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China Energy Dialogue: Research of the Most Promising Energy Areas for Interrelation

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ABSTRACT

Cooperation in the energy sector is an important component of the Russian-Chinese strategic partnership. The purpose of this work is to study the current state and prospects for the development of cooperation in the energy area of Russia and China. The information base of the research is a certain historical material on energy cooperation in the form of a dialogue between Russia and China. The research is based on the principles of a system approach by using historical research methods, comparative and statistical analysis. The results of analyzing the indicators that characterize the effectiveness of the interrelation between the two countries in the energy area allow the author to make the following conclusions. In the context of the complicating geopolitical situation, Russia as the largest exporter of energy resources and a participant in global energy processes has to develop efficient mechanisms for ABS diversifying export of energy resources and to focus on expanding energy cooperation. China is the largest importer of energy resources in the Asia-Pacific region and the world. It can become a promising partner for Russia to implement ambitious energy projects. There are such top-priority directions for the development of bilateral cooperation in the energy sector as participation in projects on developing the Arctic shelves, infrastructure development and increase in the capacity of the Eastern Siberia–Pacific Ocean export route, the launch of a new Power of Siberia pipeline, etc.

Keywords: Energy Resources, Cooperation, Energy Dialogue, Export of Energy Resources, Gas and Oil Sector, Nuclear Power Sector, Energy Consumption

JEL Classifications: L94, O13

1. INTRODUCTION

In the modern world energy resources are an effective tool for external impact on the geoeconomic arena in order to ensure the national interests of the country (Henderson and Mitrova, 2016).

Russia as an active participant in the world production and energy resources trade has set a strategic goal: To develop the Eastern vector of its energy policy and to strengthen gas and oil cooperation with the countries of the Asia-Pacific region.

The growth of the Chinese economy causes an increase in the need of energy resources, and stable access to energy resources is a key to its modernization and transformation into an economic super-state. Taking this into account, one of the China's foreign

policy priorities is the diversification of energy suppliers, emphasis on the international energy cooperation, and expansion of energy diplomacy.

Such increase in the attention to the Eastern vector of the Russian energy policy was initially associated with the need to ensure the rapid economic and industrial development of Eastern Siberia and the Far East of Russia (including the gas and oil sector), to improve living standards there, and to stop the outflow of population from the region.

As early as in 2001, closer relations between the two countries were formalized in the Treaty of Good-Neighborliness and Friendly Cooperation. This is a strategic, economic and military agreement that ensures the development of cooperation in the energy sector

(Treaty of Good-Neighborliness, Friendly Cooperation between the Russian Federation and the People's Republic of China, 2001).

Nevertheless, despite the actual progress in the political area, energy cooperation was on a low level because the main driving force for gas and oil export to China was the YUKOS private oil company rather than the Russian state. A number of agreements were adopted as a part of the further development of the energy interrelation between the two countries. They mostly had a formal nature and were not implemented (Sino-Russian energy relations reversed, 2016).

The strengthening Western sanctions against Russia contributed to the intensification of the Chinese-Russian economic cooperation, including that in the energy sector (Ydyrys et al., 2017). In addition, the Russia's desire to strengthen its positions on the global gas and oil market against the global oversupply of the raw hydrocarbons and fierce competition between the major gas and oil producing states is an important incentive for expanding the energy partnership between the two countries. Increasing supplies of raw materials to the People's Republic of China would allow the Russian Federation to maintain its oil production and reduce financial losses as a result of falling quotes for the "black gold" (Andrianov, 2015).

In the context of the deterioration of relations with the West, Russia needs other political and, what is more important, economic allies for further development of the state itself. That is why the development of Russian-Chinese energy cooperation is perceived as one of the dominant tasks of external economic priorities for Russia and, by the way, determines the urgency of this work.

The purpose of this research is to study the current state and constructive prospects for the energy dialogue between Russia and China. In addition, the article considers top-priority areas and problems of the interaction between the two countries in the energy sector.

2. LITERATURE REVIEW

The problems of energy cooperation between Russia and China have been to a greater or lesser degree studied in the works of a number of Russian, Chinese and Western experts.

The importance of the role of strategic Russian-Chinese cooperation in terms of ensuring the security of the Asia-Pacific region is revealed in the work of Christoffersen (2012).

Political and economic aspects of the energy cooperation between the Russian Federation and the People's Republic of China are considered in the work of Ydyrys et al. (2017), Guizhou et al. (2015). The authors note that recently the parties have reached a number of large and long-term agreements in the energy sector. It allows us to consider the evolution of the energy cooperation between the Russian Federation and the People's Republic of China in order to determine the possibility of reaching a qualitatively new level and achieving strategic importance (Dream partner China, 2015).

Comprehensive studies of energy geopolitics in ensuring the national interests of the two countries introduced in the works of Eder (2014), Hu and Ge (2014), Umbach (2012), Bolt and Cross (2010), Gulick (2007) also attract attention.

Grama Y. analyzed the results of the China-Russia energy cooperation, and concluded that both countries had great potential for intensive energy cooperation, but there were some serious problems on the way to the rapprochement and mutually beneficial energy dialogue between China and Russia (Grama, 2012).

Thus, despite repeated statements by Beijing and Moscow about their intention to unite efforts in the energy sector, infrastructure facilities that can ensure the profitability of considerable volumes of energy production have not been built yet (Downs, 2010). Despite the fact that China and Russia attract each other as an energy partner, the huge potential for bilateral energy cooperation remains largely non-implemented (Røseth, 2017; Skalamera 2016).

E. Wishnick concludes that, despite the negative factors, China-Russia relations have significant reserves and both countries objectively need to improve and deepen their strategic partnership (Wishnick, 2017).

To conclude the review on the problem under study, it is necessary to note that references have not sufficiently researched and disclosed geopolitical problems of the energy resources export to China (Su and Li, 2016). Besides, it is necessary to note that there are not enough studies devoted to assessing the conditions for the implementation of Russian-Chinese infrastructure projects in the energy sector.

3. METHODOLOGY AND INDICATORS OF THE RUSSIAN AND CHINESE INTERRELATION IN THE ENERGY AREA

During the research, the authors relied on legal sources, including official program documents of Russia and China, bilateral energy agreements and protocols to them, as well as government reports, stenographic materials of meetings of various executive authorities. In addition, the work used publicist sources, including speeches and articles of market experts and politicians. To analyze trends in energy cooperation, statistical sources, in particular surveys of the world and national energy markets, were used.

This study was based on the principles of the system approach and used methods of scientific cognition, including the comparative and statistical analysis, methods of historical research.

Relations of Russia and China have a long and complex history. After the periods of tension and friendship in the Soviet period, when the two communist states often tried to find mutual understanding, in the post-Soviet period the relations between the countries developed quite complexly, which was due to a change of the political ideology and a new economic reality.

The Russian economy collapsed and recovered, which often depended on the volatility of oil prices, and had not yet achieved the desired stability and consistent growth. Meanwhile, China has indeed become an economic super-state that has demonstrated growth rates between 7% and 15% since the mid-1990s (Trading Economics, n.d.), and is now the second largest economy in the world by the nominal gross domestic product (Figure 1).

The rapid economic growth that was substantiated, above all, by the expansion of industrial production allowed China to become one of the world's largest consumers of energy. At the same time, in 2016 the total demand for primary energy amounted to 3.053 bln. tons of oil equivalent (to compare, the U.S. consumed 2,272.7 mln. tons of oil equivalent, and the whole of Europe and Eurasia consumed 2,287.1 mln. tons of oil equivalent) per year.

It is necessary to note that over the recent decade the demand for primary energy resources in China has increased by 40% (Figure 2).

Geographically, China has a common border with Russia, the world's largest owner of fossil fuel reserves. It means that there are commercial relations between the countries based on trading energy resources (oil, gas and coal). The development of relations between these two countries in the energy area caused considerable interest and discussions. In particular, it has happened over the recent decade when the volume of Chinese energy import has been rapidly increasing, and Russia has been looking for new markets for its raw materials.

The trade between the two countries began somehow increasing in the early 2000s due to the warming of political relations associated with signing the Treaty of Good Neighborliness and Friendly Cooperation in 2001.

In the 2000s, Russia considered Asia as a new large market that was worth of considerable investments both in gas and oil assets and in the infrastructure required to transport goods

Figure 1: Country rating by nominal gross domestic product (2016)

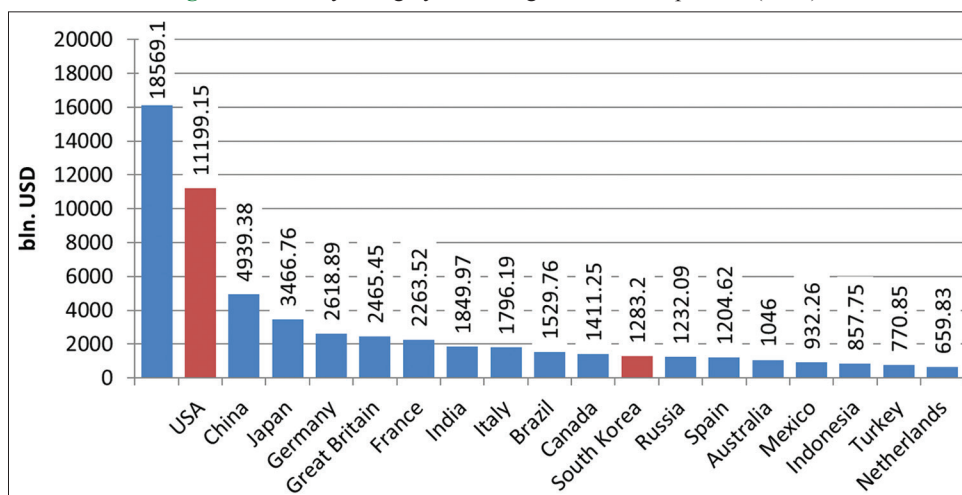
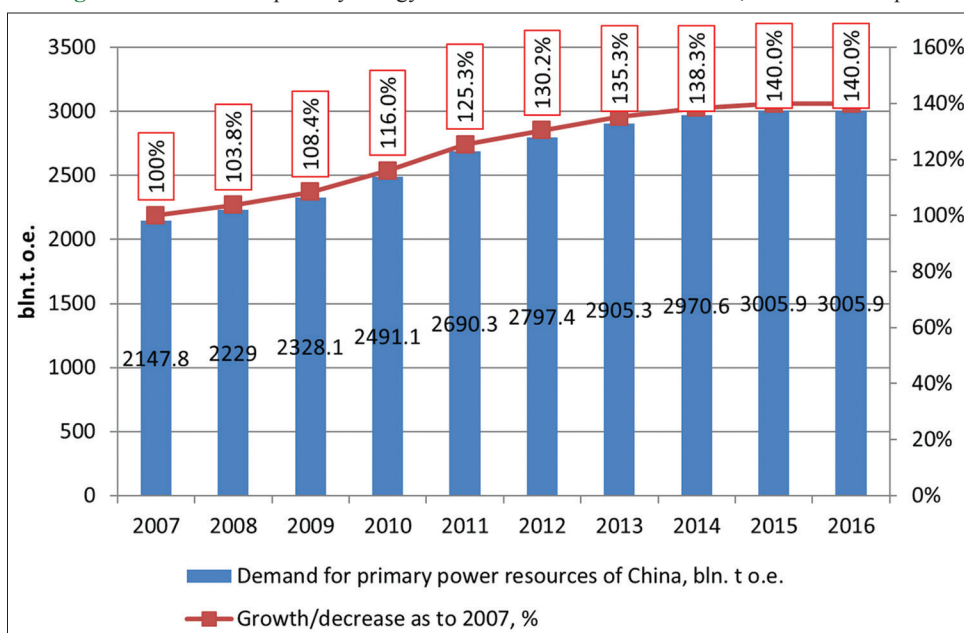


Figure 2: Demand for primary energy resources in China in 2007-2016, mln. t. of oil equivalent



to the market. The Eastern gas program was launched only in 2007, and in the late 2009 the first phase of the Russian-Chinese section of the East Siberia-Pacific Ocean (ESPO) oil pipeline was completed.

However, real changes took place in 2007-2008, when China began to dramatically increase sales of its goods in Russia, and the Russian Federation initiated a number of large projects to supply raw materials to China (first of all, fossil fuels).

As a result, over the recent decade the trade relations between Russia and China have considerably expanded. In 2016, Russia's trade turnover with China was USD 66.1 bln., having increased by 4.02% as compared to 2015. At the same time it is necessary to note that the export of hydrocarbons dominates in the current trade balance between Russia and China (Figure 3).

The total value of the Russian export of energy resources to China reached its maximum in 2014 on the level of USD 27.75 bln. Although this figure decreased down to USD 17.9 bln. in 2016 due to the decrease in raw materials prices, the share of energy resources export to China remained fairly stable. Although this indicator is relatively low, it shows a relatively recent change of the focus on the Russian export diversification.

Energy cooperation between Russia and China is carried out in the following main areas:

1. Oil. The Chinese industry is one of the world's major oil consumers. From 2007 to 2016, according to BP statistics, oil consumption in China increased by 56.1% - up to 578.7 mln. tons (Figure 4). Over the recent decade the China's share in the world oil consumption has increased from 9.2% to 13%.

Figure 3: Export of Russia to China in 2016 by Products Groups (Reviews of Russian Export, 2017)

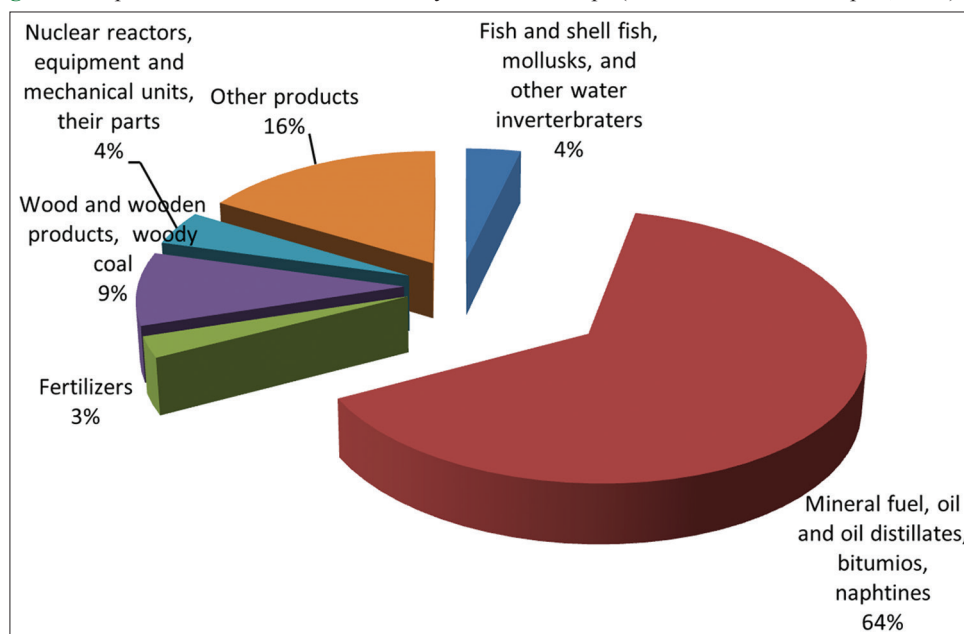
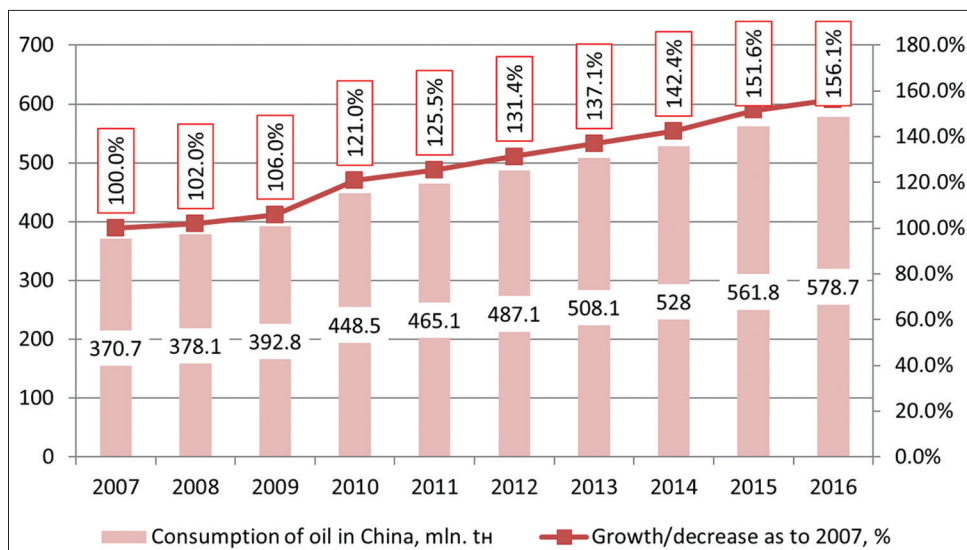


Figure 4: Consumption of Oil in China in 2007-2016, mln. t



Along with the growth of oil consumption and the Chinese oil refining sector, there is a steady increase in oil imports. Thus, for 2007-2016 the Chinese oil import increased 2.2 times (BP Statistical Review of World Energy, 2017).

According to the results of 2016, Russia is the largest exporter of oil fuel in the People's Republic of China. In 2016 supplies of oil fuel from Russia were 52.5 mln. tons.

In fact, simultaneously with the increase in oil export, Chinese companies started actively participating in the implementation of gas and oil projects on the territory of the Russian Federation. In 2009 Rosneft, Transneft and the Chinese CNPC signed agreements on oil supply for 20 years. Supplies began on January 1, 2011. In exchange, Rosneft received USD 15 bln. from Chinese banks, and Transneft – USD 10 bln. It was decided to construct a branch from the ESPO pipeline in the direction of China.

2. Gas. China that has recently been criticized by environmentalists for the massive use of coal energy, is successfully transferring its economy to gas.

For 2007-2016 the consumption of natural gas in China had increased almost 2.9 times, and according to the results of 2016 it was 210.3 bln. cubic meters (Figure 5).

In Russia, China is a strategic partner of the largest gas-producing companies - Gazprom and Novatek - and has contracts for the supply of both pipeline and liquefied gas. In addition, CNPC, with a 20% share, is one of the shareholders of the NOVATEK project on constructing the Yamal LNG liquefaction plant (the capacity

of three lines is 16.5 million tons, the launch of the first one is planned for the late 2017).

As early as in 2004, in Beijing, Chairman of *Gazprom* Alexei Miller and President of the Chinese CNPC Chen Geng signed an agreement on strategic cooperation. For almost 10 years there have been negotiations on the full-scale supplies of Russian natural gas to China by Gazprom. The main problem that slowed down the contract for gas supplies to the People's Republic of China was the matter of pricing on the level of European consumers' prices.

In May 2014, Gazprom and the Chinese CNPC signed a contract that stipulated the supply of 38 billion cubic meters of gas to the People's Republic of China every year for 30 years through the Power of Siberia pipeline. The total cost of gas supplies to China will be USD 400 billion. The document came into force in May 2015.

The interrelation of the Russian Gazprom and Chinese partners is not limited to buying and selling gas. Cooperation is also developed in a number of areas. Thus, contracts have been signed to conduct pre-project studies to create underground gas storage facilities in China, as well as joint projects are developed to expand the use of LNG as a motor fuel, including to gasify the Europe-Western China international transport corridor.

3. Nuclear power engineering. At the moment one of the main problems of the China's energy supply is the overwhelming (80%) share of coal-fired power plants that pollute the environment. In the context of the limited supply of coal, the development of clean energy such as nuclear power

Figure 5: Dynamics of consuming natural gas in China for 2007-2016

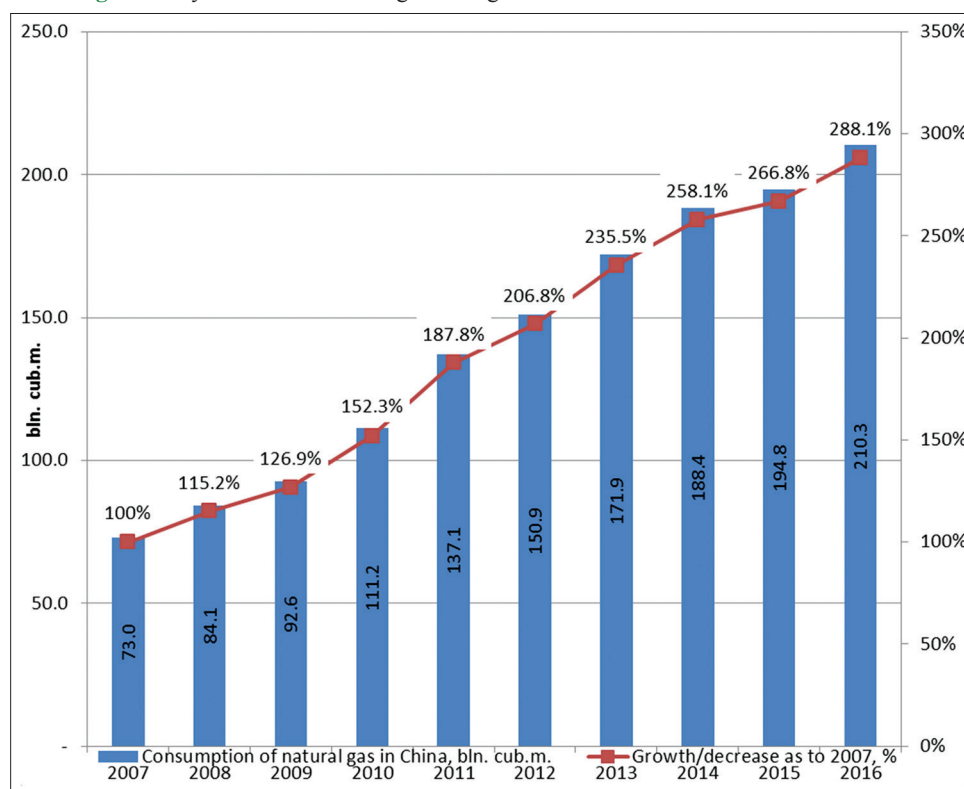
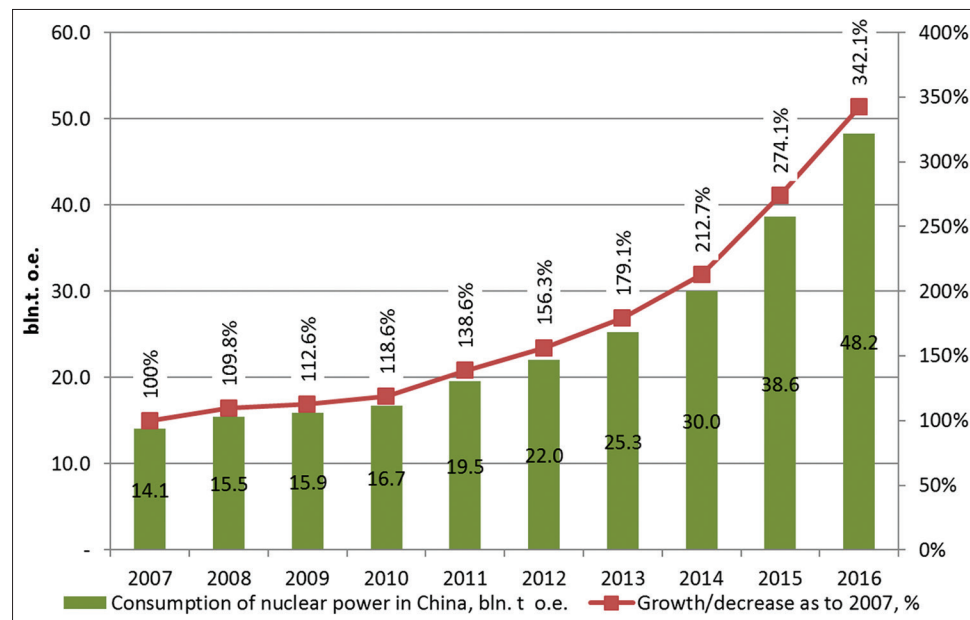


Figure 6: Consumption of Nuclear Power in People's Republic of China in 2007-2016

has become one of the China's key objectives, as shown in Figure 6.

Over the recent decades, China has got rich experience in the development of nuclear power engineering: Engineering design, equipment manufacture, construction, operation, management and so on.

Russia and the PRC have been actively developing cooperation in the nuclear area for many years. Due to the participation of Russian specialists in the People's Republic of China, the first and second power units of Tainwan NPP (TNPP) have been built. The 2nd construction stage of the TNPP within the 3rd and 4th power units is being worked at. The construction is carried out within the framework of the general contract dated November 23, 2010 between CJSC ASE and JNPC. The Russian party is responsible for designing and supplying equipment for the "nuclear island," as well as for the NPP project as a whole.

In general, it is necessary to note that the current format of bilateral cooperation - the Russian-Chinese energy dialogue - has brought the discussion of urgent issues of the Russian-Chinese cooperation in the energy sector to a qualitatively new level. At the same time, it is necessary to note that in the bilateral cooperation between Russia and China, there is some tension in the energy sector where the implementation of the planned projects faced many obstacles, and the results of the practical interrelation did not always correspond to the actual ones.

4. DISCUSSION

Like in all relations associated with the export and import of energy, the elements of interdependence are clear. Russia should obtain revenues from selling oil, gas and coal and sees China and, more broadly, Asia, as an expanding market that can offer diversification from more mature and stagnant Western markets.

Moreover, over the recent 12 years the energy demand in China has doubled, which more than outstrips the local production, forms a growing demand for import to expand industrial production. The share of China and Asia in the Russian commodity export is expected to considerably grow during the next decade, while the draft of the latest energy strategy assumes that gas and oil volumes can double during the next 20 years (Moscow Times, 2014).

The majority of experts agree that this cooperation is important and attractive for both countries. For Russia, the shift to the East has a number of strategic components based on both economic and political logics (Gabuev, 2015; Gabuev, 2016). First of all, the traditional markets of Russia in Europe and the West are now at the maturity stage, and the prospects for their growth are limited.

In the context of the political relations between Russia, the EU and the USA that worsened as a result of the return of the Crimea to the Russian Federation in 2014, it is obvious that it is necessary to diversify the Russian export market (Financial Times, 2014). It is also clear that Chinese companies understand the scale of opportunities provided by Western sanctions. In August 2015 Cheng Yongfeng, Vice-President of the largest oil producer in China, Yantai Jereh Oilfield Service Group, said that "Sanctions have forced many Western companies to remove their businesses from Russia. It can become a turning point for China, and new prospects appear for Chinese gas and oil companies that will enter the Russian market" (Interfax, 2015). In 2014 such Chinese companies as Honghua (a manufacturer of ground drilling rigs) and Petro-King (oilfield services) reported about a considerable business growth in Russia (South China Morning Post, 2014).

In addition, Chinese companies are invited to work on the Arctic shelves because sanctions limit the ability of Western companies to operate on the Russian shelf, especially in the Arctic and deep water (more than 500 feet). Perhaps, the participation in arctic

projects stimulates Chinese partners for long-term investments in Russia because they can get a share in the northern sea route from Europe. Arctic oil, although more expensive, can become a geostrategic political driver for closer cooperation between Russia and China, despite the fact that the development of hydrocarbons in ice-related areas is very difficult during the periods of low oil prices.

A. Demichelis, Director of the Investment Bank Hannam and Partners in London, thinks that the cooperation with China is one of the few alternatives that Russian companies can still use to finance their expansion (Russia and China continue establishing business relations, 2017). In 2018, Rosneft, the Russian oil supplier, plans to almost double the volume of oil supplies to China via Kazakhstan. Chinese processors are preparing to accept the increased volumes of Russian oil, the deliveries of which will start next January via the ESPO pipeline, when the ESPO pipeline capacity is increased. Next year, Rosneft will increase the volume of supplying ESPO blend oil to Petro China enterprises up to 600,000 barrels per day, which is 50% more than in 2017 (Russian Oil, 2017).

As for the bilateral cooperation in the gas sector, the prospects for the development of Russian gas in Eastern Siberia and the Far East and gas exports to China remain unclear, especially in terms of the current economic situation. Since that time, the economic growth of China has slowed, the gas demand forecasts have been reduced, and, therefore, the progress in terms of plans on exporting Russian gas has slowed.

The Yamal LNG project will be the most promising, despite the recent problems associated with project financing. The project launched in the late 2013 is not merely one of the most complex projects on LNG ever; it is also one of the most competitive. Yamal LNG will open access to the huge gas and oil resources of the Russian arctic, as well as new sea transport routes for the transportation of LNG to Asia.

In the context of the Russia's relations with China, as well as its general strategy on the gas export in the Asia-Pacific region, Sakhalin's 1, 2 and 3 projects are of the greatest importance. All three have the opportunity to expand production from the island, whether through pipelines or LNG projects that are specially focused on China or can provide gas for purchasing by Chinese clients on the market.

One of the largest joint energy projects between Gazprom and CNPC is the construction of a new gas pipeline, the Power of Siberia. It seems obvious that Russia has a firm commitment to the completion of The Power of Siberia project, even if the terms are postponed and the construction is carried out with a large delay from the established schedule.

At the same time, a number of experts express doubts about the feasibility of implementing this project. Thus, S. Aleksashenko, the former First Deputy Chairman of the Central Bank of Russia, expressed his opinion that the construction of a gas pipeline to China will be paid off only three decades after its beginning (Aleksashenko, 2015).

As for financial support, CNPC made gas transactions both with Gazprom and Novatek. However, it took only one just position (Yamal LNG) and obtained financial support for only one object (Yamal LNG through two Chinese state banks).

The prospects of other types of selling gas to China are much less obvious. Experts believe that, taking into account the environmental problems in China and the desire to move from coal to gas, it can lead to additional gas consumption of 100 billion cubic meters/year for the next 5 years. According to the CNPC forecasts, there is such potential for a larger volume of Russian export, of course. However, the competition on the part of LNG and inadequate infrastructure inside China can delay new sales. Therefore, two alternative sources of new gas - the "Power of Siberia - 2" and the pipeline gas from Sakhalin have a speculative nature now. Nevertheless, experts predict that Russia will be able to supply China with 40–50 billion cubic meters of gas by 2025 and, possibly, 90 billion cubic meters per year by 2030, with the vast majority of them accounting for sales of pipe gas (The Energy Research Institute of the Russian Academy of Sciences, n.d.).

In conclusion, it is necessary to note that the global market conditions, financial problems in Russia, the slowdown of growth in China and the competition on the part of alternative supply sources prevent the progress in relations between Russia and China. In addition, Chinese state-owned companies and banks seem to have a much stricter commercial point of view on the import of Russian hydrocarbons than Russia expected.

As for finances, Chinese banks also have a more careful approach caused by fears about the impact of anti-Russian sanctions, despite the fact that Beijing formally condemns them.

Rare cases when Chinese loans are available for Russian companies are mainly syndicated loans that involve banks of the big four of China acting jointly with other international players. This money is offered only to major borrowers, such as Novolipetsk Steel Plant and Gazprom, which are not subject to sanctions and do not have problems with the Western loans. Moreover, in 2015 some Chinese banks that have large US assets even asked their Russian clients to withdraw money from their accounts that otherwise would have been frozen (Kommersant, 2015). It brings China's business relations with Russia low.

At the same time, Chinese companies, and especially CNPC, adopt a diversification strategy for their relations with Russia, support the projects developed by Novatek, Rosneft and Gazprom, and thereby optimize their capabilities.

As a result, new energy relations of Russia and China and, in the broader sense of the Asia-Pacific region, can become a catalyst for reforming the energy sector as a whole.

5. CONCLUSION

The analysis of the dynamics of the development of bilateral cooperation in the energy sector makes it possible to make the following conclusions:

- The growth of the Chinese economy and expansion of industrial production in China ensured stable demand for energy resources and allowed China to become one of the largest importers of energy resources.
- Russia as the largest exporter of energy resources and suffering from the sanctions pressure from the EU and the USA is looking for new markets to sell energy resources.
- The existing form of bilateral cooperation – the energy dialogue – made it possible to achieve considerable success in expanding the foreign trade between Russia and China. There is a steady increase in oil and gas export, energy supplies for the nuclear power industry.
- It is reasonable for Russia and China to further cooperate in the energy sector by implementing joint projects on developing the Russian Arctic shelf, developing infrastructure and increasing the capacity of the gas and oil transport infrastructure, including in the framework of top-priority projects ESPO, the Power of Siberia gas pipeline, etc.

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