In order to diverse sources of supply and reduce dependence on Russia, the European Union plans to build a 3300km long pipeline called 'Nabucco', which would stretch from Azerbaijan, across Turkey, Bulgaria and Romania to Austria. As a response to this plan, Russia plans to build a pipeline 'South Stream', which would, through the bottom of the Black Sea, connect Russia with Bulgaria and further through Serbia, connect Central Europe and Italy [Gajić, S., 2010].

Natural gas is vital for the economy of Western Europe. Western Europe and Europe itself has a very favorable geographical and transport position, as far as the supplying of natural gas is concerned. It is surrounded by regions which are main gas producers in the world: Russia, North Sea, Northern Africa and the Middle East [Remme et al, 2008, p.1622].

Germany gets almost half of the imported gas from Russia. In Great Britain demands for natural gas are constantly increasing. Their national gas production peaked in 2000 and has been drastically decreasing since (45% of the maximum). Dutch Government declared that their gas production peaked in 2007/2008 and that by 2025 they will become importers of gas. The only country in Europe that is constantly increasing gas production is Norway and it is the sixth gas producer in the world. The peak of their gas production is expected between 2015 and 2020. According to predictions, the dependence of Europe on Russian natural gas will not be significantly reduced by 2030, despite the fact that Europe is also being supplied from other regions. Considering the fact that in three enormous Siberian gas fields, which so far provide 60% of Russian production, there is stagnation and decrease in production, there is a question of continued and steady supply to Europe. IEA (International Energy Agency) predicts that the world largest company 'Gasprom' will have to invest 17 billion dollars a year by 2030, due to the increased need for gas on national and international market. Bigger investments and use of deposits with smaller reserves of gas mean higher prices of natural gas on the world market.

From 2000, Russia has changed natural gas export strategy in some way. Old export strategy was based on the export from national deposits which completely satisfied the needs of Europe. New Russian export strategy involves diversion of the market and transit routes, maximisation of the profit, increase of import and transit of the gas from the Central Asia countries and Azerbaijan. Furthermore, this strategy involves increased engagement of Russian gas companies on the global market. That way, Russia would be able to satisfy its increased needs and fulfill contractual obligation to consumers in Europe. That is why Russia offered Kazakhstan, Azerbaijan, Turkmenistan and Uzbekistan to buy up all their natural gas at 'European prices' reduced for transport and other costs. So in 2003, Russia signed a contract with Turkmenistan, valid for the next 25 years, which bound Russia to buy up complete production, except the section for Turkmenistan-Iran pipeline. In the following years, Russia plans to enter liquid natural gas market (LNG) in the Pacific and later in the Atlantic. Also, Russia has planned to build a pipeline from Siberia and the Far East to China and South Korea. This kind of diversion of the export of natural gas, according to some experts, can in future jeopardise the normal gas supply to Europe.

The decrease of production from the large gas fields in the north-west Siberia (Nadym-Pur-Taz) forces Russia to dislocate natural gas production, by activating deposits in other parts of Siberia, especially in the Tyumen region and on the Yamal Peninsula. In European Russia there is a big 'offshore' project called 'Shtokman' that involves liquid natural gas production; there are also new projects about exploitation of gas in Caspian Lake. Furthermore, possibilities of gas production and gas processing in Sakhalin, east Siberia and in Yakutia are being considered [Mitrova, 2009, p.75].

GEOPOLITICAL CONSEQUENCES OF OIL AND GAS DEFICIT IN THE WORLD

It is obvious that, in the future, oil and natural gas production will not be able to satisfy the increased demand of growing economies of the world (China, India, Brazil and others). Presently, New World Order is being created in the world, with small number of countries with energy resources surplus on one hand, and far bigger corps of countries with serious energy resources deficit, on the other.

There is a question whether the main reasons for the difficulty in oil supplying in the future are geological or geopolitical. Out of the proved unconventional oil reserves in the world, 51.7% is in five Middle East countries [BP, 2011]. It is a general opinion that, in the future, more than 50% of oil export in the world will come from only three countries: Iran, Iraq and Saudi Arabia [Myers Jaffe, A., Soligo, R., 2008, p.20].

In some countries that have huge oil reserves there has come to stagnation and decrease in oil production at the turn of the century, due to civil riots, wars, terrorism, corruption and overall political instability and international sanctions. Iran, Libya and Iraq could not achieve their expected production goals. The expansion of production in Venezuela was thwarted by the socialistic government, and, by doing this, government also thwarted protest of the people and diversion of funds from oil sector to social programs. Also, regional and ethnic conflicts disabled increase of oil production in Nigeria [Myers Jaffe, A., Soligo, R., 2008, p.21].

In the next decades, it is expected that the increase in oil demand will be compensated by the increase in production of OPEC member countries (*Organisation of Petroleum Exporting Countries*). However, the expectations that OPEC would meet the demands of the world market in the future are contrary to the former politics of this organisation. Namely, in order to preserve the oil price, OPEC in 2003 reached the level of 1979 production (34MMB/d). The increase in demand and jump in oil price on the world market led to the jump in oil production of the OPEC member countries to 34.3MMB/d in 2010 [BP, 2011]. On the other hand, there are some doubts about reliability of OPEC official oil reserves estimates. Namely, in the last two decades, almost all countries in the Persian Gulf claimed that they had much larger oil reserves, which does not seem convincing, from the experts' point of view. These countries do not provide any details about reserves upgrade, denying accusations on the grounds of political reasons [Armaroli, N., Balzani, V., p.89].

Unlike in the previous decades, when multinational companies had a dominant role in oil production and trade, today national oil companies with different capital structure have a more important role. Countries that own national oil companies are the world's leading reserve holders. Multinational companies which controlled oil reserves, production and trade in the 20th century, today control less than 10% of the world reserves. The question is: to which extent will government politics and geopolitical factors affect business of the national oil companies? Obviously, oil can be a very powerful tool in achieving different geopolitical goals and in that way, jeopardise functioning of the economy of the highly developed countries in the world. That is why the imperative of these countries is to control oil deposits and provide steady supply to the market. Jeopardising the steady oil supply leads to political and military conflicts in the oil rich regions [Klare, M., 2011]. In the 20th and 21st century, the enormous energetic and strategic importance of oil led to many wars and military confrontations, which were initiated by highly developed countries, the USA in particular, in order to protect their economic and political interest [Caldor, M., and others, 2007].

In the new world order in energetics, but also in the new geopolitical order, economic and political power of countries with vast oil reserves is growing. Namely, thanks to oil, concentration of wealth and economic power is growing in countries which export oil and natural gas, such as: Russia, Saudi Arabia, UAE, Kazakhstan, Azerbaijan and others. Thanks to natural gas, Russia can put political and economic pressure on the neighboring and other countries. The best example of that is the suspension of gas delivery to Ukraine, Belarus and other countries in the middle of the winter in 2006. Were those disputes over the natural gas price or just an attempt to gain political power? According to some analysts, having the economic situation in the country in mind, Russian politics is oriented more towards gaining the profit than establishing political domination [Trenin, D., 2009, pp.15-25].

In the last couple of years, Russia has been trying to establish cooperation with the USA in the field of energetics. Namely, by joint research of the east Siberian part of the Arctic, geopolitical tensions about oil deposits in the remaining parts of the Arctic would be released. Another topic for the dialogue of these two countries, is related to the natural gas deposits in the countries around Caspian Lake, where China appeared as an important contestant in the race for rich deposits [Baev, P., 2009, p.85]. China is not the only country that throws the glove to Russia, but the USA also throws the glove to the European Union. Unlike Russia, China has enough cash to pay for energy resources from the countries of Central Asia. On the other hand, Russia uses the advantage that it used to form a single country with the countries in Central Asia and around the Caspian basin, therefore they all have coordinated economic structures, and the whole pipeline network is directed towards the Russian Federation. In addition, Russia has a military cooperation agreement with Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan (Agreement of collective safety); therefore, Russian military presence in these countries is very strong.

Perhaps the competition for energetic resources between the USA and China is even tougher. Thanks to the high production of coal (40% of the world production) and the use of hydropower, in 2010 China became the world's leading energy consumer. Having in mind that coal is one of the biggest atmosphere polluters, we should expect decrease in its production in the future [Milićević, Z., Arsić, Lj., 2011]. That is why Chinese demand for other energy sources is constantly growing along with its efforts to provide reliable sources of supply. The growing economy of China has more and more demands for energy resources, especially for oil and natural gas [Freeman, 2006, p.22]. Chinese increased demands for oil and natural gas raise their price on the world market and affect geopolitical processes in oil rich regions. China, as well as other powerful countries, is trying to achieve political and economic domination in regions that are rich in strategically important raw materials and energy resources, such as Africa and Central Asia countries. Thanks to their large funds, Chinese national companies are buying concessions and investing them in oil and natural gas deposits, which are not profitable for companies from the USA, Europe, Japan and others. Furthermore, China has been trying harder to control the seaways and, in that way, confronts the USA. On the other hand, possibilities of the investments of foreign countries into economy of energetics, are very small, due to the fact that Chinese government has very tight control over the sector of energrtics.

In order to improve their geopolitical and economic position in the world, the USA and China use various political, economic and military resources. So, in order to achieve cooperation with the leading oil producers in Africa, Middle East and Central Asia, these two countries provide different kinds of military assistance, in addition to providing economic help and bribing corrupt regimes. The USA cooperates closely with Saudi Arabia,

Kuwait, the UAE and other countries in the Middle East. But, apart from that, it is developing economic, political and military relations with the countries around the Caspian basin and in Africa, in particular oil rich Nigeria and Angola. China follows the USA, and in a similar way, is developing close military cooperation with the Sudan, Angola, Nigeria and Iran. Through Shanghai organisation for cooperation, China develops military and economic cooperation with Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan. It is obvious that economic, military and political presence of China and the USA is growing stronger in the all regions which have huge reserves of oil and natural gas and some other resources. The growing Chinese presence in Africa was a cause of concern for the USA, which resulted in the creation of AFRICOM (*U.S. Africa Command*). Military intervention of NATO, France and Great Britain in particular, on Libya had a goal to obtain control over the rich oil and gas deposits. On the other hand, China is taking quick military steps in Shanghai organisation activities. In that way, military involvement in the competition over the energy resources between China and the USA is intensified. This could lead to the new military competition with severe consequences. Because of all this, the main focus of the international relations should be the competition for the energy resources in the new world order of intensified competition.

CONCLUSION

The battle for the rich oil deposits started at the beginning of the 20th century. During World War I, oil proved to be the key resource in military operations. That is why, in 1928 in Achnacarry, an agreement about the exploitation of oil in the Middle East and production quotas was signed (Red Line Agreement). The cartel 'Seven Sisters' was then formed and it controlled complete oil production in the world until 1960, when OPEC was created. The primary goal of creation of this organisation was to secure a steady oil production and fair price for member countries, as well as reliable supply of the world market. The war in the Middle East and OPEC embargo on the export of oil to the USA, led to the *'First Oil Shock'*, when the oil price quadrupled (from 3.12$ to 11.65$ per barrel). The oil shock delayed the growth of the world economy, led to the fall of the growth rate of the world trade (from 12% in 1973 to -5.4% in 1974, and -7.4% in 1975), reduction of the direct foreign investments, increase of inflation, unemployment and other [Krugman, R., P., Obstfeld, M., 2009]. The *'Second Oil Shock'* in 1979 and the *'Third Oil Shock'* in 1991 (the Gulf war) had an effect on the oil price increase on the world market, but did not have such a devastating effect on the world economy. After oil shocks, global economy was facing recession. However, the jump in oil price from 30$ per barrel to 70$ per barrel in 2006 did not affect global economy significantly. The way of changing the oil price is very important – if the price is being changed for a longer period of time, there are smaller chances that there will be devastating effects on the world economy. In contrast, sudden and shocking price changes can have a destructive effect [Azzouz, A., 2006, pp.4-5]. In order to provide social and economic security during the oil crisis, some countries and oil companies formed GSPR (*Global Strategic Petroleum Reserves*). According to the EIA (*Energy Information Administration*), it is estimated that the total oil reserves are 4.1BBO. Strategic reserves owned by countries (members of IEA – International Energy Agency) in the last twenty years were activated during the Gulf War in 1991, during the hurricane Katrina in 2005 and hurricane Gustav in 2008.

Therefore, uneven distribution of the reserves, growing dependence of the import on the energy resources, increase in energy price, difficult access to the resources, oil shocks and geopolitical tensions are phenomena present in the 20th century and at the beginning of the 21st century. The appearance of new regional and international, commercial and strategic allies can mark 'new competition' over the energy resources control on the geopolitical scene. Being aware of that, countries that have extensive energy resources, especially oil and natural gas, want to achieve, besides economic, different strategic and political goals. National oil companies in exporting countries are getting a more important role in all this. These large national companies (Gazprom, for example) today control a bigger part of the conventional oil reserves and provide more than half of the world production.

On the world scene of energetics, new giants in energy consumption appeared: China, India and developing countries. The biggest part of energy resources is used in industry, but as life standard rises, their use in other sectors will also increase, especially in traffic.

Two events in 2011 had a powerful impact on the world energy market. The first event is political ('Arabian Spring') and the second one is a natural disaster (earthquake and tsunami in Japan). The first event, due to the war in Libya, reduced production of OPEC member countries, and the second, due to the nuclear accidents risk and cancellation of nuclear power plants construction, increased demand for oil and other energy resources. The third important factor which can affect the world market is oil embargo to Iran by the USA and European Union. Obviously, in the future, as oil and gas reserves decrease, supply and demand relations will change, geopolitical tensions will increase and energy crisis will deepen.

The deficiency of energy resources, oil and gas in particular, leads to re-examining of the ways of the future use of available renewable and non-renewable energy resources. There are two ways ahead: 1) drastic reduction of the global use of energy resources and 2) development of the new technologies that are based on renewable energy resources. There is a big spatial disproportion in the energy use in the world today. The developed countries, inhabited by 10% of the world population, use almost half of the produced energy in the world, while 25% of the population in the most underdeveloped countries in the world uses less than 3% of the global energy. And that is why the biggest responsibility lies with the rich societies.

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ENERGETSKI RESURSI I GLOBALNI GEOPOLITIČKI PROCESI

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Ubrzani razvoj ljudskog društva tokom poslednja dva veka zasnivao se na prekomernom i nekontrolisanom korišćenju fosilnih - neobnovljivih energetskih resursa. Kako se razvijalo moderno društvo, potrebe za energijom su postajale sve veće a rezerve neobnovljivih energetskih resursa sve manje. Zato danas, rešavanje većine globalnih problema nije moguće bez uključivanja energetskih pitanja, bilo da se radi o klimatskim promenama, novoj svetskoj ekonomskoj krizi ili aktuelnim geopolitičkim konfliktima. Među energetskim resursima, u savremenom svetu, zbog ogromnog značaja kao energenata i sirovina u industriji, nafta i prirodni gas su bili i ostali, geopolitički najaktuelnija "roba". Pored svih nastojanja da se razviju alternativni izvori energije i da se energija racionalno koristi, položaj nafte kao energetskog resursa nije ozbiljno uzdrman. Nafta reflektuje raspodelu svetske ekonomske i političke moći. Raspolaganje izvorima nafte određuje političku i ekonomsku poziciju jedne zemlje, ali i njenu unutrašnju stabilnost ili nestabilnost, perspektivu razvoja. Nafta diktira i poziciju pojedinih zemalja u međunarodnoj robnoj razmeni na globalnom tržištu, a ta pozicija zavisi od činjenice da li je ta zemlja uvoznik ili izvoznik nafte. Iz ekonomskih, ali i vojnih razloga, svaka država nastoji da obezbedi dovoljne količine nafte, te je sigurno snabdevanje ovim energentom postalo bitan deo bezbednosne politike svake zemlje. Ovaj rad analizira prostorni razmeštaj rezervi, proizvodnje i potrošnje nafte i prirodnog gasa, sa namerom da ukaže na buduće trendove u korišćenju, kao i njime izazvane, moguće, geopolitičke posledice.

Ključne reči: *geopolitičke posledice, globalni problemi, energetski resursi, nafta, prirodni gas.*