

Analysis of Oil and Gas Cooperation between China and Russia in the Belt and Road

Xuefeng Zhang^{1,*} and Melebayev Serdar¹

¹School of Economics and Management, North China University of Technology, Beijing, China

Abstract. With the deepening of economic globalization and regional economic integration and the "One Belt and One Road" strategic layout, China and Russia in the field of regional energy cooperation has been expanded to deepen. This paper analyzed the present situation of energy cooperation between China and Russia from the field of oil, coal and natural gas, and concludes that Sino-Russian energy cooperation is the following factors: strong cooperation and strong energy complementarities, and then analyzed the way to the Sino-Russian oil and gas cooperation. However, there are some problems in the energy cooperation between the two countries: the energy infrastructure in China and Russia is not perfect, the difference between Russia and Northeast China is poor, and there are some hidden dangers of energy security. The cultural dilemma hinders the exchange between the two countries. Finally, from the "One Belt and One Road" strategy for the Sino-Russian energy cooperation provides an opportunity to put forward the establishment and strengthening of energy infrastructure, relying on "One Belt and One Road" Orientation to ensure energy security, strengthen cultural cooperation and adhere to the "One Belt and One Road" uphold the principle of mutual benefit and other countermeasures.

Key words: analysis, cooperation, oil, gas

1 Introduction

The Chinese economy is in rapid development period of industrialization and urbanization is rapidly advancing, high economic development but also improve the oil and other energy resources consumption. And Russia with China, in the North is bordered by the world power, rich in energy resources, its oil production accounted for the world second total output, the oil reserves of the world's total reserves of 13 per cent. At the same time, Russia's natural gas, coal and other oil and gas mineral resources is quite sufficient; Russia has become the world's major energy exporter, but also become China's energy imports preference.

*Corresponding author: zxf511@163.com

Supported by the North China University of Technology outstanding young teacher training program, funded Beijing Social Science Foundation (Grant No.16LJC008) and Foundation for The Excellent Youth Scholars of Beijing (Grant No.2016000020124G021).

Over the years, China and Russia in the oil and gas and other energy fields expand widely cooperation, and has made a series into. It, reached a good cooperation consensus and basis. Chinese-Russian energy cooperation has a unique advantage. But Russian and Chinese energy infrastructure is still relatively backward, the issue of energy security has not been effectively resolved, geo-political influence of the two countries has interests of the cooperation, the imperfections of the energy of the financial system and other issues need to be resolved. For the Chinese-Russian energy cooperation in the process of many problems, how in the “one belt and one road” strategy to achieve greater progress is their common need to think about the problem. China-proposed “belt and road” strategy emphasizes to create “community of interests” and “community of destiny”, and Russia as China's neighbor, is undoubtedly China's “One Belt and One Road” initiative in the important countries. Uphold the “One Belt and One Road” strategy advocated by the interoperability, cooperation and safe principle, China and Russia want to continue deepening energy cooperation, so as to promote the Chinese and Russian economy continued stable and rapid development. The strengthening of Chinese-Russian energy cooperation has important theoretical and practical significance. Not only better safeguard China's energy supply security, to meet China's economic development process in the demand for energy; expanding Russian energy exports, and thus also contributed to Russian Economic Development. Sino-Russian cooperation is “mutual benefit, complementary and safe” cooperation. This study “along the way” the new strategic context to address Russian and Chinese energy cooperation that exist the following problems: energy infrastructure, energy security issues yet, the new energy technology challenges, geopolitical influence, the two countries interests of cooperation, energy-financial system is imperfect, the countries along the communication difficulties etc. Through the analysis of these issues causes to find solutions, to promote the Sino-Russian energy cooperation can be more smoothly carried out; the better to enhance the Sino-Russian powers in the international image; establish a regional cooperation model; expansion of the “One Belt and One Road” strategy of international influence.

In the BRICs countries as the basis, pointed out that the BRICs Member States are increasingly aware of the global market in the unique potential and the cluster advantages, and actively carry out various exchanges and cooperation [1]. Below the midpoint of the Russia due to the abundant natural resources, could become the global economy of raw materials the main supplier. Rutland [2] pointed out, Russia is the world's leading natural gas-producing countries, oil production with Saudi Arabia shoulder to shoulder, from 1998 to 2004, world oil supply growth in Russia accounted for 22% of oil and gas resources to return to the international stage leading status of key factors. Russian energy policy the centre of gravity of the transfer, the China Petroleum and natural gas resources are relatively insufficient situation prompted the two countries to actively seek energy cooperation and achieved substantial progress and results. Armijo [3] believe that China-Russia energy reserve assignment there is a difference, China's energy demand urgency, prompting China to take natural resources to lease and with oil-producing countries to sign long-term supply contracts. Russia is a huge energy exporter, its crude oil and natural gas production accounted for the world total output of 12%and 22%, the authors turn from energy to enjoy the empowerment of diversity and other aspects of the Sino-Russian bilateral energy cooperation. Trenin [4] pointed out that today Russia's achievements mainly rely on national oil and natural gas in the world energy prices go high, the background should be development and utilization of important and effective policy weapon, while also pointed out that due to a series of tensions and conflict, Russia and the Western countries appeared a rift, coupled with China's economic, political status of the rise as well as for reasons of energy security considerations, Russia will be with China, there are many area of energy trade and economic cooperation.

Hua [5] consider that Russia in China's Foreign Relations field plays an important role, not only because of Russian geo-location with the China adjacent, the more because Russia is rich in resources, but also belongs to the world of the Great Powers in the international arena has a crucial role to this end, Russia and China strengthening cooperation is the inevitable choice. Yu [6] starting from the overall study, prospects for Sino-Russian cooperation in the oil and gas fields are beautiful, in line with the needs of economic development of the two countries, is the result of a win and safe situation on both sides, but also have to take precautions, problems in the prevention of possible cooperation. Wei [7] published that China has energy security problem: challenge, he think currently, China energy security main faced with structural crisis and management system crisis, that is two big challenge, for China Government should take series of measures, and can consider implementation to multilateral cooperation, focus on international energy Department, to regional cooperation for based promoted established Northeast Asia Energy Community strategy.

Balzer [8] pointed out that Mr. Putin defended a kandidat dissertation in economics and subsequently published an article outlining his view of the appropriate role of the Russian state, and of vertically integrated financial-industrial groups, in the mineral resource sector, and particularly in the oil and gas industry. Connections are drawn between the views expressed in Mr. Putin's publications and policy during his second presidential term. Bilgin [9] addresses issues of natural gas which raise questions about European energy security. It first focuses on the rising gas demand of the EU27 and elaborates alleged risks of dependence on Russia. The geopolitical analysis leads to a conclusion that the best strategy, and what seems more likely, for the EU is to include at least two countries from Azerbaijan, Turkmenistan, Iran and Iraq within its natural gas supply system. Cornelius and Story [10] believed that conflict between the United States and China is far from inevitable, as long as the global price mechanism operates reasonably efficiently and Washington and Beijing can operate in partnership rather than rivalry. Hancock [11] pointed out that Several factors will determine whether the pipeline becomes a reality, including Niyazov's ability to reign in his troublesome personality, China's willingness to convert from coal-burning to natural gas fueled plants, and Uzbekistan's interest in a pipeline traversing its territory. Weitz [12] considered that. The deliveries, which may take a few years to reach full capacity, will provide China with more than one-fifth of its present-day annual consumption of some one hundred and seventy bcm, although Chinese demand for natural gas is expected to rise above two hundred bcm by then.

Dan-Hui [13] by way of investigation, Russia's oil and gas resources notable the world, it is oil and gas resources, especially natural gas, ranking first in the world. Yao [14] think that China and Russia both energy cooperation is in the twists and turns in the good development of Sino-Russian energy-industry collaboration has a convenient, short distance, low cost, resource potential and other many advantages. Currently, the Russian Economic Development was achieved gratifying results, a large part of the reason is that the energy exports bring to national income growth, while China and Russia energy cooperation is also to attract more foreign investment, the use of energy from reliable sources, which for Russia is a win situation, the accomplishments of outstanding worth for sure, but not blind, after all, between the two countries on energy cooperation still exists some problems that need to solve.

In summary, domestic and foreign scholars ' research focused on the Chinese-Russian energy cooperation the need for and development of the status quo. In the need for cooperation on a consensus, that Russia, rich in energy resources, especially oil, coal and natural gas. And China because of the economic high-speed development, the energy consumption demand is particularly large, Russia and China to promote energy cooperation is in both countries ' development strategies. In cooperation with the status quo of the

research on Chinese-Russian energy cooperation is continued to promote, in the petroleum, coal, natural gas field and achieved certain results, China and Russia energy cooperation will continue. Domestic and international studies have much significance, but current research does not relate to the “One Belt and One Road” strategy, just past China and Russia energy cooperation is summarized. In fact, due to China's “One Belt and One Road” strategy proposed, China and Russia energy cooperation presents a different face, of course, also faced with new problems, the encountered situation is different, and so research in the “One Belt and One Road” under the background of Chinese-Russian energy cooperation is still necessary.

This paper based on China and Russia in energy cooperation in the status quo analysis, the main research in the “One Belt and One Road” under background of Chinese-Russian energy cooperation on the issues and response measures. First, previous research on the basis of, combined with the “one belt and one road” context of the analysis Chinese-Russian energy cooperation in major energy sector development status. Second, according to the previously described the development status the study of Russia and China in “One Belt and One Road” strategy under the guidance of the energy cooperation of the favorable factors. Third, standing in the “One Belt and One Road” strategy height, pointed out that Sino-Russian regional energy cooperation problems in the process. Fourth, in the above-described analysis on the basis from the actual departure, is proposed for Sino-Russian energy cooperation problems in the process of response measures.

2 China-Russia oil, Gas Trading analysis and “One Belt and one Road”

China in the world energy reserves, ranks among the forefront, both as the world's second energy producing country, is also ranked second in energy consumption in the country. As the economy continues to expand, China's energy consumption has continued to rise, China's rapid economic growth cannot do without Russian energy supplies, as energy reserves, production and export volume ranking the forefront of Russia, is China's major energy-importing countries.

Russia is a world energy superpower, the 2014 oil proven reserves in the world rankings ranked sixth, accounting for the world of 13%, oil production accounted for the world total output of 12% as Figure 3-1 shows. For Russia, rich in oil resources except for their own consumption, more output abroad, China is Russia's important oil-exporting countries.

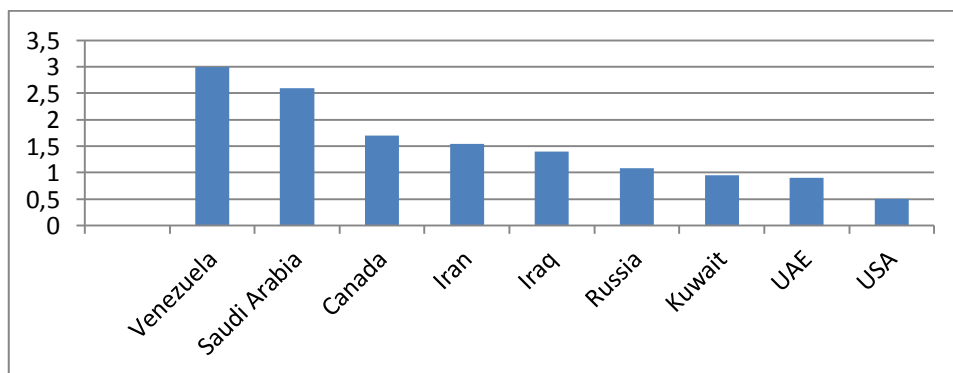


Fig. 1. World oil proven reserves rankings

Table 1. China's oil imports from Russia in 2011 – 2015

Year	Chinese oil import (mill. ton)	Russian oil import (mill. ton)	proportion
2011	0.19	2.42	8%
2012	0.21	2.35	9%
2013	0.24	2.36	10%
2014	0.33	2.24	14.7%
2015	0.41	2.45	16.9%

Russian oil export volume of nearly ten years has been stable at 2 million tons, and oil exports accounted for production of about 30%. With Russian oil production continues to increase, the foreseeable future of Russia's oil exports is bound to increase. 2015 Russian oil the total export volume amounted to 2.43 million tons, of which exports to China of about 0.41 billion tons, accounting for about 16.9 per cent. Table 3-1 shows that from 2011 to 2015 the Russian oil export volume is growing, while exports to China the volume of oil also showed an increasing trend, the Chinese imports of Russian oil duty ratio from 2011's 8% rise to 2015 16.9%, increased nearly one times. Thus, China is Russia's main oil exporter country, in the petroleum field is also to strengthen the construction of dealings.

In February 2009, China and Russia signed “loans-for-oil” agreement, determine the Sino-Russian oil pipeline by the end of 2010 before lying is completed. In 2010, Russia's largest bilateral cooperation project - “East Siberia-Pacific Ocean” oil pipeline project of China, the branch was built, became the Sino-Russian energy cooperation in the field of milestone. In December 19 2010, The China-Russia oil pipeline across the Board through. The China-Russia oil pipeline officially began transporting oil in 1st May 2011.

In March 2013, President XI Jinping in Russia during the visit, the two countries signed on the East and West lines to increase crude oil supply agreement, Russia will export to China the volume of oil reached an annual average of 2200 million tons, the East line of the existing Sino-Russian crude oil pipeline of oil supplies on an annual average of 1500 million tons increased year by year, to 2018, the total oil export volume reached 3,000 tons. Not only that, Russia in the future will transport by sea transportation for export to Tianjin refinery oil amounted to 910 million tons.

China's natural gas consumption, natural gas consumption increased year by year, the consumption amount of the energy structure in the proportion is also increasing year by year. The 2012 China consumption of natural gas 1471 billion cubic meters, by one year rise 13%, in 2014 gas consumption was up to 1800 billion cubic meters, up 7.4%, in 2015 up to 1920 billion cubic meters, by one year of 6.7 %. 2015 China natural gas imports to Russia total consumption of 3.2 %. China's natural gas consumption is growing at the same time, the growth rate has slowed, which with rising gas prices, and many other factors. According to the expert analysis, China's natural gas consumption in 2020 expected growth rate as in 2015 by one times, to achieve approximately 4100 million cubic meters of the target in primary energy consumption proportion reaches 12%, the future China's energy situation will happen a major reform, and this is an important engine. By then, China will become the Russian gas, the largest importer, which should benefit from the natural gas, the future of China will be available from Russia up to 3000 billion cubic meters of natural gas exports.

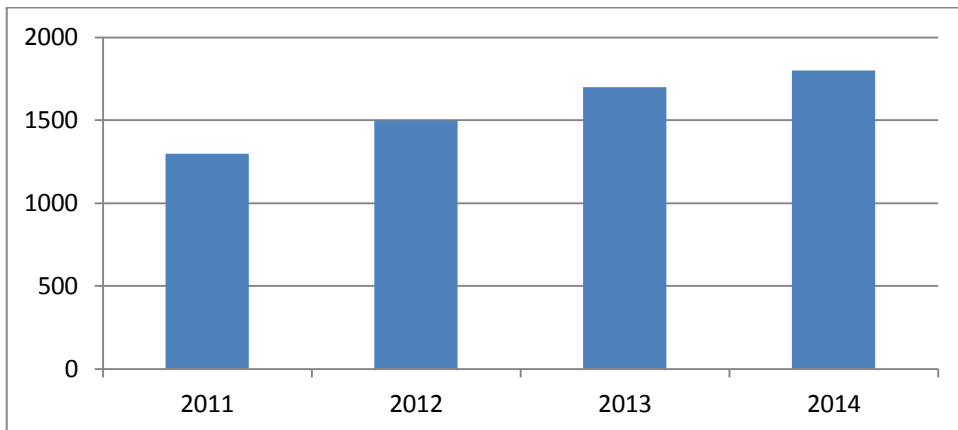


Fig .2. China's natural gas consumption

Russia is not only oil-rich, gas reserves also ranked in the world. 2014 Russian natural gas total export volume up to 1812 billion cubic meters, in 2015 the growth of 4.9%, up to 1900 billion cubic meters. In 2015 China's natural gas imports amounted to 621 million cubic meters, which imports from Russia about 61 billion cubic meters. In the natural gas fields of cooperation, in Chinese-Russian consultations, the two countries will be on the West line gas project restarted, which is following the East line natural gas cooperation project reached a remarkable results. China and Russia West line gas project of scale with the East line of the project comparable. The West line gas project cooperation reached with the East line natural gas project Double sword combination, this will promote “One Belt and One Road” by the country's economic take-off. Europe and the United States the emergence of the Ukrainian issue, the Russian implemented economic sanctions to pressure the Russian government had to shift our attention to the East. In November 2014, covering from Siberia to the construction of China gas pipeline, including a 30 year gas supply contract, in the Sino-Russian joint efforts to reach a unanimous decision.

In the Boao Forum for Asia on the Russian Far East Development Minister Galushka said, “One Belt and One Road” the great thing is that it put Asia and Europe, the two continents closely linked together, pushing the two continents of co-development, while also advancing the world of diversified development. Grasp “One Belt and One Road” construction opportunities, the Sino-Russian oil and gas cooperation will become a mutual respect mutual trust of the road, a win and safe cooperation Road, a connection of friendship road.

Table 2. Chinas Gas Import from Russia 2012-2016

Year	China oil import amount (billion cub.metr)	Russia oil export (billion cub.metr)	Proportion
2012	35	1600	2,2%
2013	45	1690	2,7%
2014	50	1750	2,85%
2015	58	1812	3,2%
2016	61	1900	3,21%

Although Russia and China have a sound political basis, but the two sides are still in constant pursuit to enhance the two countries, political mutual trust. In 1992, Russian President Boris Yeltsin visited China; the two leaders signed the Sino-Russian relationship basis of the joint statement, and determine relations between the two countries of

fundamental principles. In 1994, the leaders of both sides determine the Chinese-Russian good-neighboring friendship, equality and mutual benefit relationship, healthy and stable development, the two leaders also signed the Sino-Russian joint statement and the Chinese and Russian heads of state on non-national nuclear weapons aiming at each other's joint statement and other documents. In 1996, the leaders of the two countries signed the Sino-Russian joint statement and other documents. In the 21st century, China and Russia stick to a few principles remain the development of good relations, continue to deepen mutually beneficial and pragmatic cooperation, seek common development and prosperity. The two countries will continue to expand in international Affairs in cooperation to promote peace and stability in the world. In June 2012, the Chinese and Russian heads of State signed a Declaration on further deepening the equality trust the China-Russia comprehensive strategic cooperative partnership joint statement, the Sino-Russian leaders unanimously decided to implement the Sino-Russian relations in the next ten year development plan for the Central task, give full play to the two sides close high-level exchanges the government and sector exchanges and cooperation mechanism. Russia is a growing cooperation between the friendly neighbourhood states, the Treaty of friendship signed between China and Russia cooperation Russian-Chinese relations are milestone and cornerstone.

3 “One Belt and One Road” Sino-Russian oil-gas cooperation influences

Between China and Russia exchange can be said “the Silk Road Economic belt” to the North on land extending to the South and the “21st century Maritime Silk Road” the docking of a new cross-border cooperation, where the interests overlap and interleaving may be by the Parties to establish an effective coordination mechanism, from the big picture long-term interests, seek common ground, forming the destiny and interests of the community. The use of the Russian Economic Development need to take Chinese “ride” a good opportunity period, China completely can be the use of financial, technical and human resources and other advantages, the effective use of Russia in Central Asia and Mongolia cooperation in the positive factors, the “Pro, honesty, benefits, tolerance” diplomatic philosophy under the guidance, the aid has started a “Bank” and “Silk Fund” to strengthen infrastructure construction. Jointly build “One Belt and One Road” of the priority direction is to build interoperability partnership. The future is in China and Russia, along with “One Belt and One Road” energy development and the formation of oil and gas pipeline network basically relies on a number of economic corridors, the formation of “one belt and one road” along appears to cover energy in the downstream areas of different industrial centres.

In Summary, The New Silk Road for China-Russia energy cooperation to expand the escort, the two countries through the New Silk Road can do the energy exchange interoperability, and effectively protect the two countries energy security. For Russia, The New Silk Road for Russia's energy exports opens the channel, the energy outlet of the expansion is bound to bring Russia economic growth; for China, the New Silk Road for China's energy demand to broaden the channels, to meet the economic development of needed energy resources. So, the New Silk Road to protect the economies of both countries sustained and stable development to provide the conditions.

4 “One Road One Belt” Sino-Russian oil and gas trade problems

China and Russia between the two countries on energy cooperation back and forth the experience of nearly twenty years, the cooperation results have good and bad, prior to the

establishment of the infrastructure not only dilapidated and do not meet current energy delivery and, most importantly, with the new field of energy cooperation continue to expand, as new energy cooperation in the construction of the infrastructure is still lacking. The current transnational oil and gas pipelines construction, cross-border power grid interconnection construction and a large infrastructure has not kept pace, the impact of the Sino-Russian energy cooperation in the process. For a long time, Russia's industrial development is mainly concentrated in the Western region, energy development and utilization of the supporting infrastructure is also mainly concentrated in the Western region. Russia in Far East, sparsely populated, accounting for land area of 36% of the Far Eastern Federal District only 630 million inhabitants and where economic development lagged behind, supporting infrastructure, energy development and utilization costs are very high. Therefore, many of China's large state-owned enterprises are unwilling to Siberia investment to build the plant. In addition, the region's energy transportation mainly on the railway, the transport capacity is insufficient, construction of new infrastructure requires a large investment, and cost recovery is slow, also dispelled the China enterprise investment enthusiasm. China and Russia's energy infrastructure through the country is more, the countries along the route for different interests to consider, so that its communication is quite difficult, and China and Russia planning some line through the region of the geographic ecology of the natural environment is harsh so that construction of the infrastructure of the difficulty of construction is further increased. So, for now, Russia and China to the energy infrastructure or the use of the previous facilities, the past of the energy infrastructure not only old behind, but also cannot meet the growing energy supply and demand, it does not meet the "One Belt and One Road" strategic planning under the new Sino-Russian energy cooperation line.

China and Russia are the international energy market on an integral of two powers, one is a major energy consumer, one is the energy producing countries, both neighboring countries and strategic partners, the two countries on energy cooperation has a unique advantage, but the reality is often unsatisfactory, between the two countries on energy cooperation is affected by many factors, at multiple levels expand the interests of the game. One is the economic and political interests of the game. Sino-Russian energy cooperation is the biggest obstacle to the geopolitical difficult to release away. The Russian energy sector problems, economic factors are the main obstacles, as it is the geopolitical goal of the ground edge of the economic target penetration as a result, lead to political problems at the economic level. Sino-Russian cooperation more imported the field of security, and the non-economic areas. The second is the strategic interests of the game. Sino-Russian energy cooperation to a sustained and stable development, we must have a clear Sino-Russian energy cooperation strategy to guide, but so far, it didn't work out between the two countries recognized the practical Sino-Russian energy cooperation strategy, the main reason is that Russia will be the two countries on energy cooperation as the long-term planning project, hoping to drive the entire Far East region's economic development, while China put the two countries on energy cooperation as an urgent short-term work projects, expectations as soon as possible to resolve the current "energy bottleneck", as well as energy sources diversification issue. The third is the price of the game. China and Russia in the oil and gas price divergence has become current cooperation problems to be solved. For China, the high oil price will greatly increase China's national economy running costs; and for the "energy economy" dominated by Russia, then hope that oil and gas can maintain high prices. These years, at what price to export to China Energy become plagued Russia's a big issue, but also hinder China-Russia energy and rapid development of important factors.

5 “One Belt and One Road” China-Russia oil-gas trade development countermeasures

Energy infrastructure construction is China and Russia energy cooperation is an important one ring, spare no effort in the establishment and improvement of Chinese-Russian energy infrastructure construction, the Chinese and Russian governments to invest more money in energy infrastructure, give more financial support while the introduction of both corporate investment and create more favorable conditions, such as the introduction of preferential tax system, etc. to attract Russian and Chinese companies added to the energy infrastructure of the team. Although, Russia and China along the line of the infrastructure in the face of natural conditions difficult, but the two countries as long as the strengthening of technology research and development, storming grams hard, you can overcome the natural environment of the obstruction, the innovative establishment so as not to damage the ecological environment to devote more funds to support Energy Technology Research and development, and guarantee energy sustainability, the increase in New Energy and green energy aspect of the cooperation, reducing the ecological environment pollution, from a certain extent is also the guarantee of energy security.

In the bilateral safeguard mechanism, the China-Russia bilateral energy cooperation the legal system and the laws for refinement, so both companies understand that cooperation relates to the legal terms of the differences. Russia and China to vigorously develop energy technologies, to invest more funds to support Energy Technology Research and development, and guarantee energy sustainability, the increase in New Energy and green energy aspect of the cooperation, reducing the ecological environment pollution, from a certain extent is also the guarantee of energy security.

Russia and China cooperate to ensure that the interests of States as the basis, from all aspects to improve the enhanced cooperation basis. However, the two countries in addition to the constant emphasis on issues of interest, but also from the Humanities and cultural cooperation aspects, by the two countries to continue the dialogue of cultures, in-depth to strengthen all areas of communication.

6 Conclusion

China has become the global energy needs country, energy needs to be timely and effectively met; active seeking energy cooperation is the inevitable choice. Russia is a vast land and energy resources the abundance very rich, coupled with its economic and steady development is largely dependent on energy exports the realities of the Russian imperative is to seek a reliable energy-importing countries. China and Russia energy cooperation can be traced back to the early 90's, although the middle stranded for a period of time, but the two countries energy cooperation still continues. Russia and China in energy cooperation, though they have not a small advantage, but there are also a lot of issues: the Sino-Russian energy infrastructure, and Russia in Northeast Asia with China trust Foundation difference, energy security there is a certain risk, a culture native to hinder the two countries exchanges in Russian between the interests of the game.

Russia and China to learn from past cooperation, confront problems, from the Russian actual situation, from the “One Belt and One Road” strategy proposed for Russia and China energy cooperation provides an opportunity to propose the establishment and strengthening of energy infrastructure, by means “Belt and Road” to carry out the Sino-Russian energy multi-field cooperation, relying on the “One Belt and One Road” multifaceted and comprehensive to ensure energy security, strengthening Humanitarian Cooperation and adhere to the “One Belt and One Road” uphold the mutually beneficial and win-win principle and other countermeasures.

Finally, the list of China's goals, in the medium and long term, includes: internal stability, maintained economic growth, deepened reform, and opening to the outside world; enhancement of its soft power, improved relations with Russia, energy security and equilibrated relations with the great powers; rule maker in the global governance institutions and contributor to the global economy.

References

1. T. Hult, The BRIC countries. *Global edge Business Review*, (3), 1-2 (2009)
2. P. Rutland, Russia as an Energy Super power. *New Political Economy*, (2), 201-210 (2008)
3. L. E. Armijo, The BRICS Countries as Analytical Category: Mirage or Insight? *Asian Respective*, (4), 7-42 (2007)
4. D. Trenin, Russia Leaves the West. *Foreign Affairs*, (4), 1-87 (2006)
5. H. Li. Hua, Russia in China's energy strategy in the status and Sino-Russian energy cooperation. *Economic Research reference*, (30), (2006)
6. Li Guo Yu, World oil and gas basin, Atlas. *Beijing: petroleum industry Press*, 69-94, (2005)
7. Y. Z. Wei, China's energy security: challenges with the availability. *World Economics and politics*, (8) (2008)
8. H. Balzer, The Putin Thesis and Russian Energy Policy. *Post-Soviet Affairs*, **21**(3), 210-225, (2005)
9. M. Bilgin, Geopolitics of European natural gas demand: Supplies from Russia, Caspian and the Middle East. *Energy Policy*, **37**(11), 4482-4492 (2009)
10. P. Cornelius, J. Story, China and Global Energy Markets. *Orbis*, **51**(1), 5-20 (2007)
11. K. J. Hancock, Escaping Russia, Looking to China: Turkmenistan Pins Hopes on China's Thirst for Natural Gas. *China and Eurasia Forum Quarterly*, **4**(3), 67-87 (2006)
12. R. Weitz, The Russia-China Gas Deal. Implications and Ramifications. *World Affairs*, **177**(3), 80-86, (2014)
13. W. Dan-Hui, The Sino-Russian bilateral oil trade progress to explore. *Sino-global energy*, (5), 18-23 (2010)
14. H. Yao, Sino-Russian energy cooperation: status, obstacles and counter measures research. *Heilongjiang foreign economy and trade*, (2) (2011)