

# **The Challenges and Opportunities of China's Energy Cooperation with Russia**

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## **Abstract**

China's rapid economic growth has made energy security a significant issue. The focus on energy security is driven partly by an exceedingly tight energy market / high oil prices, and partly by China's fundamental need for energy to power the next decades of economic growth. From this point of view, China must take advantage of various foreign energy resources as soon as possible, in order to diversify and increase its sources of energy.

In the past decade, Russia's oil and natural gas industries have played a major role in the global energy market, particularly in Europe. However, eastern Siberia and the Russian Far East enjoy relative geographical proximity to China, and have been proven to possess vast energy reserves. This region has become the most likely option for meeting China's energy needs.

The purpose of this paper is to explore the challenges and opportunities for Sino-Russian cooperation in the energy sector. It finds that the pace of progress has been slow owing to certain obstacles, especially in the area of price negotiation. The fall of the international price of oil and gas has given China the opportunity to jump-start Sino-Russian energy cooperation. Moreover, as a result of institutional mechanisms, China is better positioned than other countries in Northeast Asia (NEA) to expand energy ties with Russia. Also, it was found that China stands to disproportionately benefit from bilateral energy cooperation.

**Key words:** China, Russia, Energy Cooperation, Oil and Gas

## Introduction

The world's energy requirements rise with every passing year. A rapid increase of all types of energy supplies is needed in order to keep pace with increasing global GDP and population growth, together with ever-increasing wealth and lifestyle expectations. Imagine the more than 2.5 billion people of China and India able to afford automobiles, air conditioning and central heating, and the myriad of electrical appliances available on the market. By 2020, oil demand is projected to increase from 70 million to 150 million barrels a day. The number of automobiles in the world will double, with much of the growth concentrated in China and India. Gas demand will skyrocket in the Asia-Pacific region. Coal demand will increase significantly as well (Energy Insights, 2011). For these reasons, many experts name energy supply and demand as one of the biggest challenges of this century. More than any other issue, it is subject to global economics, geopolitics, war, fiscal policy, and the battle between growth and sustainability. Besides financial services, energy is probably the most global industry, and the one with the broadest impact (Ernst & Young, 2009).

As a result, global energy prices have skyrocketed. The price of oil has been rising since 1999, and steeply since 2003. Although oil is the main driving force behind the surge in energy prices, the prices of natural gas and coal have sharply increased as well.

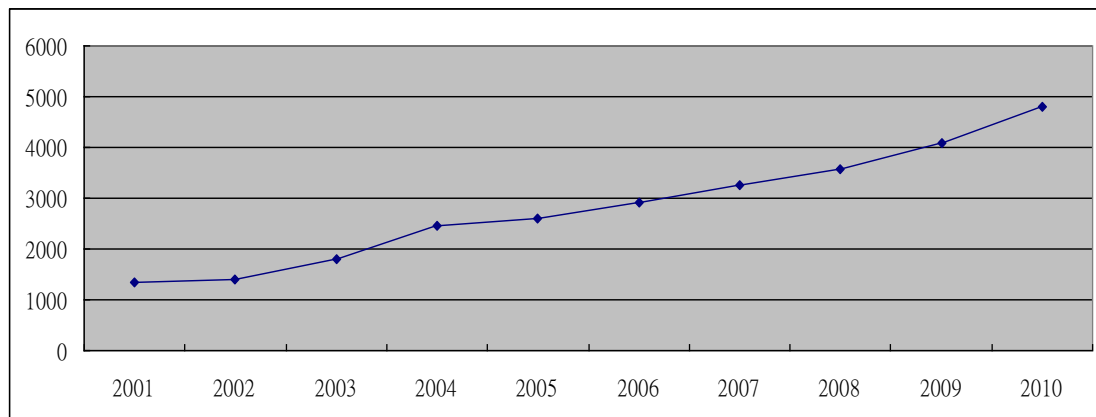
Among developing countries, China is often singled out as a scapegoat for rising fuel prices, because its extraordinary rate of economic growth has led to a rapid growth in energy consumption. According to the data of International Energy Agency (IEA), in 2009 China stood as the world's largest consumer of energy, and the second-largest consumer of oil (behind the United States). With this growth in demand has come an increased reliance on imported energy (see figure 1.1). China became a net oil importer in 1993, and imported nearly 4.77 million barrels per day in 2010 (Hoium, 2011); this is projected to increase to more than 17.5 million barrels per day by 2030 (BP Statistical Review, 2011), making it a major factor in world energy markets.

China has a comprehensive energy security strategy consisting of demand reduction, diversification, leveraging bilateral relationships with key suppliers in the Middle East, building stronger ties with Russia, and establishing a market position in Central Asia (U.S.-China Economic and Security Review Commission, 2003). In the case of oil this can be witnessed in figure 1.2.

With the increase in global oil prices—and the energy production of the Middle East, the North Sea, and North America expected to fall due to ongoing drilling, and the congestion of new oil field development projects—Russia is emerging as a new

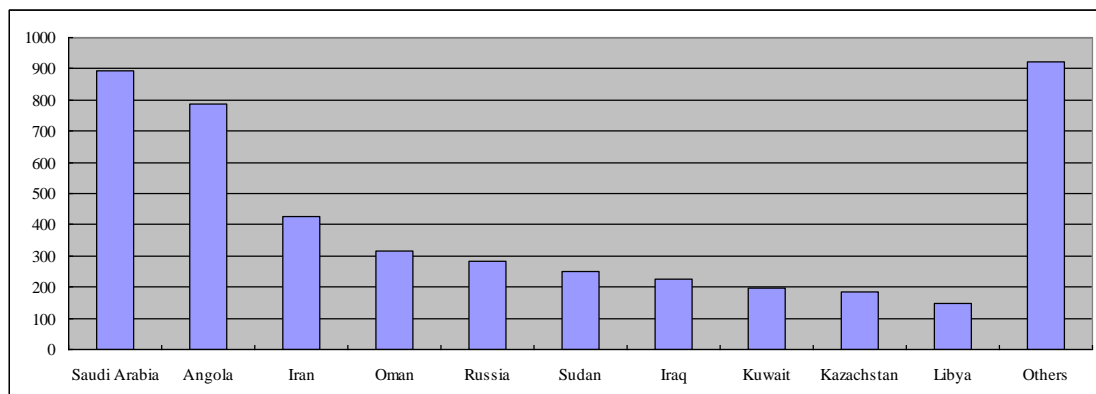
supplier. Russia boasts the world's seventh-largest oil reserves, is the second-largest oil-producing country after Saudi Arabia, and ranks first in natural gas reserves and production. Its energy resources in eastern Siberia and the Russian Far East<sup>1</sup> are especially attractive to Northeast Asian countries.

Figure 1.1. China's Imports of Crude Oil including Lease Condensate from 2001 to 2010 (1000 barrels per day)



Source: U.S. Energy Information Administration, Independent Statistics & Analysis, 2012.

Figure 1.2. China's Crude Oil Imports by Source, 2010 (1000 barrels per day)



Source: Data from Source: FACTS Global Energy, cited in the U.S. Energy Information Administration, Independent Statistics & Analysis, 2012.

This paper focuses on China's strategy of diversification, especially in the field of energy cooperation with Russia. This article begins by describing the outlook for China's energy demand and Russia's energy supply. Secondly, it analyzes the current

<sup>1</sup> Russia's resources had been irrelevant to China for a long time. Sino-Russian cooperation in the energy sector was made possible only during the early 1990s, by changes in the international situation in general, and in Sino-Russian relations in particular. Since then, bilateral cooperation has been growing steadily (XIA, 2000).

conditions of China's energy cooperation with Russia. Thirdly, it discusses the challenges of Sino-Russian energy cooperation from China's point of view, and explores in detail the opportunities and advantages of this cooperation.

## **China's Energy Demand and Russia's Energy Supply**

With a population exceeding 1.4 billion, and economic growth averaging around 8 percent over the past two decades (following market reforms beginning in the late 1970s), China's demand for energy—to fuel its rapidly expanding industrial and commercial sectors, as well as a rise in the standard of living—has surged.

### **Outlook for China's Energy Demand**

In 1985, China consumed 20.7 percent of the world's coal, 3.2 percent of its oil, 0.7 percent of its gas, and 4.6 percent of its hydroelectricity. In subsequent decades, its share of the consumption of all four types of energy sharply increased. In 2003, China accounted for 31 percent of world's coal consumption, 7.6 percent of oil, 10.7 percent of hydroelectricity, and 1.2 percent of gas. Indeed, since the early 1980s, the growth in energy consumption has been so strong that it has outpaced growth in the domestic energy supply, leading to a substantial expansion of China's energy imports, mainly oil (Crompton and Wu, 2005).

In 1992, China was still an oil exporter. Ten years ago, its total energy consumption was just half that of the U.S., but since then, China has often seen double-digit annual growth rates. In 2009, China surpassed the U.S. as the world's largest auto market, a position it had held since the early 1900s. In July 2010, according to the data of the Paris-based IEA—energy adviser to most of the world's biggest economies—China's total energy usage exceeded the U.S. for the first time, making China the world's largest energy consumer<sup>2</sup> (Dancy, 2010).

IEA forecasts of Chinese oil demand have been much too conservative. They expected that China's energy use would rise 3 to 4 percent a year, and exceed that of the U.S. about five years from now. But the global recession impacted U.S. industrial activity more severely, slowing energy use; meanwhile, between 2000 and 2009, China's energy use was more than four times greater than predicted, thanks to double-digit economic growth and a rising population. The IEA also indicated that in 2009, China consumed 2.252 billion tons of oil equivalent (a metric representing all forms of energy consumed, including crude oil, natural gas, coal, alternative sources

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<sup>2</sup> China, meanwhile, disputed the IEA statistics showing it surpassed the U.S as the world's largest energy consumer in 2009, but didn't offer alternative data.

like nuclear power, and renewable sources such as hydropower)—or about 4% more than the U.S., which burned through 2.170 billion tons (Swartz and Oster, 2010).

The United States is still the leading oil consumer, at 19 million barrels a day against China's second-place 9.2 million. But China could catch up fast. According to the BP Statistical Review (2011), China is the largest source of oil consumption growth in the world, and is forecast to overtake the U.S. to become the world's largest oil consumer by 2030, with consumption growing by 8 millions of barrels per day (Mb/d) to reach 17.5 Mb/d. This explains why Chinese oil companies have become the industry's most voracious oil project buyers in recent years. As for gas, Asian countries are expected to account for the world's largest natural gas production and consumption increments to 2030, and China drives 56% of the region's consumption growth. Fortunately, Chinese domestic stockpiles of coal are abundant, since China has relied heavily on coal since the central planning era.

China's ascent marks a new age in the history of energy. In recent years, the country's surging appetite has transformed global energy markets and propped up prices of oil, gas, and coal, and its continued growth poses long-term implications for China's energy security.

## **The Reason for China's Energy Import Diversification**

In this context, the IEA also reported that China faces a critical energy imbalance in the next decade, due to its rapidly growing economy and increasing energy consumption. Among its many challenges is the projected depletion of all energy resources except coal in the near future. The net oil import of China will then increase very fast, leading to a high probability of imbalance in energy demand. Therefore, China must exploit foreign energy resources and promote an import diversification strategy without delay.

China's high dependence on oil from the Middle East—accounting for about 40 percent of supplies, compared to 22 percent for Europe and 23 percent for North America—is a very critical factor affecting its economic efficiency and energy security. In order to stabilize its energy supply, China has to diversify its energy suppliers. The most feasible approach would be to increase the share of oil from Russia's Far East and eastern Siberia.

## **Outlook for Russia's Energy Supply**

Russia abounds with energy resources. According to BP statistics, Russia is the world's seventh-largest country in terms of oil reserves, and second in oil production.

Russia boasts 10.8 billion tons of proven oil reserves (6.3% of the world's total), and annual oil production is 0.49 billion tons (or 12.4% of total oil production). Russia's oil consumption accounts for 0.13 billion tons (or 3.3% of total oil consumption), making it the fourth largest oil consumer after the United States (0.88 billion tons), China (0.36 billion tons), and Japan (0.22 billion tons). Russia's daily oil refining capacity is 5.54 million barrels (6.3% of world oil refinery capacity in 2008), the world's third largest after the United States (17.62 million barrels) and China (7.73 million barrels).

At the same time, Russia is the global leader in terms of natural gas reserves and production. At the end of 2008, Russia's proven reserves of natural gas amounted to 43.3 billion cubic meters (bcm) or 23.4% of world's total reserves. In terms of natural gas consumption, Russia places second at 420.2 bcm (13.9% of global natural gas consumption). Russia's natural gas reserves/production ratio (R/P ratio)<sup>3</sup> (72 years) is estimated to be 50 years longer than its oil R/P ratio (22 years).

Russia's natural gas production has been increasing since 2001, as has its exports of natural gas. This is due to the rising global demand for natural gas, especially from high-growth countries such as China and India. According to the new Russian energy strategy (adopted by the government in November 2009), total gas production in Russia is expected to rise from 664 bcm in 2008, to over 800 bcm in 2020; while total gas exports increase from 240 bcm to over 330 bcm during the same period.

Currently, western Siberia is the major gas field in Russia, providing about 90% of total gas production. But its share is expected to decrease to 75% by 2020, due to plans to exploit gas fields in eastern Siberia and the Far East. Most of Russia's oil and gas reserves and facilities are located in western Siberia and the Volga-Ural districts. However, the quality of the infrastructure there is gradually deteriorating.

For this reason, Russia has been heavily investing in the development of other reserve locations, such as eastern Siberia, Yakutia, and the Barents Sea. The oil reserves in Eastern Siberia and the Far East amount to 17.4% of the entire Russian deposit (up to 1.9 billion tons), so Russia's long-term plans to develop large-scale oil fields there are understandable. Proven reserves of natural gas in eastern Siberia are estimated at 2,200 bcm (about 5% of domestic natural gas reserves), and in the Far East, at 1,200 bcm (about 3% of domestic natural gas reserves) (Lee and Novitskiy, 2010). In this regard, the role of Russia's eastern regions and continental shelf fields in oil and gas production is expected to increase. The major target markets are the

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<sup>3</sup> A ratio indicates the remaining lifespan of a natural resource. This ratio is expressed in terms of years, and is used in forecasting the future availability of a resource to determine project life, income, employment etc. While applicable to all natural resources, it is primarily used in the oil and gas industry. (Investopedia. 2012)

countries of the Asia-Pacific region, especially China.

## **Present Status of Sino-Russian Energy Cooperation**

With the rapid development of China's economy, domestic supplies of oil, gas and other important natural resources are increasingly insufficient to sustain economic development. For China, to guarantee the supply of these important resources (especially oil) in the next few decades is not only an important economic issue, but also a key security issue, since it directly affects the success or failure of China's modernization project.

For this reason, energy security has already become an important consideration in China's foreign policy. Russia has abundant reserves of oil and other mineral resources—about 80 percent of them in Siberia and the Russian Far East, which border China. Obviously, intensifying energy cooperation with Russia will help China carry out its policy of diversifying its supply of oil, and avoid a possible cutoff of the sea route, which is much less secure than trunk pipelines.

On the other hand, one of the main objectives of Russian energy strategy in recent years has been diversification of exports. At present, European countries constitute the main market for Russian oil and gas (accounting for about 60 percent of Russia's gas and oil exports), and therefore receive priority in the country's energy policy. In order to diversify its export markets and correct this geographical bias, Russia has been trying to increase the volume of energy exports from the country's eastern regions, and enter the energy markets of Northeast Asia (NEA) and the Asia-Pacific region. Moreover, oil exports from Russia—particularly pipeline exports to western and northeastern China—face no serious competition from other suppliers. Finally, Russia's efforts to involve China in its modernization process can be interpreted as a signal to the West that Western countries need not be the sole source of technology and capital. Energy cooperation with China, together with the gradual diversification of Russian exports, also benefits Moscow in its negotiations with European customers. Under these conditions, strengthening energy cooperation between China and Russia stands to benefit both countries.

A number of Sino-Russian energy cooperation projects have been established at either the corporate or the government level. Some examples:

In 2007, China Petroleum & Chemical Corporation Limited (Sinopec) and Russia's "Rosneft" jointly established Venin Holdings Ltd., as the operating company for the Sakhalin-3 project (74.9% "Rosneft", and 25.1% Sinopec). Russian and Chinese oil and gas companies also cooperate in the territories of other countries, such as Kazakhstan. In February 2009, the Chinese and Russian governments signed a

package of agreements on cooperation on energy resources, including an oil pipeline construction project. The nearly 1,000-km long China-Russia crude oil pipeline originates in the town of Skovorodino in Russia's Amur region, enters China at Mohe, and terminates at Daqing in northeastern China. The pipeline is designed to carry an annual throughput of 15 million metric tons of oil per year (Xinhua, 2011). A long-term crude oil trading deal and financing plan was agreed to by the China Development Bank and the Russia Oil Pipeline Transport Company. On Jan. 1, 2011 Russia began to supply oil to China through the Skovorodino-Daqing pipeline.

Also, in 2009 China and Russia signed a formal agreement to provide Chinese capital today in exchange for Russian oil tomorrow. Long-term loans provided by China to Russia total \$25 billion, with \$15 billion going to the Russian oil company (and effectively the Russian state oil holding company) "Rosneft," and \$10 billion to the Russian state oil transportation company "Transneft." In return, Russia will repay the loans by providing China with 300 million tons of oil, at an average annual volume of 15 million tons (or approximately 110 million barrels of oil per year) from 2011 to 2030. Volumes will increase over time, once both segments of the Eastern Siberian-Pacific pipeline are completed. The loans-for-oil agreement is a guaranteed source of oil supply to China for nearly the next two decades and, depending on the ultimate financial arrangements of the agreement, a relatively cheap source of foreign imported oil (Rosner, 2010).

Concerning natural gas supplies, during his 2006 visit to China, Russian President Vladimir Putin proposed to export up to 40 bcm to China via the 6,700-kilometer, \$10 billion Altai pipeline. In March 2006, the Russian gas company Gazprom and China National Petroleum Corporation (CNPC) signed a memorandum on the delivery of Russian natural gas to China from 2011, as a follow-up to their partnership deal signed in October 2004. In 2010 these two companies had reached an agreement under which China was to receive up to 70 billion cubic meters of natural gas from Russia each year. Due to continued disagreement over gas prices, the project stalled, and Russian gas supplies went undelivered. However, on 11-12 October 2011, Putin (then Prime Minister) joined a group of 160 business leaders—including the CEOs of Russian energy giants Gazprom and Rosneft—in another two-day official visit to China. He indicated that the two countries are working on new energy transportation routes, and that discussions regarding the bilateral gas deal are nearing completion.

Regarding electricity exports, there are plans to increase electricity supplies from Russia to China from 4.3 billion kilowatts to 60 billion kilowatts by 2020. In December 2011, testing will begin on a mammoth Sino-Russian power line designed to accommodate China's surging demand for energy. The electricity power



transmission project is China's biggest cross-border power line. The project began in July 2007, but stalled several times during construction. The line runs from the Amur region in Russia's Far East, to Heilongjiang, China's northernmost province. It remained intact after an earthquake measuring 6.6 on the Richter scale jolted Russia's Far East on October 14, 2011. Companies from China and Russia are currently engaged in coordinating operations and negotiating prices.

On Feb. 24, 2011 EuroSubEnergo (a wholly-owned subsidiary of the En+ Group, Russia's largest independent power company) and China Yangtze International (a Hong Kong subsidiary of China Yangtze Power) signed an agreement to form a joint power venture in eastern Siberia, called YES Energo. In the first stage, the venture will develop two hydropower projects and one thermal project, for a total installed capacity of more than 3 GW. Under the deal, the joint venture aims to build up to 10 GW of new capacity to meet the anticipated growing domestic demand for electricity, and to create additional capacity for power exports from Siberia to China. But such cooperation on electric power supply depends in Chinese technological support to establish long distance transmission lines between the two countries. China has the capacity to build ultra-high voltage transmission lines, which cannot be built in Russia.

In general, China is expected to import more energy resources and electricity from Russia, as Chinese demand for energy, raw materials and electricity increases due to high economic growth.

## **Challenges Facing Sino-Russian Energy Cooperation**

During Putin's October 2011 visit to China, a memorandum was signed on cooperation in the field of economic modernization, as well as an agreement to strengthen the Chinese-Russian relationship. Putin and Chinese Premier Wen Jiabao each spoke highly of the achievements and potential of bilateral energy cooperation. Both sides emphasized their willingness to develop mutually-beneficial strategic cooperation in oil, natural gas, electric power, coal, energy efficiency and conservation, new energy, and the peaceful use of nuclear energy.

Although the governments of China and Russia constantly affirm Sino-Russian energy cooperation to be an important part of the two countries' strategic partnership, and pledged to bolster the energy supply, some challenges and difficulties remain:

1. Price issues: The difficulties of price negotiation should be first mentioned in any discussion of Sino-Russian energy cooperation. The long-term challenge for Russia in its relations with China is the unfavorable structure of trade between the two countries, while a more immediate issue is that of defining the principles of their

energy cooperation. The main obstacle to Sino-Russian energy cooperation remains the two countries' firm stance on the terms of the contracts—above all on the prices. The countries have been unable to conclude several years of negotiations on constructing a pipeline and a long-term contract on gas supplies to China because of a dispute over gas prices.

In the case of the gas contract talks, Russia seems to feel that its negotiating position has been strengthened by Germany's decision to abandon nuclear energy, and the consequent expected increase in Russian energy supplies to Europe. Russia's efforts to build a gas pipeline to the two Koreas are also a factor in the negotiations. China for its part has put pressure on Moscow by entering into agreements with Central Asian countries to increase the supply of gas from Turkmenistan, which since the end of 2009 has been pumped through a pipeline via Kazakhstan.

As for petroleum, since January 2011 the CNPC has been paying a smaller amount than provided for in the 20-year contract. The issue under dispute is the cost of transporting crude through Russian territory via the Eastern Siberia Pacific Oil (ESPO) pipeline, which according to the Chinese has been overestimated. According to the Russians, a consensus was reached on how to resolve the dispute.

With reference to electrical power, the Russian electricity producer Inter RAO has been attempting to conclude an agreement with the Chinese on electricity exports since 2008, but prices are still a contentious issue (Kaczmariski, 2011).

2. Differences in approaches to energy security: Another issue is that Russia applies the “assets swapping” approach in order to attract mutual participation of energy suppliers and consumers in both the energy development and distribution sectors. In China and other NEA countries, domestic energy supply operations are viewed from the point of view of national independence.

3. Mistrust: Although all border disputes were officially resolved in 2004, Russia's distrust of China goes back three centuries, and Russians remain wary of their powerful economic partner. China for its part is showing signs that its love affair with its northern neighbor is wearing thin as well (Asianews, 2006).

According to a poll carried out by a Russian polling institute in 2009, 44 percent of Russians indicated that China was a threat to Russian interests, with 39 percent declining to answer, and 17 percent undecided. The same poll also found that between 2002 and 2009, the percentage of Russians who believe that their country's global influence has declined relative to China's, increased by over 200 percent. This growing Russian recognition of China's power may have provoked dissatisfaction that this Chinese ascendancy is being fueled in part by Russian resources. Such suspicions throw a perceptual wrench into the Sino-Russian strategic partnership, particularly where energy is concerned. This may help explain why, despite the obvious efforts of

Moscow and Beijing toward energy cooperation, the two sides have not made much progress on the building of a long-awaited pipeline to send Siberian gas to China.

4. The issue of a multilateral mechanism: The establishment of a cooperative framework is a tough task to carry out, due to different understandings of the energy sector, and a lack of consensus on the ultimate goal to be achieved. Any cross-border energy project will strongly relate to regional and national issues. The establishment of a multilateral cooperative framework would help China and other NEA countries cope with Russian resource-nationalism, and the strategic use of its energy resources. If NEA dependency on Russia's energy increases, the necessity of a multilateral, cooperative energy framework is obvious.

On the other hand, Russia has been an exclusive supplier in the NEA energy market, enhancing its influence in the region by strategically maintaining bilateral cooperation with NEA countries in the energy sector. The existing competition between NEA countries, and attempts to secure the energy resources of Russia individually, will negatively affect the future energy security of NEA. As a partial solution, China should establish mechanisms of intergovernmental collaboration on energy cooperation with other NEA countries.

## **The Opportunities and Advantages Posed by Sino-Russian Energy Cooperation**

The last few years have seen unprecedented progress in bilateral Chinese-Russian energy cooperation. For many years, China had grumbled about Russian foot-dragging on negotiations for oil and gas deliveries, in particular with reference to the development of several pipeline projects highly desired by the Chinese. While the intensity of overall Chinese-Russian trade has steadily increased, development of the energy trade has lagged behind what many would consider reasonable economic behavior.

The 2009-2010 agreements between the two countries have shifted the pattern of Sino-Russian energy relations. Most certainly, more recent energy developments have been influenced by the drop in global oil prices since 2008, and the dramatic fall of natural gas prices across Europe, providing the single largest stimulus for intensified Sino-Russian cooperation in the energy field. Furthermore, many experts do not expect European gas demand to return to 2008 levels until after 2015. Russia's business and political leaders give high priority to retaining the European market. That is why Russia is trying to accelerate the increase in its energy exports to NEA and Pacific Rim countries—expanding the energy market from West to East—while

staying focused on the European energy market. That is, as a pragmatic measure, Russia pursues a geographically differentiated energy strategy.

In addition, among the NEA countries China seems to have the most robust political and legal infrastructure for expanding its cooperation with Russia in the energy sector. China has been strengthening its energy cooperation with Russia through the Shanghai Cooperation Organization (SCO), and is improving economic cooperation (including energy cooperation) with Russia through regular summit meetings, prime ministers' meetings, and the meeting of the Council of Ministers. In return for securing a supply of Russian oil and gas, China approves cross-border investment, and affirms the principle of reciprocity as sought by Russia. (Russia has not yet entered similar energy dialogue with South Korea or Japan.)

On the surface, Sino-Russian cooperation in the energy sector is in Russia's favor, owing to China's insatiable desire for Russia's energy resources to support its economic prosperity. However, the following statistics show that the imbalance in bilateral Sino-Russian relations is deepening—in China's favor.

In general, Sino-Russian trade has increased dramatically since 2000. In terms of value, trade reached an apex in 2008 at \$58.8 billion, making China Russia's single largest trading partner in 2009, if its trade with the EU is disaggregated on a state-by-state basis. More troubling for Russia, however, is the fact that beginning with the September 2008 collapse in global oil prices, Sino-Russian trade (measured in dollar terms) actually fell to \$38.8 billion in 2009. This is less indicative of a dramatic fall in trade volumes than a dramatic decrease in the per-barrel price of oil since 2008, given that oil dominates Russia's trade with China.

In 2009 Russia ranked only 14<sup>th</sup> among China's trading partners, with only 1.7 percent of its total foreign trade. The combined fall in global oil (and energy) prices, coupled with an unbalanced trade relationship, does not mean that Russian oil exports to China have fallen; rather, the value of its hydrocarbon exports has declined due to a rise of the Chinese yuan against the Russian ruble, and a secondary devaluation of oil prices. In terms of energy resources, the fact is that Russia needs Chinese trade more than China needs Russia.

## Conclusion

Amidst their respective economic agendas, energy cooperation stands out as the main focus between Russia, one of the world's largest energy producers; and China, the world's biggest energy consumer. This reflects China's decades-long economic growth, and its rapidly expanding clout as an industrial giant. China is projected to become the world's biggest economy by 2030, and the question of whether its energy

growth will prove sufficient to support high economic growth is often raised.

The fundamental reality driving China's energy strategy globally, and its energy relationship with Russia in particular, is its inability to provide sufficient quantities of energy to satisfy its own domestic needs. Over the past two decades China has evolved from a net oil exporter to a net oil importer; as a result, Russia has come to play an increasingly important role in China's energy security. Recent developments confirm this observation. China has long lobbied Russia for easier access to its resource commodities; Russia has long sought to strengthen the Asian dimension of its energy policy as a negotiating strategy in relation to Europe.

In spite of recent advances in cooperative energy engagement, and public overtures by the leadership of both countries affirming the importance and vitality of deepening engagement in both energy and power, the speed of progress has been slow, and impeded by such obstacles as mutual mistrust, price disagreements, and dissimilar policy agendas.

The post-2008 decrease in the international price in oil and gas has catalyzed the progress of Sino-Russian cooperation, and provided China with an opportunity to strengthen ties with Russia in the energy sector. Thanks to various international and institutional mechanisms, the Chinese are far better positioned than other NEA countries to expand energy cooperation with Russia. At the same time, statistics show that the imbalance of the Sino-Russian energy trade is in fact in favor of China, which indicates China disproportionately benefits from energy cooperation compared to Russia.

As both Russia and China have been focusing only on imports and exports of raw materials and energy (especially oil and gas), bilateral energy cooperation is still in its primary stage. After the launch of the Skovorodino-Daqing oil pipeline—a significant event in Russia-China energy cooperation—the two countries have expressed a willingness to expand bilateral cooperation in other energy sectors, such as ecologically “clean” hydro-energy. The two sides have also committed themselves to ensuring the long-term, safe and stable operation of China-Russia oil pipelines, and expanding their partnership in oil and gas exploitation and processing.

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## 中國能源與俄羅斯合作的挑戰與機會

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### 摘要

中國經濟的快速成長已使得能源安全成為一項重要的議題。能源安全成為觀注的焦點，部分是由油價高漲以致能源市場極度緊俏所驅使，另一部分則是中國為了驅動未來數十年經濟成長而對能源的基本需求所使然。從此觀點來看，中國必須儘快利用各種外國的能源資源以分散和增加它的能源來源。

在過去 10 年，俄羅斯的石油和天然氣產業在全球能源市場，特別是在歐洲，扮演了重要的角色。然而，東西伯利亞和俄羅斯的遠東地區在地理上鄰近中國，而且已被証實了擁有大量的能源庫藏。這個地區已成為最可能滿足中國能源需求的選擇。

本篇文章的目的在於探索中國在能源產業與俄羅斯合作的挑戰與機會。研究發現雙方合作進展的遲緩是因為某些障礙，特別是在價格談判部分；而石油與天然氣國際價格的滑落讓中國有機會啟動中俄間的能源合作。再者，由於制度化的機制，中國在東北亞國家中處於比較有利的地位以擴大和俄羅斯的能源聯繫。同時，文裏也發現中國從雙方的能源合作裏獲得不相稱地利益。

**關鍵字：**中國、俄羅斯、能源合作、石油和天然氣