

THE GEOPOLITICS OF RUSSIA'S INTENSIFYING
ENERGY COOPERATION WITH CHINA
MOTIVATION, DEVELOPMENT AND CHALLENGES

Master Thesis

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Executive Summary

During the past decade Russia and China have engaged in closer energy cooperation. Increasing energy exports to the Asian-Pacific market have emerged as one of the top priorities in Russia's energy policy. Energy resources are indispensable to the Russian economy by providing over half of the federal budget, and having a record of being used as a salient political tool in the former Soviet states. Russia needs to continue producing and exporting energy to retain its stature. Russia's main destination, Europe, accounting for the majority of energy exports, is actively diversifying its suppliers because of growing political tensions. In addition, Western Siberian oil and gas fields are slowly depleting. This thesis argues that from a balance of power perspective, diversifying energy towards China provides Russia with a leverage over the European Union by being less reliant on Western exports. Secondly, Russia and China share the same goal of a multi-polar world rather than the current U.S. dominated unipolar world, a political incentive for cooperation. From a geopolitical perspective, China can accelerate the development of Russia's Eastern Siberia and Far East, coinciding with Russia's recent energy and foreign policy strategy of 'pivoting towards the East.' As for China, the nation's economy is growing rapidly, and so is its demand for natural resources. With energy consumption exceeding the domestic energy production, China is expected to increasingly rely on energy imports. Currently, over three quarters of Chinese energy imports are shipped through the Strait of Malacca, a transfer route posing a high risk of disruption due to acts of piracy. Therefore, the Chinese government is seeking alternative energy suppliers in advancing sustainable energy supply security. Russia appears to be an ideal partner for China to guarantee a long-term supply of energy by reducing the strategic vulnerability of the energy trade route.

Although the energy relations between Russia and China seem promising, there are challenges and conflicts between these partners in energy pricing and regional dominance, neither wanting to provide the other party a relative gains advantage. In addition, Russia is concerned over its weakening influence in Central Asia and the domestic Russian Far East due to an increasing Chinese presence in these regions. Still, geopolitically Russia has no viable alternatives and China requires diversification of its fuel mix as well as stable sourcing. The case study of the Eastern Siberia Pacific Ocean Pipeline politics reveals the determination of both parties to form long-term energy cooperation, and the geopolitical considerations behind Russia's choice of partners.

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Abbreviations

| | |
|-------|---|
| Bbl/d | Barrels Per Day |
| Bcm | Billion Cubic Meter |
| CIC | China Investment Corporation |
| CIS | Commonwealth of Independent States |
| CNPC | China National Petroleum Corporation |
| EIA | Energy Information Administration |
| ESPO | Eastern Siberia Pacific Ocean |
| EU | European Union |
| FDI | Foreign Direct Investment |
| IEA | International Energy Agency |
| LNG | Liquefied Natural Gas |
| NOCs | National Oil Companies |
| OECD | Organization for Economic Cooperation and Development |
| OFDI | Oversea foreign direct investment |
| PLA | People's Liberation Army |
| RDIF | Russian Direct Investment Fund |
| SCO | Shanghai Cooperation Organization |
| UK | United Kingdom |
| U.S. | United States |

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1. Introduction

1.1 Research background

The Far East and Eastern Siberia, accounting for around sixty per cent of Russia's territory, are some of the least developed regions in the country. Yet, they are also rich in the sense of abundant natural resources. The regions are estimated to hold gas reserves of 52.4 trillion cubic meters onshore and 14.9 trillion cubic meter offshore (Gazprom, 2014a). Currently, most of Russia's proven oil reserves are found in Western Siberia, accounting for about seventy per cent of the total national oil reserves. However, a large part of the oil resources in this region has already been exploited (Itoh, 2011). The depletion of the natural resources in the Western Siberia region will have a negative impact on Russia's economic growth, since more than seventy per cent of Russia's total exports are dependent on oil and gas (EIA, 2014a).

In addition to the oil depletion in Western Siberia, another concern regarding Russia's energy situation is that Russia has been reliant on a single market, namely Europe, for its energy exports. About eighty per cent of Russia's crude oil and three-quarters of its natural gas are exported to European countries (including non-EU member states in Eastern Europe, such Ukraine and Belarus) (EIA, 2014a). Over-reliance on a single energy market can create an unfavorable energy trading relationship. Energy security is defined as the availability of sufficient supplies at affordable prices (Yergin, 2006). For energy surplus countries, such as Russia, energy security can thus be conceived as security of demand at a fair price. In order to achieve better energy security, Russia's diversification strategy is to expand the array of customers, so as to limit its dependency on Europe.

The global financial crisis of 2008 provided a demonstration of how vulnerable Russia's economy is because of relying (too) heavily on a single market for its energy exports. The financial crisis caused a 2.5% drop of the European Union (EU) primary energy consumption (Orttung, 2009). The oil price dropped from \$96.71 per barrel in September 2008 to only \$30.7 per barrel at the end of 2008 (Heinrich, 2014). The drop in energy prices and consumption from the EU resulted into to a sharp fall of Russian GDP by eight per cent in 2009 (Aslund, Guriev & Kuchins, 2010). Moreover, the gas conflict between Russia and Ukraine in 2009 resulted in Russia losing at least a third of its usual markets in the European Union, for the EU has since actively diversified its gas supplies in order to enhance its energy security (Orttung, 2009).

Energy not only plays a vital role in sustaining Russia's national economy, but is also

used as a tool to demonstrate Russia's political power. Larsson (2006) examined Russia's actions in fifty incidents in Commonwealth and Independent States (CIS) over a period of fifteen years, ranging from changes in pricing policy to complete cut-offs. Russia has made many attempts to gain control over energy infrastructures beyond its own borders, primarily in CIS countries. Often such attempts have been backed by economic incentives for the target country. Prices for Russian energy CIS countries have to pay have been raised over the past years, in some cases even quadrupling. According to Woehrel (2009), in order to offset these price increases, countries have traded control over their energy infrastructure to Russia. By doing so, Russia gained for instance majority stakes in Moldova's and Armenia's energy infrastructure, effectively expanding the Russian sphere of influence beyond energy, also into such issues as local politics.

In order to sustain the country's economic development from energy exports and consolidate its political power, Russia is now looking to develop new energy fields and expand the energy relationships with other countries beyond its current main market, the EU. The Eastern Siberia and the Far East only contain about 13 per cent of Russia's oil reserves. Yet, the natural resources in Eastern Siberia and the Far East are mostly unexplored and the development of these regions has gradually become more important to Russia's economic growth (Itoh, 2011). During the past decades, Russia's energy transport infrastructure has mainly focused on its Western European markets, but the scenario is gradually changing. The government's most recent energy policy is calling for more investment in the Far East and Eastern Siberia regions (Blagov, 2010).

Russia is now attempting to pivot its energy trade toward the 'East,' to Asian-Pacific countries like China, Japan, Korea and even India. Of these, China and India are expected to show the largest increase in energy demand over the coming decades. The partnership between Russia and China has especially shown considerable progress. In 2009, Russia and China reached an oil deal according to which Russia will provide China with 15 million metric tons of oil per year for the coming twenty years in exchange for \$25 billion in loans from China (Chang, 2014). As for natural gas, in 2014, after over a decade of (price) negotiations, Russia signed a \$400 billion gas pipeline deal with China. It is said that the pressure put upon Russia by Western leaders over its annexation of the Crimea has finally pushed Russia to close this long-delayed gas deal (Demiryol, 2014; Lelyveld, 2014a).

Why does this matter? Scholars have stated how energy will play an important role in

contemporary geopolitics, and in this light have raised concerns on how such a Sino-Russian energy partnership might reshape world politics. O’Byrne, the executive and research director of GoldCore, named the \$400 billion agreement a “geopolitical earthquake” in terms of reshaping the balance of power between the United States and emerging Eastern superpowers (O’Byrne, 2014). Kaplan (2014) emphasized the importance of energy geopolitics, addressing that “natural resources and the trade routes that bring those resources to consumers is central to the study of geography.” He also predicted that there will be an alliance between Russia and China consolidated by a growing energy relationship, and this relationship will be directed against the “democratic West” (Kaplan, 2014).

Following this line of thought, the Sino-Russian energy partnership is clearly of political significance, as is the puzzle posed by it. This puzzle has several elements: How do geopolitics shape, and are shaped by, energy relationships between great powers?; what does this reveal about the significant motivating forces underlying contemporary international politics?; and what are the dangers and limits to such relationships? In this era, energy is an indispensable element for a country’s economy and development, and accordingly is a pivotal foreign policy interest to the great powers. Consequently, analyzing the conditions of energy cooperation between the two major world players can be important for policy makers when determining a nation’s energy and foreign policies. It also serves as an empirical case to test the extent to which geopolitical assumptions and theories may be applied to the contemporary world politics of energy.

1.2 Societal Relevance of the Thesis

According to the definition as provided by the website of Research Councils UK (n.d.), the “[e]conomic and societal implication is the demonstrable contribution that excellent social and economic research makes to society and the economy, of benefit to individuals, organisations and nations”. Demonstrable contributions can be seen as instrumental, conceptual, or capacity building. The instrumental category includes ways in which research contributes to influencing policy and practice, shaping legislation, or altering behavior. The conceptual category includes research contributing to understanding policy issues or reframing debates. Alternatively, capacity building mainly considers how research can contribute through skills development. As Nojonen (2011, p. 7) has noted, “The Sino-Russian strategic partnership already possesses great geopolitical weight which, if actualized effectively, could reshape the balance of power on a global scale.” This thesis’ contributions will mainly lie within the conceptual and instrumental field; providing an understanding of

energy geopolitics; potentially influencing policies dealing with energy politics; and helping to answer questions related to the future affordability of energy supplies and the political dimensions of energy trade.

Energy security is a top priority for many countries. Both foreign and domestic policies on energy supply can directly affect a society and its people, through price adjustments as well as by ensuring or undercutting a stable and secure supply of energy. A secure energy supply means a continuous contribution to a country's economic development. Thus, initially this thesis benefits society by attempting to clarify the energy situation Russia currently finds itself in, as well as identifying trends in its energy exports in light of its cooperation with China. A shift of Russia's energy relations towards China will affect Russia's domestic stakeholders, as well as external stakeholders involved in energy trade or transport surrounding Russia, such as the European Union. The knowledge gained from this thesis can then be further used for, for instance, shaping policy reports.

1.3 Scientific Relevance of the Thesis

Considering the likelihood of an intensified energy trade relationship between Russia and China, it is worthwhile to explore the geopolitical implications such a relationship could have on Russia and arguably even on the world energy market. Geopolitical theory originates in the nineteenth century and remains one of the most popular and influential approaches in explaining and predicting world politics. 'Energieopolitics', which combines energy security and geopolitics, is a recently emerging research agenda under the umbrella of geopolitics (Ariboğan & Bilgin, 2009, p. 116). Therefore, further developing such a research framework in which energy and geopolitics are combined, and applying this resulting theory to empirical cases in order to demonstrate its compelling explanatory utility and policy relevance, is of clear relevance in scholarly terms as well. In order to do so, this thesis therefore attempts to explain Russia's incentives in strengthening its energy partnership with China, and to do so from the perspective of the geopolitics of energy, thereby providing a comprehensive understanding of the existing literature on geopolitics, energy security, and Sino-Russian studies.

Secondly, many of the existing studies on the geopolitics of Russia's energy have largely focused on the energy interdependency between Russia and the European Union. They often argue that Russia's strategy of diversifying its energy supplies is a way to reduce the energy export dependence on the EU. In addition, the recent Ukrainian crisis has made the energy partnership and trust between Russia and the

European Union even more fragile, pushing Russia to direct its energy streams from the EU to elsewhere. Russia therefore views China as an alternative market and as a political ally (Katakey, 2014; Koyama, 2009; Kaplan, 2014). The thesis brings in an additional layer in looking at Russia's energy cooperation with China by addressing the geographic 'facts' of energy, being the location and distribution of energy resources. It argues that indeed the perception of strategic vulnerability as a result of over-dependence on a single energy export market and the balance of power are motivations for Russia to pivot its energy policies towards China. At the same time, geopolitically, the close proximity between China and Russia's energy resources in the Far East is also an important consideration, which, too often, remains underappreciated in the existing literature.

In addition, this thesis will introduce work by Chinese and Russian scholars as additional references in viewing the geopolitics of Sino-Russian energy cooperation, thereby introducing alternative angles to the analysis that can profit from different cultural backgrounds. In this way, it adds to the diversity in the research landscape. This attempt follows the call by Dodds and Sidaway (1994) that we need to broaden the empirical base and not limit our research to empirical studies originating from the Anglo-American world only. Due to language and cultural barriers non-Western scholars and their publications still remain largely undiscovered, therefore often resulting in a research bias towards the 'mainstream' West.

The purpose of this thesis is therefore to uncover how geopolitics, or even more precisely, the geopolitics of energy, applies to the Sino-Russian energy partnership. Under this research framework (to be further developed in Chapter 2), the thesis finally also hopes to provide an explanation of the limits of this partnership.

1.4 Research Question

The strategy for Russia to diversify its energy supply is to increase its export markets in Asian-Pacific countries, especially to the energy-thirsty China. The first question in our puzzle therefore is *what are the explanations and considerations for Russia to strategically choose China for an energy partnership?*

In addition to that, although Russia seems especially keen on forming a close partnership with China among the various Eastern countries, Moscow at the same time has concerns that increasing political and economic ties with China based on an energy partnership are not as mutually beneficial as initially anticipated. In particular, concerns over the 'Chinese threat' have come to the fore, as Russia fears that China

will continue to increase its political and economic power, partly by accessing Russia's energy resources, while Russia's own national power will not be able to keep pace (Gramma, 2012). This relates to the second important question in examining the growing Chinese-Russian energy partnership: *What are the limits of such a partnership?*

The objective of this thesis is thus to determine the geopolitical factors that lead to Russia's increasing energy focus on China, and to critically analyze the mutual interests and stakes in such a partnership.

Following the research objective, the guiding research question of the thesis becomes:

To what extent do geopolitical considerations explain the dynamics, interests and limits underpinning Russia's growing energy partnership with China?

Based on this central question, sub-questions have been designed to provide a more detailed analysis:

- 1) *What are the motivations for Russia to develop energy cooperation with China?*
- 2) *What are the motivations for China in the Sino-Russian energy partnership?*
- 3) *What are the challenges in such a partnership?*

The questions will be analyzed by showing that (a) Russia's energy partnership with China is indeed growing; that this can be best explained in terms of (b) Realist (balancing) and (c) geopolitical calculations by both parties (in short: Russia, as energy producer, requires a fair price for its energy resources and therefore needs to diversify its buyers; whereas China plainly requires cheap energy for growth); and that (d) in the long term this energy-geopolitical partnership will likely be constrained by political-Realist calculations of relative gains.

1.5 Chapter Division

The research content is presented in four chapters. The next chapter (Chapter 2) introduces the theoretical framework and the research methodology of the thesis. First, the chapter addresses the main theories as applied in this thesis and the relevance of the theories to the research subjects. The latter part of the chapter includes a discussion on the research methods and the data used for the study.

Chapter 3 provides an overview of Russia's energy situation, including Russia's energy security, by addressing the question of how Russia has used energy as a

geopolitical weapon, as well as the energy security strategy as adopted by Russia. It addresses the geopolitical drive behind the development of Russia's intertwined energy and foreign policy goals, and the strategic role China plays in fulfilling these goals.

Chapter 4 follows the overall structure of the previous chapter, this time focusing on China. It deals with China's energy requirements and the issue of how China can fulfill these requirements by cooperating with Russia. In order to do so, this chapter first provides an introduction to China's growing energy demands and its current major energy trading partners. Next, the thesis examines the geographical and political challenges of China's current energy situation and the Chinese approaches to cope with these challenges. The chapter concludes with the geopolitical importance, seen from a Chinese perspective, of importing energy from Russia.

Chapter 5 focuses on the current and future Sino-Russian energy partnership, as seen in the light of and explained by geopolitical features and challenges. It especially illustrates Russia's energy development in the Far East and Eastern Siberia regions and examines Russia's 'pivot to the East' strategy and China's role in such a strategy. In particular, it takes the construction of the so-called Eastern Siberia-Pacific Ocean (ESPO) Pipeline as an illustration of Russia's energy geo-strategy of expanding its Eastern markets. The choice for this ESPO pipeline project as a case study is that the completed oil pipeline project represents Russia's determination to develop energy partnerships with Asian-Pacific countries. The routes of the ESPO oil pipeline have been designed in order to export Russia's oil to several Asian countries, including Japan, China and South Korea. This allows us to examine Russia's geo-strategic choices of partnerships in Asian countries as well as the power relations between them. The chapter also addresses Russia's concern over a future power imbalance leaning towards China, since China continues to consolidate its economic and political power. The final chapter concludes with the findings of the research and provides answers to the research questions. It also deals with the limitations of this thesis and makes recommendation for future research.

2. Theoretical Framework and Research Method

2.1 Theoretical Framework

2.1.1 Definition of Theoretical Framework and Conceptual Framework

The terms theoretical framework and conceptual framework take center stage in social science research, but are ill defined and contested in meaning, or in the words of Jabareen (2009), “Current usage of the terms conceptual framework and theoretical framework are vague and [i]mprecise” (p. 51). Because of the importance of the theoretical framework and conceptual framework for any research, it is worthwhile to explore the various meanings and properly define what this thesis considers an appropriate framework.

The ambiguity and interchangeable use of the terms theoretical framework and conceptual framework dates back decades, as demonstrated by Warmbrod (1986), “I am assuming that we agree that a theoretical/conceptual framework can be defined as a systematic ordering of ideas about the phenomena being investigated or as a systematic account of the relations among a set of variables” (p. 2). According to Myers (2009) a theoretical framework is the choice of one theory to guide one’s research. This specific theory may already be entirely developed or still require further development through the research. On the other hand, Miles and Huberman (1994) define the conceptual framework as a visual or written product which explains in narrative or graphical format the main issues to be studied, “[...] the key factors, concepts, or variables– and the presumed relationships among them” (Miles & Huberman, 1994, p.18). Therefore, there are various definitions and perceptions of theoretical and conceptual frameworks. This thesis will follow the conceptualization of the term theoretical framework in line with Myers (2009), since the thesis mainly adopts the geopolitical theory as grounded within the Realism paradigm in International Relations, and extend the existing theories to include the energy dimensions of geopolitics.

After defining what a theoretical framework is, the next part contains an overview of the theories used in this thesis and how they will be structured.

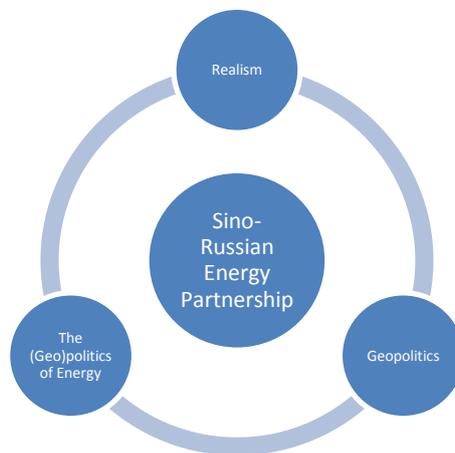
2.1.2 Outline of Theoretical Framework of the Thesis

As mentioned, the main puzzle of this research is how geopolitical calculations shape Russia’s growing energy partnership with China, and what the motivations as well limits to this partnership are. In order to answer these research questions, the thesis

starts from the Realist paradigm in International Relations, so as to examine the Sino-Russian energy partnership, and will further specify the role of geopolitics in such relations.

In other words, the thesis will first analyze how the Russian ‘pivot to the East’ strategy in general, and the Sino-Russian energy partnership in particular, are both considerations of a Realist balance of power policy versus a hegemonic West. Secondly, the thesis will examine how this energy partnership is shaped by the prevailing geopolitical conditions of energy supplies and the transport infrastructure of both China and Russia. Third, it will address how the Sino-Russian energy partnership illustrates the problems inherent to great-power cooperation under a Realist state anarchy (including fears of cheating, and considerations on relative gains), and what this implies for the future and the limits of a Sino-Russian energy alliance. The thesis as such argues that Realism, geopolitics, and specifically the geopolitics of energy, are interconnected to each other in explaining the Sino-Russian energy relations (see also Figure 1). The following part of the chapter will elaborate on these concepts which are the building blocks of the research framework, by describing and defining Realism, geopolitics, the geopolitics of energy, as well as their relevance to research on the Sino-Russian energy partnership.

Figure 1: Development of the theoretical framework



2.2 Realism, Balance of Power, and Cooperation in International Relations

Realism has been and arguably still is the dominant paradigm in international relations. Realism does not believe in the existence or viability of international government. The international community is described as a state of anarchy, since Realism believes that there are no authorities higher than national states that can enforce a common rule (Moseley, 2005). States are the primary actors in world

politics, and continually strive to secure their interests and maximize their power, both in domestic and international settings. States are constantly competing for power among each other, and even among states that do engage in cooperation there is always to some extent a conflict of interests (Mearsheimer, 2002). 'Balance of power' is an important element of Realism's notion of power politics. A balance of power ensures that no single state is able to dominate the other states (Nasee & Amin, 2011), because as soon as they appear to be achieving the capacity to do so, these other states will ally against it. According to Morgenthau, "the balance of power and policies aiming at its preservation are not only inevitable but are an essential stabilizing factor in a society of sovereign nations" (Morgenthau, 1985, p. 187).

As such, while Realism suggests that the balance of power ensures that the international *order* on the whole is more or less stable, it argues that as a result international *politics* is unstable, as conflicts might occur when the interests of nations clash with each other, for example, in the competition for resources (Moseley, 2005). Power in this context is defined as the ability of states to "maintain territorial control on their sovereign spaces and resist [...] external threats to their borders" (Luke, 1994, p. 614).

Morgenthau believes that alliances are "historically the most important manifestation of the balance of power" (Morgenthau, 1985, p. 169). Walt (1985) sees such political alliances as a response to threats, and there are two reasons behind states' choices to ally for power balance. First, an alliance can deter potential hegemony and can ensure a state's security and survival. Second, in choosing their alliances, large nations prefer to select relative weaker or less confrontational nations as their partners in order to increase their influence within the alliances (Walt, 1985).

Accordingly, Realists explain international cooperation as a means for states to achieve both absolute and relative gains. However, Realism outlines two inhibitions on such cooperation: The first being a concern over cheating (or 'free-riding'), and the second being a concern over the relative gains. Since Realism does not believe in absolute friendship among states, states are afraid that large relative gains their partners achieve from cooperation might in the long term threaten their own survival. Therefore, serious consideration must be paid to cooperation and the gains of partners. In the world of Realism, "today's friend may be tomorrow's enemy" (Grieco, 1998, p. 487).

2.2.1 Realism in Russian and Chinese Foreign Policy

Interestingly, when studying the Sino-Russian energy partnership, one might argue that Liberalism would be a main alternative to a Realism standpoint. Liberalism focuses on cooperation between states through international institutions in order to gain collective interests rather than individual ones. Liberalism believes in the value of free market and democracy. For example, Liberalism sees Russia's main security obstacle in the Commonwealth of Independent States (CIS) as the challenge to successfully implement democratic and market reforms instead of the integration of the region. As for Russia's relations towards the European Union, Liberalism suggests that multilateral institutions should be established in order to reinsure trust and sustainability in the EU-Russian relations (Varol, 2013). Yet, Russia's own stance during the recent years has become more confrontational to other countries, as demonstrated in the Crimea crisis. Therefore, Liberalism might not be a viable paradigm in interpreting (the motives and calculations behind) Russia's actions. As cited by Varol (2013), "[T]he ideology of neo-liberalism survived for a short term in Russia because the main goals of active development of Russian state institutions and other market-supporting institutions necessary for successful market-oriented reform and creating the conditions of investment could not achieve. And the supporters of neo-liberal ideas have lost its support among the political elite" (p. 27). Therefore, compared with Liberalism, Realism might be a more viable option in analyzing Russia's actions in international cooperation and foreign policy approaches in general, and in analyzing its energy partnership with China in particular.

Realism emphasizes the states' interests and power relations in international politics. The choice of a Realist paradigm is also based on the consideration that Realism has a strong influence in shaping Russian policies; Shakleyina and Bogaturov (2004) argue that in Russia Realism is a leading intellectual concept that assists the political community in defining its interests in international relations. Moreover, Realism as depicted by Mearsheimer, emphasizes "security competition and war among the great powers" (Mearsheimer, 2002, p. 23), often as a result of balancing behavior. Varol (2013, pp. 21-22) states that Realism perceived some of the external and internal threats to Russia's security as a challenge to the political stability in Russia's neighboring countries, weakening Russia's role in international politics, regional conflicts, and economic downfalls. The objective of Russian foreign policy is to ensure its national interest. Therefore, Russian's control of energy in Central Asia and Eastern European countries can be explained as asserting the nation's economic interests and regional political power. In addition, Russia's preference for a 'multi-polar' world can be seen as an attempt to achieve a balance of power; deterring,

challenging, or even containing the United States as the world's single superpower (Varol, 2013).

As for China, its economic growth is highly dependent on the steady and continuous provision of natural resources. According to Realism, when countries feel that their national survival or interests have been threatened, they will seek military, economic or diplomatic means to enhance their own security. Out of fear of disruption of the energy transit routes, China has been engaged in naval modernization and expanding its economic and political influence in resource-rich regions (Blazevic, 2009).

Yang (2013) analyzes the factors affecting the Sino-Russian energy cooperation from a Realist perspective. He argues that Realist considerations are reflected in both China's and Russia's performance in international politics, as well as their respective approaches to energy issues. China has had some frustration in obtaining new sources of oil imports, convincing the Chinese leadership that the international energy trade is not entirely controlled by a free market mechanism. China thinks that a secure and uninterrupted access to oil imports cannot be fully guaranteed by the current energy market mechanisms. Therefore, the Chinese government has to seek more effective ways, including governmental intervention, to guarantee the security of energy supplies. Meanwhile, Russia tries to lessen its energy export dependence on the EU market in order to prevent a weakening geopolitical influence in Europe. Therefore, the mutual interests of both Russia and China have boosted their energy cooperation. However, their national interests might not always align, which might therefore influence the partnership (Yang, 2013). For example, Russia and China have been negotiating on gas prices for a long time. While Russia asked China to pay \$350 per thousand cubic meters, China was only willing to pay \$250 per thousand cubic meters. If Russia could not agree with China on the deal, China could instead look for cheaper gas elsewhere and diversify its energy sources more in line with its national interests (Mai, 2013).

Although the theory of Realism provides us with a lens through which we can look at and understand cooperation and conflict between nations, it does not have a specific emphasis on the geographical location of energy resources and the strategic considerations countries make in relation to the energy locations and territorial conditions. Before going deeper into the geopolitics discourse on energy strategies, the following section will first discuss what geopolitics is, and why it is relevant to the case of Russian and Chinese energy.

2.3 Geopolitics

Geopolitics is about the analysis of geographic influences on power relationships in international relations. The term 'geopolitics' (*Geopolitik*) was first coined in 1899 by Rudolf Kjellen, a Swedish scientist and politician. In Kjellen's views, states are organic and growing, and history is not just a chaos of coincidental events, but influenced by geopolitical rules (EnerGeoPolitics, n.d.). The Darwinism in Kjellen's geopolitics is built upon the assumption that the power of a state is determined by its territorial growth; weaker states will be displaced by stronger ones (Cuddy-Keane, 2003).

The arguably most well-known geo-politician in early geopolitics is Sir Halford Mackinder, who in *The Geographical Pivot of History* contended that traditional sea-powers, like the British Empire, were threatened by emerging land-powers; the latter, through the development of modern transport such as railways, might be able to control more resources and expand their power. The most threatening land-power, according to Mackinder, was Russia. Mackinder referred to the land-locked region of central Eurasia as the 'Heartland' (also called the 'Pivot Area'), and the Eurasia-African landmasses as the 'World Island.' He believed that whoever controls the resource-rich Eurasia landmass will gain strong political power and reshape Western dominated world politics (Mackinder, 1904).

Nicholas Spykman was an American political scientist who contended that the geopolitical power of Mackinder's 'Heartland' theory had been overrated. Instead, he proposed that the 'Rimland' might possess greater power potential. The Rimland included Western European countries, the Middle East, Southwest Asia, China and the Far East. Spykman categorized Russia as a land-oriented power and China as both a sea power and a land power (Sempa, 2006). He viewed the Rimland of the Eurasian landmass as a buffer zone between sea powers and land powers, and "Who controls the Rimland rules Eurasia; who rules Eurasia controls the destinies of the world" (Spykman, 1942, p. 43).

Another well-known geopolitically oriented strategist was Alfred Thayer Mahan, who predicted the rise of China and India. Mahan strongly believed in sea-borne power. As opposed to Mackinder, he believed sea dominance would support commerce in times of peace and assure ultimate control during war (Mahan, 1918). He used the rise of British power as an example, arguing that it was the control of seas along with the decline of naval powers of its European neighbors that made Great Britain the dominant world power. He also suggested that a great navy would be important for

the U.S. to expand its markets abroad (Office of the Historian, n.d.). Hence, in modern times China and India adopting Mahan's theories are regional sea powers challenging the former hegemony of the United States in naval respects or even beyond.

2.3.1 The Geopolitics of Russian Energy

Huotari (2011) has analyzed Russia's energy geopolitics in the geostrategic regions of Asia-Pacific, Central Asia and Eastern Europe, and its implications for energy security. He addresses how Russia's power politics can be explained by the aforementioned three classical geopolitical theories. The first, Mackinder's 'Heartland' theory, highlights the geo-importance of the resource-rich Eurasia landmass (Mackinder, 1904). The second theory, Spykman's 'Rimlands', emphasizes the importance to Russia's security of the 'Rimlands' (East Asia, Central Asia, and Eastern Europe and the Arctic) that surround the Eurasia landmass. The third theory refers to Mahan's sea power theory, which stresses the importance of naval power in the Arctic waters to Russia. Remarkably, for the case of energy security, the regions described in the theories coincide with Russia's energy export and transportation routes. Central Asia and the Arctic are both Russia's crucial transit regions, while the Asian Pacific regions are Russia's energy consumers (Huotari, 2011). The Russian Arctic accounts for ten per cent of the nation's GDP and over twenty per cent of their exports. In order to secure the sea lines, the Russian Northern Fleet has carried out patrols and extensive exercises in the regions (Holland, 2013).

2.3.2 The Geopolitics of Chinese Energy

Mahan's emphasis on sea power has especially been adopted in Chinese foreign policy. Seaborne trade accounted for over ninety per cent of Chinese total trade in 2009 (Mohan, 2009). It is estimated that the global seaborne trade will double by 2030, with China's increasing demand for natural resources, such as crude oil, as the main drive behind this increase. By 2030, China's share of the oil-tanker market will rise to 13% (being 7.6% in 2010), and about a quarter of the merchant fleet will be under Chinese control (Sheridan, 2013). Protecting the lines of seaborne trade has thus been acknowledged by the Chinese government as a top security priority and a main drive to develop a strong modern navy (Mohan, 2009), as evidenced for instance by its recent (2012) commissioning of the *Liaoning*, China's first aircraft carrier, as well as the development of the Dong-Feng 21 anti-ship ballistic missile. As Zhang, professor at the Centre for Strategic Studies at Beijing University of Aeronautics and Astronautics, argues, "If one day, another nation(s) finds an excuse to embargo China, what can China do? Any substantial blockage of its foreign trade-dependent economy

and/or its energy supply could gravely imperil China” (Zhang, 2006, p. 20).

Compared to Mahan’s sea power concept, the strategic importance of Mackinder and Spykman’s Heartland-Rimland theory is less salient in explaining Chinese actions. Though Central Asia is becoming more important to China as sources of oil and gas, China’s geopolitical expansion does itself not limit to, or mainly focuses on the Heartland-Rimland area. Rather, the Chinese influence stretches from Myanmar, the Pacific Rims and even Africa, and is mostly driven by the needs of natural resources instead of sheer contending for powers (Fojtík, 2011).

In sum, this section suggests that the case of the Russia-China energy relationship enables the integration and application of the insights and premises of the three classical geopolitical theories; Mackinder’s Heartland; Spykman’s Rimlands; and Mahan’s sea power. Although the three theories might not be applied equally to the Russian and Chinese energy strategies, it nevertheless yields a more comprehensive and coherent geopolitical lens through which to gain a better understanding of the motivations and pitfalls, not just of the Sino-Russian relationship, but also of macro-energy geopolitics elsewhere.

As the previous sections deal with the application of Realism and geopolitics, the following section will go deeper into incorporating the energy dimension into the discussion.

2.4 The Geopolitics of Energy

Energy geopolitics, as illustrated by Kropatcheva (2011), is nowadays seen as one of the main elements of international relations. Energy geopolitics as a field of study deals with access to, supply and transit of energy resources, technology of energy production, the logistics of supply lines, processing facilities and transit infrastructures.

As Realism would argue, countries use their national power at the international stage in order to pursue their self-interests. In a Realist’s view, energy is a legitimate tool of foreign policy which countries manipulate in order to win the global power game. International conflict over natural resources, especially over oil, is becoming more and more likely as natural resources become increasingly scarce or ‘locked’ in conflict-ridden regions such as the Middle East, or as energy supply lines have to be routed through such volatile regions. Faced with such challenges, the role of the state is to try to reduce the strategic dependency on (foreign) oil and gas, whether by

protecting the lines of energy transports, diversifying energy supplies, or providing a general framework for overseas investment and increasing interdependence between energy providing-supplying states, in order to reduce the likelihood of conflicts (Luft & Korin, 2009). Dannreuther (2010) defines the key assumptions of a Realist approach to energy security as follows:

- 1) Access to natural resources, especially gas and oil, is now a key element of (inter)national power and national interest;
- 2) Energy demand is increasing, and energy resources are becoming less secure;
- 3) The competition between states will increase, due to their incentives of accessing and controlling the resources.

Klare (2001) argues that there is a new trend in strategic geography; in comparison to the traditional geopolitics' main focus on the linkage between territorial expansion and political power, it now puts more emphasis on protecting the supplies of vital resources, especially oil and natural gas. Compared to the Cold War era, when divisions were formed according to ideological lines, economic competition is now the new driver for shaping power relations in international politics, especially the competition over large energy reserves (Klare, 2001). Geopolitics in energy security means the spatial distribution of energy resources, which reflects the interaction between regional energy suppliers and consumers and their strategies to achieve energy security goals (Bucka & Zechowska, 2004). Given the fact that most of the oil and gas originates from only a limited number of countries, and the world demand of energy sources continues to rise, energy suppliers have an even greater political power (Pascual, 2008).

2.4.1 Energy Geopolitics and the Cooperation between Russia and China

Energy geopolitics plays an important role in the Sino-Russian strategic partnership. According to Kaplan (2014) energy strategies are closely linked to a country's geopolitical status, and energy trade routes are nowadays central to the study of geography. He points at the increasing consumption of energy in the Indo-Pacific region, where China is estimated to account for forty per cent of the world's energy consumption by 2025. Kaplan argues that an alliance between Russia and China will be consolidated by a growing energy relationship, and this relationship will be directed against the 'democratic West.' In addition, Zoller (2013), has looked at the gas-trading relationship between Russia and China, and concludes that such an energy partnership will not only reshape the regional and global gas markets, but also international energy geopolitics. From a geopolitical perspective, the increasing gas

demand from China provides an opportunity for Russia to expand its energy market, while at the same time developing its Far Eastern gas reserves (Zoller, 2013).

Herberg (2010, p. 3) especially points at the competitive nature of the regional pipeline development in the Eastern Asia area as:

“[T]he rise of China and the country’s booming oil and gas needs, combined with its growing projection of economic and diplomatic power regionally and globally, have touched off an increasingly competitive political atmosphere in East Asia in which a zero-sum competition over energy supplies and transit has become a key element in regional rivalries and strategic competition” (Herberg, 2010, p. 3).

In conclusion, Realism and the geopolitics of energy are of high relevance and will be adopted in examining the energy partnership between Russia and China. This thesis will demonstrate that there is a growing inclination for Russia to form an energy partnership with China, and that such cooperation can be explained by Realism and geopolitical calculations by both parties. In addition, the thesis will also investigate the limits to this partnership, addressing Realist notions of relative gains and balance of power.

2.5 Research Method

The research method of this thesis is of a qualitative nature. One of the core elements of qualitative research is the adoption of a ‘causes-of-effects’ approach in order to explain particular outcomes on the basis of proper theories (Mahoney & Goertz, 2006). Contrary to a quantitative research approach, in which scholars look for generalizations based on a large number of cases, qualitative research adopts a rather narrow scope to infer its theories to a limited range of cases (Mahoney & Goertz, 2006). This thesis adopts a qualitative approach grounded within the geopolitical domain, since Russia is especially known for using energy and geopolitics for political and economic gains. The use of ‘theories’ is an important part of qualitative research, for theories provide researchers a framework to conduct their analysis and specific ‘lenses’ to look at complicated problems and social issues (Reeves, Albert, Kuper & Hodges, 2008). The subject of analysis is grounded within states, states’ policies and the relationship between states, in this case Russia and China, since from a Realist perspective states are the main actors in world politics.

2.6 Data Collection

The choice of method and data collection should not be made only on the basis of rigorousness as it was in the 1980s and 1990s, but rather be based more on the

suitability to the topic, research questions, one's own interests and experience, and how one values the relevance to practice (Myers, 2009). This thesis relies on data collection typified by Verschuren and Doorewaard (2010) as desk research. Verschuren and Doorewaard (2010) categorize two variants of desk research, namely literature survey and secondary research; this thesis combines both approaches, a feasible approach, according to Verschuren and Doorewaard (2010, p.195). Desk research is a valuable tool because of its ability to help answer in-depth 'how and why' questions, which are typical questions in qualitative research cases (Myers, 2009). Desk research consists of collecting and analyzing data from existing sources. It aims at collecting data by literature studies related to the main research questions of the thesis.

Desk research is most appropriate because of the nature of this thesis: First, this thesis is designed to explore and explain, asking the 'how and why' questions. Secondly, the case of Sino-Russian energy relations requires information from a variety of angles, creating a broad multidisciplinary study framed in Realism and geopolitics. Literature was thus gathered regarding the Realist perspective on energy corporation, geopolitical power of energy; the energy security requirements of the main parties, Russia and China; and the energy projects. Thirdly, as there is sufficient relevant information available through secondary sources, it would be inefficient to collect them again through primary data collection (Cooper & Schindler, 2006). Fourthly, the fundamental theories involved in this thesis are extensively discussed and grounded in existing literature. Lastly, desk research is the most practical choice as it is the method I am personally most experienced with, and it is the method I am most able to ensure quality.

Sources for analysis in this thesis are typified by level, according to Cooper and Schindler (2006), as primary data sources and secondary data sources; they largely stem from official documents, as well as academic literature and news articles. Official documents include the agreement between China and Russia regarding energy cooperation, statistics and figures on energy trade or outlook from institutes such as the International Energy Agency (IEA), the Organization for Economic Cooperation and Development (OECD), the Energy Information Administration (EIA), the BP energy statistics, etc.. Academic articles were the fundamental elements of the theoretical structure of the thesis. Lastly, news articles provide an up-to-date trend of the interaction between Russia and China, providing supportive evidence for the research questions and theoretical assumptions.

3. Geopolitics of Russia's Energy

“Regardless of whose property the natural resource and in particular the mineral resources might be, the state has the right to regulate the process of their development and use, acting in the interests of society as a whole and of individual property owners, whose interests come into conflict with each other, and who need the help of state organs of power to reach compromises when their interests conflict.”

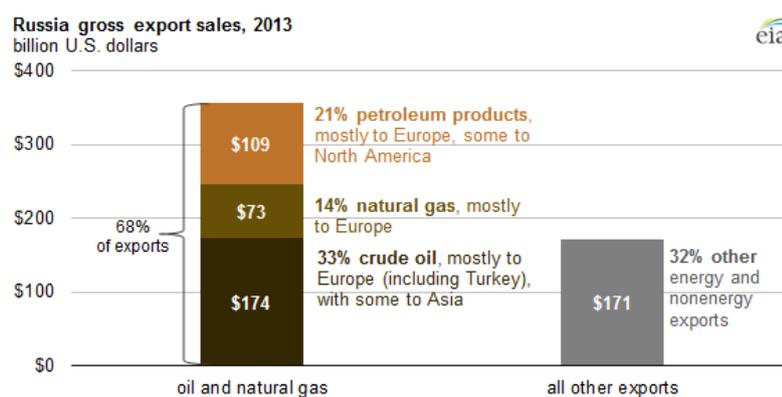
Vladimir Putin, as quoted in Fredholm (2006)

3.1 Overview of Russia's Energy Situation

3.1.1 Russia's Oil Production

Russia is well-known for being the world's leading energy producing country. It is the second largest producer of oil after Saudi Arabia, having produced an estimated 10.7 million barrels per day (bbl/d) of liquid fuels in 2013. Most of Russia's energy output is destined for exporting purposes, as is the case with about seventy per cent of total annual oil production according to the recent BP Statistic Review of World Energy (BP, 2014). Energy exports are also the main drive for the country's economic growth. About 68% of Russia's total export revenues in 2013 were dependent on oil and gas exports (EIA, 2014b). As shown in Figure 2, crude oil and petroleum products contribute more than natural gas and other non-energy exports to Russia's total exports.

Figure 2: Russia's gross exports sales in 2013



(EIA, 2014b)

According to the most recent EIA report, Russian's main destinations for crude oil are European countries (including Eastern European countries such as Belarus), with Germany and the Netherlands as Russia's largest partners in crude oil trade. China,

after Germany and the Netherlands, was Russia's third destination by volume for crude oil (EIA, 2014a).

Russia's oil industry is dominated by state-owned enterprises. Rosneft, a majority state-controlled company, is the domestic market leader of Russia's oil industry. It produces forty per cent of all Russian crude oil and is responsible for approximately twenty per cent of Russian's refining capacities (Rosneft, n.d.). The president of Rosneft, Igor Sechin, is said to be the second most important man in Russia and close to president Putin. According to the Research Center OSW (Paszyc, 2012), Putin and Sechin together control the Russian energy sector.

Transneft is another Russian state-owned enterprise controlling 93% of the Russian oil pipeline network. The company is responsible for Russia's pipeline infrastructure, maintenance as well as investment (Kononczuk, 2012). About 88% of the crude oil produced in Russia is transported through the pipelines owned by Transneft (EIA, 2014a). Transneft sets the tariffs, to be paid by among others Rosneft, for the use of pipeline infrastructure and can be used by Russia to strategically determine and influence destinations, volumes, and pricings. For example, Transneft cut the supply line to the Latvian refinery Ventspils after Ventspils rejected a Russian take-over offer (Smith, 2004). This resulted in Latvia losing \$200 million annually in revenue losses from transit fees as well as losses caused by refinery inefficiency; it placed considerable pressure on Latvia to rethink the Russian offer (Smith, 2004).

The private-owned company Lukoil, is second to Rosneft in oil reserves holdings and oil production in Russia (EIA, 2014a). Lukoil has helped the Russian government with upstream expansion abroad. Lukoil activities can be found across Colombia, Venezuela, Egypt, Cote d'Ivoire, Ghana, Saudi Arabia, Egypt, Ghana, Kazakhstan, Uzbekistan and Azerbaijan (Poussenkova, 2010). Though Lukoil is a privately owned company, it is still under the influence from the Kremlin. As the president of Lukoil, Vagit Alekperov, once stated:

“We in the company Lukoil consider ourselves a national Russian company, and we do not accept the ideology of the division into state, private and other companies. We without any false pathos affirm that every step we have made in the last ten years in the history of our company has gone in the struggle for the new Russia, striving to take into account the national interests of our country” (From Smith, 2003, p. 2).

Altogether the oil and petrol sector is the most important sector to Russia's exports

and controlled by the state either indirectly through state owned enterprises or by influence in privately-owned enterprises. The bulk of the oil and petrol sector's output is mainly destined for European countries, dependent on their demand.

3.1.2 Russia's Natural Gas Production

As for natural gas, Russia not only holds the largest gas reserves in the world, but has also passed the United States as the world's largest producer of dry natural gas. In 2013, Russia exported in total 211.5 billion cubic meters (bcm) of natural gas, accounting for 22% of global gas exports (BP, 2014). The natural gas reserves in Russia alone amount for approximately a quarter of the world's proven reserves (EIA, 2014a). Germany is Russia's principal natural gas importer, followed by Turkey, Italy, France and the United Kingdom (UK). In 2012, over 75% of Russia's gas exports were delivered to Western European customers. At present, there is no pipeline gas delivered from Russia to Asian countries.

Asian-Pacific countries are importers of Russia's liquefied natural gas (LNG) (EIA, 2014a). LNG is natural gas cooled to -160 degrees Celsius and is usually transported by ship. When the distance between gas producer and end users exceeds 3,000km, it is generally considered to be too uneconomical for building a pipeline infrastructure. Alternatively, LNG becomes a more price competitive option for gas transport over larger distances. However, LNG is relative expensive in construction and operating costs, for cooling down natural gas requires the construction of specific cooling tanks and transmission infrastructure. LNG is also more flexible transportation compared to pipeline gas, which can save countries the time and effort of negotiating the routes of international pipelines (Ali, 2014). Russia has been exporting LNG through the Sakhalin Energy LNG plant, located in the most Eastern part of Russia. Japan is the largest importer of Sakhalin LNG, accounting for 76% of total exports. South Korea, China and Taiwan are also importers of Sakhalin LNG, accounting for respectively 20%, 3.5% and 0.6% of Sakhalin LNG exports (EIA, 2014a).

The majority of gas production and reserves are located in Siberia's provinces (see Figure 3) and controlled by the state-controlled company Gazprom. Within Russia's market, Gazprom has direct control over 64% of Russia's proven gas reserves and provides 74% of Russia's natural gas production (EIA, 2014a). Gazprom thus operates in a near monopoly position and as a state-controlled company is entangled in Russian politics and foreign diplomacy. Gazprom has been known to use its monopoly position domestically to coerce competitors into cooperation (Heinrich, 2008).

Western Siberia, in particular the Yamal-Nenets Autonomous District, represents eighty per cent of Gazprom's gas production and over fifty per cent of reserves (IEA, 2014). Yet, Gazprom is now positioning more investments in exploring gas reserves in new regions since the production from its current fields are expected to decline by 75% through 2030 (IEA, 2014). The Far East and Eastern Siberia regions are estimated to hold over 67 trillion cubic meters of gas. These fields are increasingly being explored and tapped, providing natural gas to East Asian countries (Gazprom, 2014a).

Figure 3:

Russia's natural gas production by region, 2012

| Region | Bcf/d |
|-----------------|-------|
| Siberia | 59.6 |
| Tyumen | 55.9 |
| Yamalo-Nenets | 52.4 |
| Khanti-Mansiisk | 3.5 |
| Tomsk | 0.4 |
| Krasnoyarsk | 0.2 |
| Irkutsk | 0.2 |
| Yakutsk | 0.2 |
| Sakhalin | 2.7 |
| Urals Volga | 3.3 |
| Orenburg | 1.5 |
| Astrakhan | 1.1 |
| Others | 0.7 |
| Komi Republic | 0.3 |
| North Caucasus | 0.1 |
| Total | 63.4 |

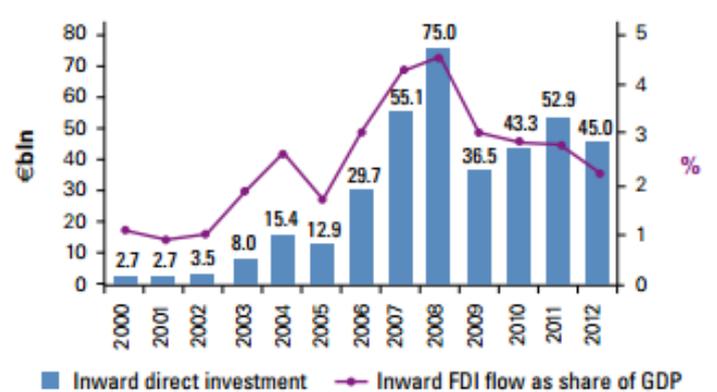
(EIA, 2014b)

Another region that Gazprom aims at developing is the Arctic shelf, including the Barents Sea and Kara Sea. The Barents Basin is estimated to hold 1.2 trillion cubic meters of natural gas and 2.2 billion tons of oil reserves. Currently there are already several projects in the Barents Sea conducted in the form of joint ventures, with about 33% of outstanding shares in ownership of foreign companies. In 2013, the China National Petroleum Corporation (CNPC) has specified an agreement with Gazprom and Rosneft on gas projects in the Barents and Pechora Seas (IEA, 2014). The Russian government set a goal of increasing the oil and gas production in the Arctic shelf to five per cent and ten per cent respectively out of the total energy production by 2035. However, the harsh environmental conditions in the Arctic create infrastructure and transportation challenges to the energy exploration of the region (IEA, 2014).

3.1.3 Foreign Investment in Russia's Energy Sector

Foreign direct investments (FDI) in Russia have increased significantly over the past decade (see Figure 4). Although the FDI inflows tumbled in 2009 due to the financial crisis, it has gradually recovered since then from €36.5 billion to €45 billion in 2012 (KPMG, 2013).

Figure 4: FDI inflows in Russia and FDI as share of GDP, 2000-2012



(KPMG, 2013)

In 2013, Cyprus, the Netherlands, Luxemburg, China and the UK accounted for 64% of Russia's total volume of cumulative foreign investment. Chinese investment in Russia especially showed a rapid rise, increasing 6.8 times to \$5 billion compared to 2012 (Iluykhina, 2014). A large part of Russia's foreign investment is spent on the energy-related industry. In 2013, 52.4% of Russia's foreign investment went to the coke¹ and petrochemical industry. In the same year, the investments in the production of coke and oil products in the manufacturing sector also grew 2.8 times compared to the year before (Iluykhina, 2014).

3.2 Energy as a Political Tool

To Russia, energy is not only a key tribute to the nation's economic growth, but also an important means for its political power projection. Russia recognizes that a great part of the national energy policy also intertwines with the foreign policy. In the policy paper on 'Russian Energy Strategy until 2020' (2003), the Russian government stated that the nation "has significant energy resources and a potent fuel-energy complex, which are the basis of economic development, tools for domestic and foreign policy," and "the country's role in the world energy markets largely determines its geopolitical influence" (Russian Federation, 2003).

¹Coke is a solid petroleum side-product of refinery processes, somewhat comparable to coal.

3.2.1 Russia's Presence in the former Soviet States

Russia's manipulation of energy as part of its political strategy is especially salient in Central Asia and former Soviet countries.² Because Russia's natural resources are mainly controlled by state-owned companies, Russia can make energy deals with former Soviet countries with below market prices. Jaffe and Soligo (2008) conclude that Russia provides preferential subsidies to the former Soviet states that are more political aligned to Russia. For example, in 2007 pro-Russian Belarus paid only \$46 per thousand cubic meter of gas, while Ukraine and pro-Western Georgia paid \$135 and \$235 respectively (Jaffe & Soligo, 2008). The low prices of energy resources in those deals can come at a political cost for the receiving countries. For example, in 2005, as Moldova rejected the so-called Kozak Memorandum, a draft proposal by Russia aimed at settling the conflict between Moldova and Transnistria, Russia in response declared that it would no longer subsidize the gas exports to Moldova and the original gas prices would double from \$80 to \$160 per 1,000 cubic meters. This resulted in Moldova paying the highest gas price among the Commonwealth of Independent States (CIS)³ in 2006 (Crandall, 2012).

To date, Russia still has a dominant energy presence in Central Asian countries. Due to the lack of independent export infrastructure, the Central Asian oil and gas producing countries such as Azerbaijan, Turkmenistan, Kazakhstan and Uzbekistan are inevitably subordinated to Russia's control. In 2011, about fifty per cent of oil exports from the region crossed through Russia (Lough, 2011). Russia's energy company Lukoil is active in Kazakhstan's energy sector, and oil from Kazakhstan accounts for about forty per cent of Lukoil's proven reserves. In addition, Gazprom and Lukoil together control more than twenty per cent of Uzbekistan's natural gas production (Oliphant, 2013).

However, Russia's presence in Central Asia has been gradually challenged by the Chinese. China has already overtaken Russia as Central Asia's number one trading partner. In 2011, the mutual trade figure between China and Central Asia was \$40 billion, while the overall trade figure between Russia and Central Asia at the same

² In this context, Central Asia refers to the Central Asian states that used to be part of the former Soviet Union, including Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan and Tajikistan. The former Soviet Union states include: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan

³ The CIS was established in 1991. The participant countries include: Russia, Belarus, Ukraine, Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Tajikistan and Uzbekistan. Note that although Ukraine was one of the three founding countries of CIS, it did not ratify the CIS Charter and therefore is de facto participating, but officially not a member state. See: www.internationaldemocracywatch.org/index.php/commonwealth-of-independent-states. See also: www.e-cis.info/.

period was only \$27.3 billion (Oliphant, 2013). Russia has traditionally viewed the Central Asian region as its ‘backyard’ and ‘sphere of influence’, though Moscow has realized that it is not the only country that possesses geopolitical interests in the region (Oliphant, 2013, p. 11). Kazakhstan is now China’s eight-largest oil supplier. There is an oil pipeline connecting Kazakhstan with China, as well as a 1,880 kilometer-long gas pipeline from Turkmenistan to China (Sulemein, 2014). The growing Chinese presence in Central Asia also indicates that Russia can no longer control the oil and gas prices and markets in Central Asia, which will also reduce Russia’s ability to use energy as a means to achieve its political goals.

3.2.2 The Energy Disruption from Russia to the EU

Russia has no direct control over the energy sector in the European Union, like it does in the CIS. Yet, given the fact that over thirty per cent of Europe’s gas imports are supplied by Gazprom and half of Russia’s gas to the EU transits through Ukraine (CIEP, 2014), a disruption of Russian gas in Ukraine can hurt the European Union as well. During a bilateral dispute between Ukraine and Russia concerning the pricing of natural gas and the accusation that Ukraine illegally tapped gas, Russia decided to cut the gas supplies to Ukraine altogether. In several Eastern European countries this 2009 gas dispute resulted in humanitarian emergencies during the cold winter (Lochner, 2011). Because of the unexpected gas cutoff, Russia’s reputation was damaged and the mutual trust between Russia and Europe decreased.

Recently, in the summer of 2014, Russia has once again threatened Ukraine with the cutting off of the gas supplies, formally in response to lacking payments; but actually in response to the Ukrainian crisis in which Russia has high stakes. The European Union facilitated talks in Brussels to resolve the gas dispute between Ukraine and Russia, also out of fear for its own security of supplies. The EU, through the International Monetary Fund, even provided financial assistance in the form of a €1.6 billion loan to Ukraine in order to pay Russia’s exceedingly high gas prices as charged to Ukraine (Mock, 2014).

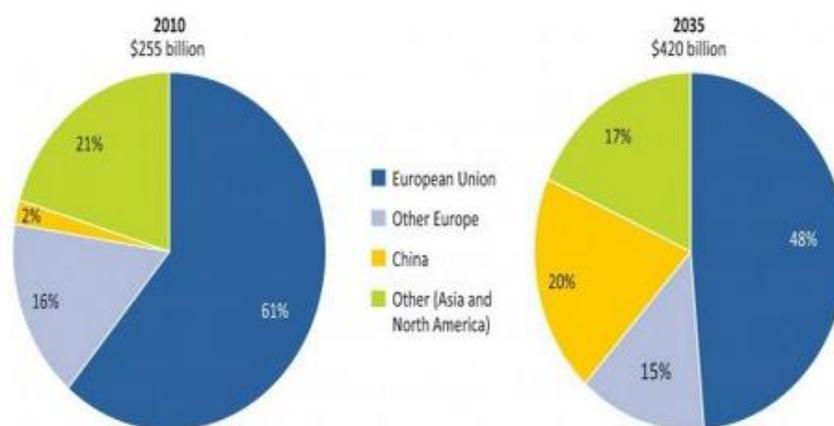
3.3 Challenges to Russia’s Energy Security

The definition of energy security for Russia can be found in the ‘Energy Strategy of the Russian Federation adopted by the Government Decision’ published in 2003. According to this policy paper, energy security is defined first as the “state of protection of the country, its citizens, society, state, economy from the threats to the secure fuel and energy supply,” and second, as “the full and secure provision of energy resources to the population and the economy on affordable prices that at the

same time stimulate energy saving, the minimization of risks and the elimination of threats to the energy supplies of the country” (Seliverstov, 2009, p. 3).

As the thesis defines energy security as security of demand at a fair price, and taking into consideration the paramount importance for Russia of the energy industry in balancing its budget, there are four main challenges to Russia’s energy security. The first one is the diversification of demand markets, which implies a move away from European customers towards other regions. Too great a reliance on the EU market could become problematic for Russia as the EU itself is actively pursuing energy diversification, or, as recently illustrated by the Crimea dispute, calls for energy sanctions. (Rubinfeld, 2014) According to Kononczuk (2012), Russia will continue to diversify its energy exports into different markets; yet, over the next decades 63% of the total oil exports will remain destined for the EU and other European countries (see Figure 5), in comparison to the current 77%.

Figure 5: Russian revenue from fossil fuel export 2010 and 2035



(IEA, 2011)

The second concern addresses the power of transit countries, most notably Ukraine. Ukraine is the most important transit country of Russia’s natural gas to the EU (Hafner, 2012). In addition, given the pricing disputes for Ukraine’s own gas imports, the gas flow to Europe could be disrupted – with severe economic consequences for Russia as well. Having to redirect the natural gas flows from Europe to other buyers could generate a comparative loss in revenues of up to \$70 billion annually (Bozon, Campbell & Vahlenkamp, 2006).

The third challenge for Russia in its energy security policy is to be able to realize

sufficient investments into its energy industry in order to maintain the existing levels of production. Many pipelines are outdated, having been built during the Soviet era, leading to inefficiency and increasing breakdowns (European Commission, 2008). In 2006, Fredholm (2006) estimated that by that time already 14% of Russia's pipelines had lived beyond their expected lifespan, with the average age of pipelines standing at 22 years, resulting in a ten per cent capacity loss due to the deteriorating state of the infrastructure. In addition, the main oil and gas fields located in Western Siberia are slowly depleting, requiring investments to reach deeper wells and develop resources located in other areas in the country. According to Anderson (2010), Russia will need to invest \$26 billion every year to maintain a similar capacity, a sum almost half the national defence budget and approximately 1.5 per cent of the GDP, based on the data provided as by Cooper (2013). Investments in large projects have been partly funded by FDI, such as China providing \$25 billion in loans for the ESPO project, while Japanese FDI in Sakhalin totalled \$6.9 billion by the end of 2009 (RIA Novosti, 2010).

Lastly, as argued by Poussenkova (2010), the fact that Russian authorities have been providing support to its energy companies with international expansion has actually led to counter-effects in developing business abroad, especially with Western energy companies. Foreign companies are hesitant, or even refuse to make a deal with Russian energy companies out of fear of increasing the Kremlin's influence in their domestic politics. For example, Gazprom failed to acquire assets in Germany, Romania and Hungary. In addition, Gazprom once showed interest in buying a stake of British electricity and gas utility company Centrica to increase its share of the British market. The British government was afraid that such a deal might give Russia more political control. Therefore, the government amended a law stating that any business deal which might threaten the national security could be vetoed (Poussenkova, 2010). Failing to expand business in the traditional markets, Russia has no choice but to turn to its new energy markets such as China for better business opportunities.

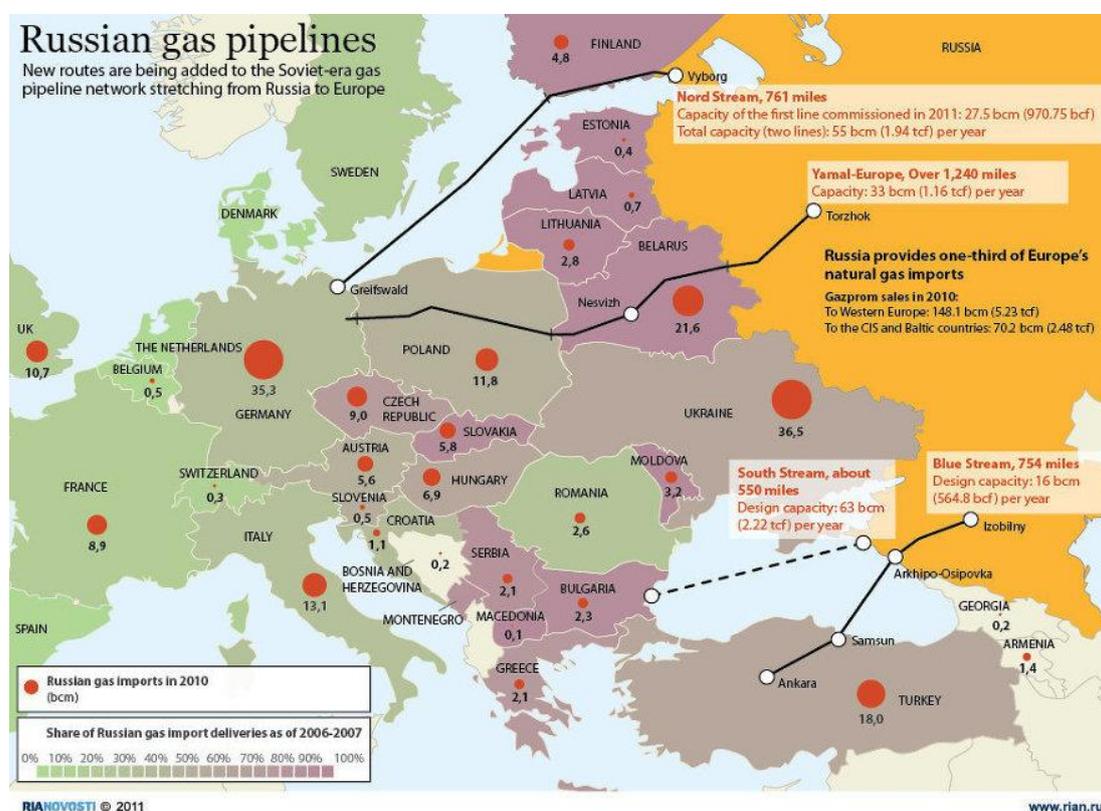
3.4 Russia's Energy Security Strategy

3.4.1 Reducing the Geopolitical Power of Ukraine

In order to weaken Ukraine's geopolitical power, Russia has built gas pipelines bypassing Ukraine to the European markets. Figure 6 shows the current operating as well as developing pipeline routes from Russia to the EU without passing through Ukrainian territory. Over the past six years, Russia has cut the gas transports via Ukraine by over 25 per cent by developing new pipeline routes (Kolyandr, 2014). The recently operated Northstream pipeline, crossing the Baltic Sea, has allowed Russia to

ship energy directly to Germany. The capacity of the Northstream pipeline has grown from 11.3 bcm in 2012 to 23.5 bcm in 2013 (CIEP, 2014). The Yamal-Europe pipeline from Russia via Belarus with a gas capacity of 39.2 bcm is another alternative Russia-EU gas transporting route bypassing Ukraine (Gazprom, 2014b). The Southstream pipeline, linking Siberian gas via Bulgaria to the Austrian gas hub, is currently under construction. In 2013, 86 billion cubic meters of Russian gas was transported to Europe via Ukraine. The Southstream pipeline has to be completed by 2018. Once completed, it holds the capacity of carrying 63 billion cubic meters of gas per year, which will proportionally reduce Ukraine's role as a transit state (Kolyandr, 2014).

Figure 6: Russian gas pipelines bypassing Ukraine



(RIA Novosti, 2011)

3.4.2 Russian Energy Strategy to 2030

In 2009, the Russian government released the Energy Strategy to 2030, outlining several main objectives for the development of its energy sector. Together with the Decree No. 512, 'On Energy Efficiency and the Development of Energy' released by the Ministry of Energy, the energy policies goals of Russia lie in: strengthening Russia's energy supply security, ensuring affordable energy prices, increasing the supply and consumption of sustainable energy and promoting Russia's position in the

international economy (IEA, 2014). According to the policy goals, several main targets to be achieved by 2030 related to Russian external energy policy set by the government are (IEA, 2014):

- (1) Increase the country's gas production by thirty per cent with a focus on LNG exports to the Asia Pacific market.

With an eye to diversifying its energy supply from Europe and gaining a share in the growing Asia-Pacific market, Russia started exporting LNG in the Far East to its Asian customers from the Sakhalin plant since 2009. In addition to the Sakhalin plant, five additional LNG projects are now under construction. If all LNG projects are completed as planned, Russia could increase its LNG export capacity with 72 bcm by 2025, predominantly to supplying Asian countries. The Chinese CNPC holds a twenty per cent share of the Yamal LNG project, which is scheduled to start operations from 2017 and is expected to provide three million tons of LNG to China for fifteen years (IEA, 2014).

- (2) Increase the crude oil exports to Asia Pacific markets.

The Energy Strategy to 2030 policy report specifically highlighted the importance of “geographic and product diversification of the Russian energy export, [...] and increasing energy supplies to the world's largest consumers” (Ministry of Energy of the Russian Federation, 2009, p. 15). The Asia-Pacific region is said to be the largest energy consumption hub in the coming era, owing to the rapid growth of Chinese and Indian economy. By 2030, Russia expects to have expanded the Eastern energy markets in its total oil export from 6 per cent to 22-25 per cent, and the natural gas export is expected to grow from zero to twenty to thirty per cent. The policy paper also emphasizes the rapid acceleration of the energy developments in the Far East and Eastern Siberia regions in order to boost its Asian-Pacific markets. The new energy strategy sets a goal of increasing Russia's oil production to 11 million b/d by 2030, roughly ten per cent higher than the current oil production (Ministry of Energy of the Russian Federation, 2009).

- (3) Reduce energy intensity of the economy by forty per cent by 2020.

As mentioned before, Russia is now facing the problem of an aging energy infrastructure, which directly affects the country's energy efficiency. Large investments are needed for the modernization of the energy sector. The Institute for Energy Studies of the Russian Academy of Sciences estimated that an annual average of \$100 billion over the period of 2010-2020 will be needed in energy sector investments, which is 45 per cent more than the annual spending on energy

modernization during the past five years. The Russian government alone cannot afford to provide this amount of investment. Therefore, the Russian government will have to call for private and foreign investments in the upstream oil and gas sectors (IEA, 2014).

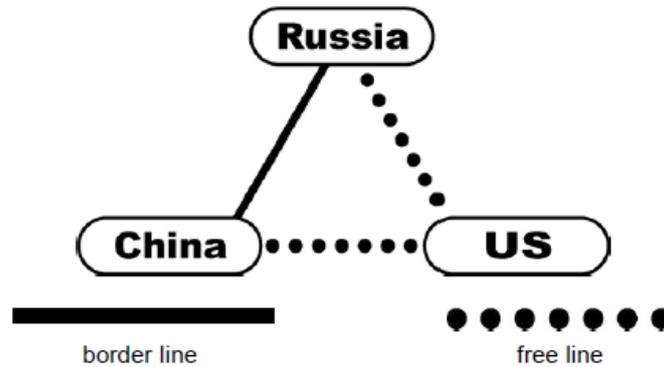
3.5 Russia's Eye on China

There are three major factors that drive Russia's foreign policy towards China: the balance of power in international politics, geopolitical considerations, and economic calculations (Wei, 2013). The following section will provide further elaboration on each of the factors that stimulate the Sino-Russian partnership.

3.5.1 The U.S.-Chinese-Russian Relation

As for the balance of power, Russia will need Chinese support in establishing a multi-polar world against the West, particularly the United States. Both Russia and China think that human rights should not overwrite national sovereignty, and are opposed to Western governments pressing the value of democracy and human rights on other nations. Russia and China have the same worries that the promotion of human rights by the West might stimulate opposition movements within or around their home countries, thereby threatening the territorial integrity and stability of the region. This is the reason why both countries were opposed to the so-called color revolutions in Georgia, Ukraine and Kyrgyzstan (Menon, 2011). In addition, when Russia feels that its national interest is threatened by the U.S., it often turns to its Chinese ally to check the U.S. influence. In other words, the deteriorating Russian-U.S. relations have boosted the Sino-Russian alliance (Wei, 2013). The balance of power between the Sino-Russian alliance and the U.S. can also be interpreted in geopolitical terms. Iwashita (2010) created the U.S.-China-Russian relation triangle. The 'existence of borders' is the dependent variable in the triangle diagram (see Figure 7). In the relation triangle, "a border axis is independent and stronger than a free axis" (Iwashita, 2010, p. 9). In this manner, if a zero-sum game is in play in the relation triangle, the Sino-Russian axis will likely play against the interest of the U.S since the border axis shares a common interest of maintaining the peace and stability of the border region.

Figure 7: The nature of U.S.-China-Russia relations



(Iwashita, 2010)

3.5.2 Geopolitical Consideration and Eurasianism

Historically, Russia has always had closer relations with the West, in particular Europe, than with Asia. However, this pro-Western policy also exposed Russia's weakness and created a paradox. First of all, Russia has seriously suffered from the economic downturn after the collapse of the Soviet Union, and the West is still skeptical about Russia's political intentions, given the antagonizing relations during the previous decades. Second, in between Russia and the relatively prosperous Western European countries various post-Soviet Union countries with little political or economic power are located. This region serves, from both a Russian and Western point of view, primarily as a buffer zone between Russia and the West, and provides Russia with more flexible political choices. Third, because of Russia's geographical location, it has never had a 'sense of belonging' and its situation has always been one of swinging between the West and the East (Cao, 1998).

Not until after the end of the Cold War, when Russian president Yeltsin visited Beijing in 1992, did Russia and China start to develop a constructive partnership. At the end of Yeltsin's visit, the two leaders signed a Joint Declaration on the Fundamentals of Relations. The joint declaration stated that Russia and China should not use weapons against each other, and should not join any military alliance that viewed Russia or China as their enemies (Wei, 2013). The two nations further declared their relation as "constructive partnership" during the Chinese leader Jiang Zemin's visit to Moscow in 1994. The constructive partnership contained mutually profitable cooperation based on the principle of peaceful co-existence (Kuhrt, 2007).

Currently, Russia's foreign policy follows a pattern of 'Eurasianism' by showing a

growing interest in the East. The principle behind the concept of Eurasianism is highly geopolitical. Since Putin took the presidency in 2001, the direction of Russian foreign policy has been to assert its great power status in the world; Russia should not compromise on its national interests in relations with Western countries. To advance its national interests, according to Putin, Russia should seek to diversify its international ties (Bolt & Cross, 2010). Eurasianism perceives Russia as an Eurasian country; Russia believes that this unique geographical position allows it to play an important role in East and Central Asia, the Caucasus as well as Europe (Antonovič, 2013). The gravity of the global political power is shifting towards the East, at the expense of the United States and the European Union. Russia, taking advantage of its geo-location, has sought a greater presence in the Asia-Pacific region for economic expansion, political influence and alliance with China. Russia and China share one of the longest borders in the world, stretching over 4,100 kilometers. From a geopolitical perspective, a positive strategic partnership with China means greater border security and regional peace (Wei, 2013). The increasing importance of Asia-Pacific to Russia's foreign policy can be traced back to Putin's statement in 2001, cited by Bolt and Cross (2010):

“Russia has always felt herself to be a Eurasian country. Never have we forgotten that greatest part of Russian territory is in Asia. But it must be said in all honesty that we have not always made use of this advantage [...] The time has come to mate words with deeds together with the countries of the Asia-Pacific region and build up economic, political, and other links” (p. 196).

3.5.3 Economic Calculations

In addition to a political alliance, the economic ties between Russia and China have also grown tighter during the past years. The total trade volume between the two countries has almost doubled from \$48.2 billion in 2007 to \$88.2 billion in 2012 (Wei, 2013). In 2010, for the first time ever, China overtook Germany and has since become Russia's leading trading partner. The two countries expect bilateral trade to exceed \$100 billion by 2015 and \$200 billion by 2020, marking a stronger commitment of both countries in the partnership (Teplinskaya, 2013).

As for investments in Russia's energy infrastructure, Russia has large oil and natural gas reserves in its Far East and Eastern Siberia regions. These have gone untapped for a long time, as transportation routes to densely populated areas and export markets are long. The economic and technical feasibilities were insufficient. Yet, since the late 1990s, increased cooperation between Russia and China has made these resources

more appealing. The long border shared by the two countries leaves ample space for energy land transit without the interference or extra costs involved with transit through other countries or the extra costs of sea freight transport. For example, natural gas transit through Ukraine costs approximately \$3.17 for transporting 1,000 cubic meters over a distance of 100 kilometers (Interfax-Ukraine, 2012). Constructing an energy delivery route between Russia and China can therefore save the costs of transit charges otherwise incurred.

In addition, in an attempt to maintain the existing production levels, investments in new technology and infrastructure, as well as the tapping of new wells, are required, especially in previously underutilized areas. In Eastern Siberia and the Far East some thirteen per cent of Russia's oil reserves still lie unexplored (Itoh, 2011). Intensive exploration of these fields will require large investments, as these areas are largely unpopulated and consist of rough terrain. To provide a better understanding of the costs of exploiting new oil fields, an example is the construction cost of the ESPO oil pipeline from Russia's Far East to China. Phase 1 of the pipeline project already costs over \$14 billion, and this figure does not include the costs (e.g. maintenance costs) once the pipeline starts to operate (RZD Partner, 2008).

In the aftermath of the 2008 global credit crunch, Russia faced difficulties in financing its pipelines, where in previous years these had been financed by European and American banks and petro companies. China was able to fill this financing gap; in return for increased cooperation, Russia attained billions of dollars in credit for its state oil company Rosneft and state gas company Gazprom from the China Development Bank. Cooperation has been intensified across the board: the Russian energy utility company TGK-2 with the Chinese Huadian Corporation, the Russia Atomic Energy Corporation with the China National Jiangsu Nuclear Power Corporation, while Russia's Rosneft is cooperating with the China National Petrol Company (Chang, 2014). Within a relatively short time span cooperation between both governments and energy businesses have drastically intensified.

In a nutshell, this chapter discusses the Russian energy situation and the challenges facing Russia's energy security. It reveals both the geopolitical and economic incentives for Russia to form an energy partnership with China. After studying the geopolitics of Russian energy, the next chapter will elaborate on the Chinese energy situation, and on how the partnership with Russia can contribute to Chinese energy security.

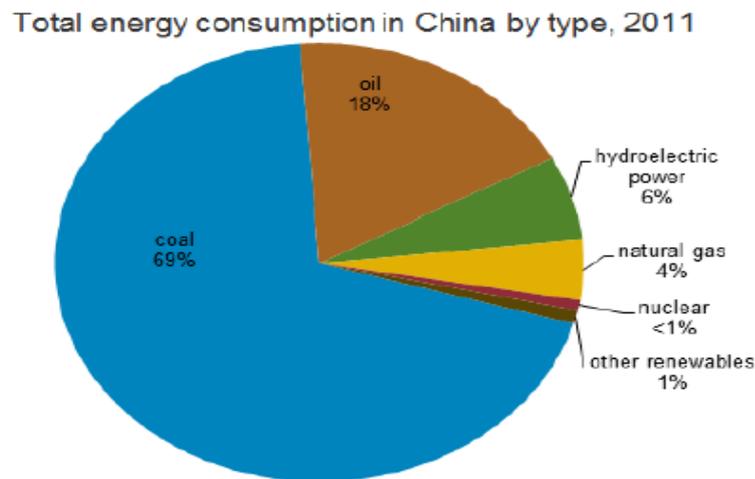
4. Geopolitics of Chinese Energy

4.1 Overview of the Chinese Energy Situation

China's fast-growing economy has led to a rising demand for energy supply, especially for liquid fuel. Since 2010, China has become the world's largest energy consumer. It is now also the world's second-largest oil consuming country, after the United States (EIA, 2014c).

In 2011, 69% of China's total energy consumption came from coal (see Figure 8).

Figure 8: Total energy consumption in China by type in 2011



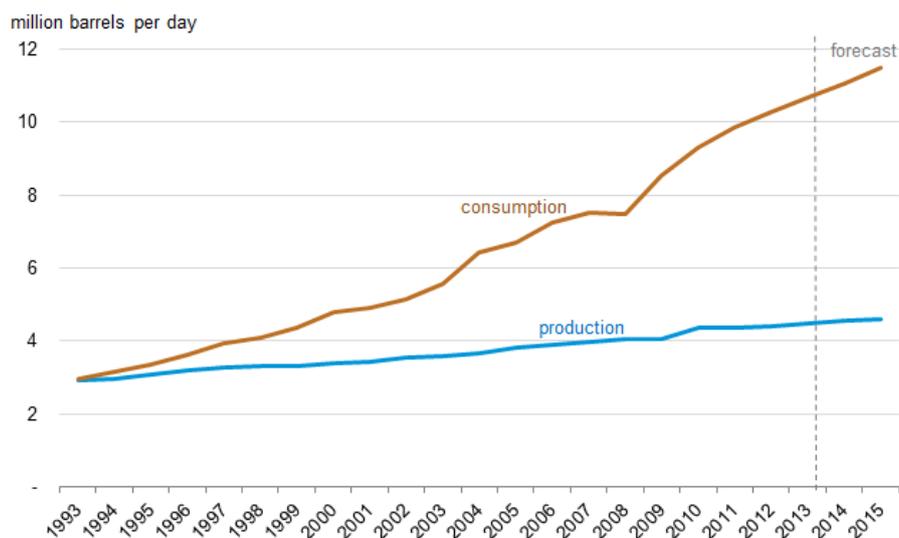
(EIA, 2014c)

Since 2009, China has become a net importer of coal, despite its abundant domestic reserves (Yu, 2010). The main reason is that over ninety per cent of China's coal reserves are located in Inner Mongolia and the northern part of Shaanxi province, making it expensive to transport coal to the high-energy demanding eastern area. It is therefore cheaper and more time efficient for China to meet its domestic coal demand by imports (Leung, 2011). However, such a high consumption of coal can cause serious environmental hazards and high carbon dioxide emissions in the country. China is one of the three countries that combined produce more than 85% of the global carbon emission from coal-fired plants, together with the U.S. and India (Kashi, 2014). Therefore the Chinese government has recently drafted a policy plan to lower its national coal consumption. According to China's 12th Five-Year Plan, the government tries to reduce its carbon intensity by 17% in 2015 (EIA, 2014c). As China is looking to reduce its coal consumption while at the same time its domestic energy consumption is rising, the demand for another fuel mix is likely to grow as a

replacement for the use of coal. Natural gas, thence, is promoted by the Chinese government as a clean alternative to coal (Nobuyuki, 2009).

As for oil, China holds 24.4 billion barrels of proven oil reserves, yet its domestic oil consumption still surpasses its production (see also Figure 9) (EIA, 2014c).

Figure 9: China's oil consumption and production



(EIA, 2014c)

China's oil import dependency rate has increased to more than 55 per cent, making it one of the country's major energy security concerns. Its natural gas import dependency is also rising at a rapid speed, now reaching almost thirty per cent (Stang, 2014; Yan & Liu, 2014). However, there is still no alternative source of energy in the short term to replace the large oil and natural gas demand, and renewable energy only accounts for ten per cent of the national energy consumption. Besides, a potential danger for China's energy security situation is not only its rising oil and gas import dependency, but also the stability of its oil supply. Currently, over half of China's oil import comes from the Middle East and over twenty per cent from Africa; Saudi Arabia, Angola and Iran being the top three oil exporters to China (Chen, 2012; EIA, 2014c). The political instability in the Middle Eastern and African regions has posed a high risk of oil import disruption. The outbreak of civil war in Libya in 2011 offers a clear example of how political instability affected the oil supplies to China. Before the civil war erupted, Libya produced 1.6 million bbl/d of oil. As a result of the war, the oil supply from Libya was cut off for six months. Consequently, Chinese oil import from Libya dropped from 7.3 million tons in 2010 to 2.5 million tons in 2011, a sharp

decrease of 64.8% (Chen, 2012, p. 97). Therefore, diversification of energy supplies from politically unstable regions has been one of the top priorities of China's external energy policy.

4.2 China's Energy Security

4.2.1 Realist Perspective on Energy Dependency

Scholars holding on to a Realism understanding of energy security assert that the scarcity of oil resources will inevitably result in conflicts among nations that have the same intentions of gaining control over natural resources. The Realist perspective emphasizes how China's growing dependency on energy imports generates insecurity. In maximizing a nation's interest in the political game, Realism would predict China to defend the vital routes of its energy transport with all possible means including exerting military power and have a higher tendency to militarily engage in the affairs of oil supplying countries (Ziegler, 2006).

From a Realist perspective, China's increasing engagement in political, economic and military cooperation with resource rich African countries is perceived as Beijing's strategy of maximizing its interests and gains in the African energy market. For example, China has offered eight Chinese built Su-27 SK fighter jets to the Angolan armed forces as part of an oil deal (Butts & Bankus, 2009). However, China realizes that its strong presence in Africa or in other resource-rich developing nations might inevitably arouse suspicion from (other) great powers, regional or global, in particular the United States, the European Union and/or Russia. China is afraid that a hostile relationship with these countries will increase the risk of conflict and the great powers will block China's oil transport routes once the tensions escalate into conflicts. Therefore, in addition to securing its oversea resource interests, China also tries to build peaceful power relations in international politics. After all, it will be hard for the U.S. to find a sound reason to monopolize China's oversea oil supplies in a "relatively peaceful international reality" (Zhang, 2005, p. 11).

4.2.2 Oil as The Most Vulnerable Part to China's Energy Security

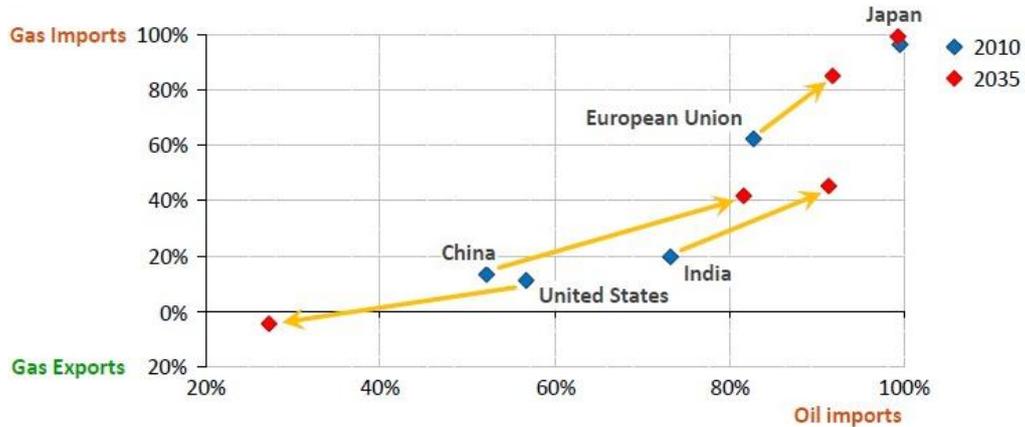
Although China is now a net importer of coal, gas and oil, the levels of risk these three fuel mixes have on China in terms of energy security vary. From an energy security perspective in which a country's objective of energy security is "to assure adequate, reliable supplies of energy at reasonable prices and in ways that do not jeopardize major national values and objectives" (Yergin, 1988, p. 112), oil certainly has a greater risk to the Chinese energy security than the other fuel mixes. Getting access to oil is important for China in order to sustain its booming economic growth.

Due to the rising economic expansion, Chinese oil consumption has doubled from five to ten million bbl/d over the past decades (Kelanic, 2013). At present, oil remains an indispensable fuel to the Chinese transport and military sector. Oil consumption in the transportation sector has especially contributed to the countries' sharp rise in oil demand. In 2009, the transportation sector accounted for 37.5% of the nation's oil consumption, compared to just 14.7% in 1990. This development can largely be attributed to China's rapid increase in the number of privately owned cars, from less than a million in 1990 up to almost fifty million in 2009 (Leung, Li & Low, 2011, pp. 483-485). In addition, oil is widely used in the manufacturing of plastic substances in many consumer goods.

Nowadays, China is for thirty per cent dependent on its natural gas import and the import dependency rate is predicted to continue to grow to over forty per cent in the coming decades; yet the natural gas or coal import dependency remains a secondary concern compared to oil in terms of China's energy security (IEA, 2012; Leung, 2011). After all, the natural gas consumption in China is still relatively small, accounting for only four per cent of its entire energy consumption mix (EIA, 2014c). As for coal, China still has abundant domestic coal reserves in case of an import disruption.

According to Lien (2007), there are two indicators to determine whether or not 'oil import dependency' could have a serious impact on energy security. The first one considers the nation's energy situation insecure when the country's oil import dependency rate exceeds thirty per cent of its national consumption. The second indicator addresses that the economy of a country, if it imports over fifty million tons of oil, will become more vulnerable to the fluctuations of international oil prices, and, when its oil import surpasses eighty million tons, the country has to use diplomatic or military means to protect the security of its oil supplies. Chinese oil import has exceeded fifty million tons since 2000; the oil import dependency rate is estimated to climb higher than eighty per cent (see Figure 10), making energy security one of the top priorities of Beijing's policy concerns (Lien, 2007, p. 72).

Figure 10: Oil and gas import dependency in selected countries



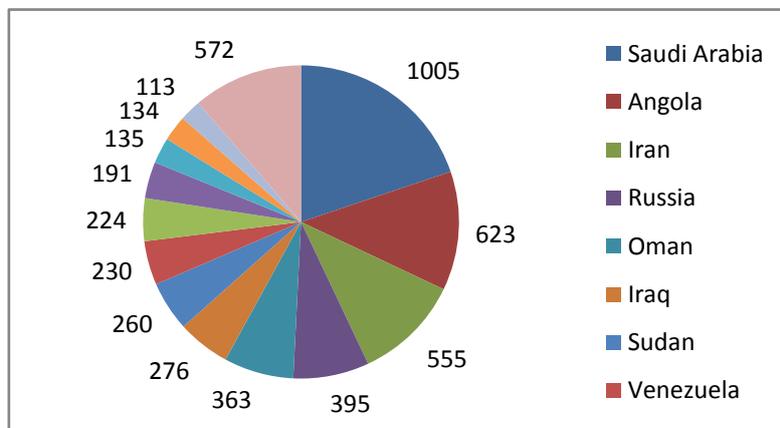
(IEA, 2012)

The Chinese economy is now more vulnerable to the fluctuations of oil prices. Since 1992, China’s energy consumption has exceeded its domestic energy production due to its rapid economic development. Chinese authorities have also recognized that the nation is no longer self-sufficient in energy, and is expected to be more and more reliant on energy imports. Therefore, a strategy to securitize its energy supply is one of the top priorities on the Chinese foreign policy agenda (Cheng, 2008).

4.2.3 Challenges to China’s Energy Security

Figure 11 shows that a substantial part of China’s oil imports originate from the Middle East and Africa.

Figure 11: China’s crude oil import by sources, 2011, unit: bcm



(EIA, 2014c)

Around 75% of China's oil imports from African and Middle Eastern countries pass through the Strait of Malacca, a 1,100 kilometer-long shipping channel between the Indian and Pacific oceans. China's heavy reliance on only one energy shipping route makes its energy transport vulnerable to terrorism, piracy or any foreign intervention (Caceres & Ear, 2012, p. 64). One of the leading Chinese newspapers, *China Youth Daily*, concluded, "It is no exaggeration to say that whoever controls the Strait of Malacca will also have a stranglehold on the energy route of China" (Shi, 2004; Zhang, 2011, p. 7613). In response to this strategic vulnerability, one of China's energy geo-strategies is to sign long-term agreements with oil and gas producing nations, and at the same time look for alternative routes for transporting energy.

The rapid growth of China's energy demand and its increasing engagement in resource-rich countries could also lead to aggravating political tensions and economic competition with the U.S. and other stakeholders in the international energy market. For China energy issues are no longer just economic, but also political concerns. For example, for China Iran is China's third largest oil exporting country; as tensions between Iran and the U.S. grew, Chinese media discussed whether or not the People's Liberation Army (PLA) should support Iran in case of a U.S. assault (Lin, 2012).

Another obstacle to China's energy security situation is that it lags behind in establishing a ministerial-level agency dealing with energy development policies. China has been a net energy importing country since 1993. However, it was not until 2010 that the Chinese government did establish China's National Energy Commission to coordinate a comprehensive national energy policy (Yuan, 2010). The establishment of China's National Energy Commission indicated that Beijing's officials were now raising energy security issues to a level of national security. Before the Commission was formed, there was no single centralized authority on energy policy in China. Chinese energy strategies and overseas oil acquisitions were dominated by state-owned energy companies, such as PetroChina and Sinopec (Yuan, 2010).

4.3 China's Energy Security Strategy

Given the fast pace of China's industrialization and economic development, fulfilling energy security is also closely tightened to the country's economic security and national security. The top priority of China's strategy for energy security is to guarantee sustainable partnerships with its major energy exporting countries and to diversify its sources of energy supply. Beijing is now signing bilateral contracts with major energy producers and resource-rich countries (Caceres & Ear, 2012). Moreover,

since oil appears to have the highest potential for threatening the nation's energy security, the priority for China's foreign energy policy is especially targeted at a "reliable and adequate supply of oil"(Leung, 2011, p. 1332).

In China's Energy Policy 2012 White Paper, the Chinese government identified four major weak points of its domestic energy security situation: A high energy import dependency; a lack of official energy-related systems and mechanisms; an increasing environmental pressure due to coal consumption; and low energy efficiency (Information Office of the State Council, 2012). In response, Chinese energy security policies are developed with the following focuses: Promoting energy conservation; improving energy technology and energy service; deepening institutional reform in the energy sector; developing renewable energy; and, strengthening international cooperation in the energy sector (Information Office of the State Council, 2012).

4.4 Chinese Resource Diplomacy

As part of all the energy-related policies, maintaining good diplomatic relationships with energy-producing countries is a crucial strategy to fulfill China's energy supply security. So-called resource diplomacy has become an important strategy for China to intensify its foreign relations with resource-rich countries. In recent years the Chinese National Oil Companies (NOCs) have proactively sought overseas expansion for more fuel supplies. In 2012, Chinese NOCs spent about \$35 billion for acquiring assets from their foreign rivals. China's overseas oil production had already increased from 140,000 bbl/d in 2000 to over 1.5 million bbl/d in 2011, and this number is expected to double by 2015, according to an IEA's forecast (Resources Quarterly, 2013; Xu, 2013). These large moves of overseas purchasing has made China the world's largest oil and gas purchaser (Li, 2013).

Present Chinese resource diplomacy is based on three major guidelines:

(1) Establishing a comprehensive partnership with energy-producing countries.

China usually favors long-term agreements with developing countries to guarantee a sustainable supply of energy. As China gets fair energy deals from the developing countries, the developing countries benefit from the vast Chinese investment to boost their domestic economy and construction of infrastructure. Chinese leaders are frequently visiting its crucial resource supplying partners to facilitate economic cooperation and political friendships. In addition to visits to African and Middle Eastern countries that account for more than half of China's fuel import, Chinese leaders have also emphasized its friendship with its largest

neighbor, Russia. In 2005, China and Russia already signed a ‘Joint statement on international order in the 21st century’, while agreeing on cooperation on oil and gas development (Chuang, 2013). After Chinese President, Xi Jinping, took office in 2013, his first foreign visit was Russia. Just before Xi started on his trip, Russian and Chinese companies announced a \$2 billion deal to develop coal resources in eastern Siberia, revealing the countries’ intentions in deepening their cooperation regarding energy sectors (Grove, 2013).

(2) Promoting energy-related foreign investments in energy supplying countries.

Investing in energy related assets abroad is an effective way for China to control natural resources and transport routes, as well as increasing economic ties with energy supplying countries. China has provided financial support to Chinese NOCs for investments and acquisitions abroad. For example, in 2005 China National Offshore Oil Corporation got a loan of \$1.6 billion for its operations in Nigeria (Paul, 2010, p. 62). As for oil supplying countries, China provides financial aid and sends Chinese companies to help with the construction of infrastructure in these nations (Paul, 2010). The energy and resources sectors now account for a significant share of China’s overseas foreign direct investment (OFDI), with an average of thirty per cent of China’s total OFDI (Tan, 2013). In regards to the Russian case, China signed its first loan-for-resource deal with Russia’s state-own oil company Rosneft in 2005. The \$6 billion loan was provided by the Chinese Development Bank and the China Export & Import Bank in exchange for Rosneft’s long term oil delivery to China (Tan, 2013).

(3) Strengthening the dialogue and cooperation with international agencies.

Unlike the past, China is now an active member in international organizations such as United Nation Conference on Trade, United Nations Development Program, United Nations Environment Program, World Energy Council, etc. (Yan & Liu, 2014). At a regional level the Shanghai Cooperation Organization (SCO) was established in 2001, in order to promote good neighboring relations and strengthening the political and economic cooperation between China and Central Asian countries. Current member states include China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. The SCO is also an important mechanism for China to foster an energy dialogue and cooperation with the Central Asian nations and ensure regional security (Pan, 2005). In fact, China and Russia are both actively promoting the establishment of an ‘energy club’ within the Shanghai Cooperation Organization.

4.4.1 From the Middle East to Africa and Central Asia

Chinese authorities especially consider Middle Eastern countries politically volatile and unstable, and subject to strong U.S. influence. The Chinese NOCs used to operate in nations with hostile relations with the Western countries. However, investments in these nations are risky, both politically and financially. As a result, many Chinese NOCs' overseas investment ended up losing money in businesses or having no choice but to abandon the local business due to the unstable politics and social condition in those countries (Xu, 2013). Therefore, China's current strategy is to gradually shift its oversea oil production to African countries such as Angola, Nigeria and Sudan, who have less hostile relationships with the West compared to those Middle Eastern oil supplying countries (Caceres & Ear, 2012). Angola is now the second largest exporter of China's oil supplies, exporting 6.23 million b/d of crude oil to China in 2011 (EIA, 2014c). In addition, in 2010 Nigeria signed a contract worth \$20 billion with China to build oil refineries and energy infrastructures. These African countries China prefers to invest in have two things in common: they can be characterized as resource-rich but poorly governed nations (Caceres & Ear, 2012).

Central Asia is another region China aims at obtaining energy partnerships with. While transporting energy, one needs to consider the shipping costs and transportability of energy. Consequently, there's an energy distribution trend in which "oil supplies from the Middle East gravitate to the Asia-Pacific region, while supplies from the western hemisphere (Mexico, Venezuela, Canada and Colombia) and the Atlantic basin (the North Sea and West Africa) head towards the U.S. market" (Salameh, 2003, p. 1086). Yet, the Middle East is not the only region possessing a geographical plus to provide energy to the Asia-Pacific region. Central Asian countries possess the geographical closeness to be the next key energy providers for Asia-Pacific nations. According to Ogle (2010), it is expected that the Caspian Sea Region will emerge as an important energy production region and become a major energy supplier to Europe as well as Asia. Among the energy demanding countries, China is likely to be the major driver of such an increased demand (Ogle, 2010).

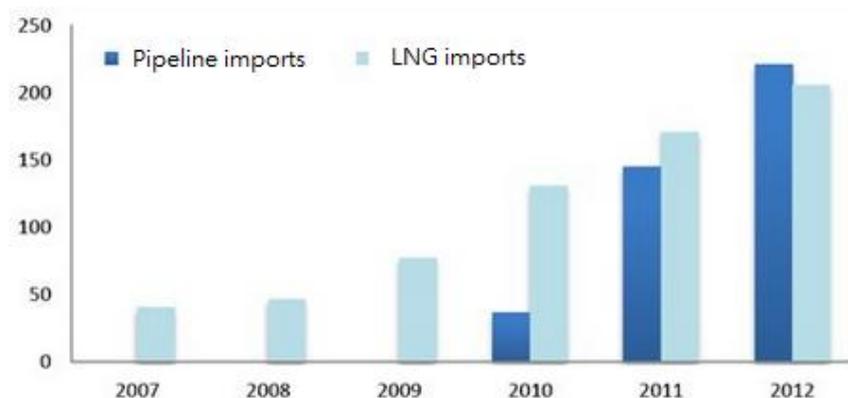
4.4.2 Growing Demand for Natural Gas

Natural gas is having an increasing role in China's energy consumption. Beijing aims at increasing its natural gas supply to 8 per cent by 2015, an equivalent of 230 bcm, a doubling compared to the current gas supply situation.(Lin, 2012)Given the growing demand for natural gas, China is now the world's sixth largest natural gas importer, according to the CIA World Factbook (CIA, n.d.). Environmental concerns are the main drivers for China to expand the gas sector in the nation's energy mix. Coal has

long dominated the nation's energy consumption, but its use has caused severe pollution. Natural gas is regarded as a clean energy source. China is building more gas-fuelled power plants in replacement of the traditional coal-fuelled plants (Chen, 2013).

Chinese natural gas imports are mainly divided into natural gas pipeline imports and LNG imports. China started to plan LNG imports in the late 1990s. It signed a first long-term LNG provision contract with Australia in 2003 (Nobuyuki, 2009). It was not until 2010 that China opened its first pipeline gas import from Turkmenistan. Since then, the development of pipeline gas import has been rising at a rapid speed. In 2012, Chinese imported in total 12.68 million tons of LNG and 15.8 million tons of pipeline gas, marking the first year that the gas imports through pipelines exceeded the LNG imports (see Figure 12) (ASKCI, 2013).

Figure 12: China's pipeline gas and LNG imports 2007-2012 in million cubic meter



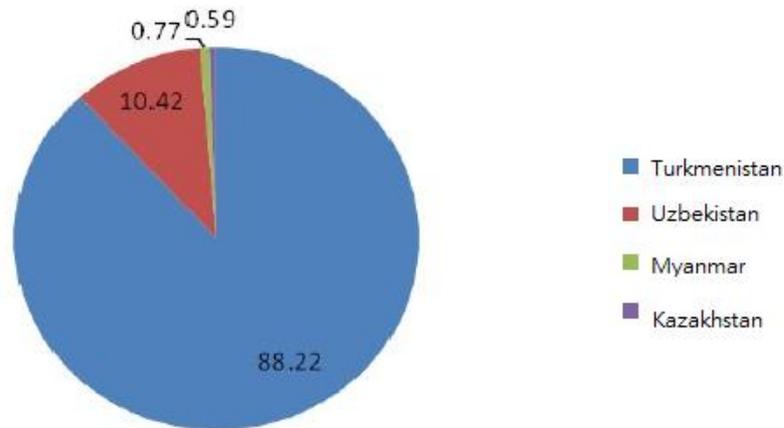
(China Industry Information, 2013)

Since Japan abolished its operation of nuclear power plants in 2007, the LNG market in the Asia-Pacific region has become more competitive. As a result of a growing gas demand and market competition for LNG, the spot cargo prices also jumped significantly, making it more expensive to import LNG (Nobuyuki, 2009).

4.4.3 The Pipeline Projects

Central Asia accounts for most of China's pipeline gas import (see Figure 13).

Figure 13: China's pipeline gas import by source in 2013, unit: percentage



(China Industry Information, 2014)

Yet, based on the idea that diversification of energy supply means greater energy security, China is also seeking pipeline projects with countries from other regions. Currently, there are three major pipeline corridors to China from Central Asia, Myanmar, and Russia. In 2010, China has signed a thirty year contract of gas imports via a pipeline from Turkmenistan (Chen, 2013). In 2013, the China-Myanmar gas pipeline was launched and now in full operation. The pipeline is expected to send 12 bcm of natural gas annually to China. Although Myanmar is yet to be considered a stable nation, Chinese authorities claim that the pipeline will nevertheless mitigate the risk of gas transporting via the Malacca Strait (Song, 2013). The third crucial gas pipeline is from Russia. In 2014, after a decade of negotiations, Beijing finally sealed the deal with Gazprom to sell natural gas to China National Petroleum Cooperation. The deal is predicted to be worth \$400 billion over the next 30 years (The Economist, 2014).

The Central Asian and Siberia regions hold three geopolitical advantages of China's foreign energy development. First of all, the oil and gas supplies do not need to go through any marine route to transport energy into Chinese territory. Having energy directly transported via land routes, saves China the naval costs and risks of protecting its energy transport via the marine route (Pan, 2005). Second, the Caspian Sea is said to have up to 25 billion tons of oil and gas reserves, meeting China's needs for a sustainable long-term energy supply. Third, exploiting the energy in the Caspian and Siberia regions requires extensive technology and funds. China, in comparison with other countries in the Asian Pacific region, has the most sufficient funds, ambition and geographical advantages to invest in overseas energy development and infrastructure

sectors (Pan, 2005). IEA's chief economist, Fatih Birol, expects China will become one of the major overseas oil producing countries (Resources Quarterly, 2013).

4.5 China's Growing Russian Focus

China and Russia are both considered to be a regional great power. After the collapse of the Soviet Union, the two nations have gradually cultivated their friendship and cooperation. Initially, they considered each other as 'friendly neighbors', before developing a constructive partnership. At present, the relationship has evolved into a strategic partnership, both politically and economically (Lien, 2007). Politically, the two nations signed a '21st century strategic partnership of equality and trust', and established a mechanism for annual high-level meetings to consolidate the strategic partnership (Lien, 2007, p. 56).

4.5.1 Sino-Russian Energy Cooperation from an Energy Security Perspective

Energy cooperation with Russia is attractive to China for several reasons. Currently, most of China's oil and gas imports are transported through sea routes. If Russia's energy is transported to China, it only has to go through the land route, without even passing a third country since the two nations share a common border. Therefore, such an energy transit is secure from political disruption and piracy, and it saves China a lot of navy costs to guard the energy transport, making it easy to keep the gas at reasonable prices (Lien, 2007). Second, in the near future China is expected to have a supply shortage in natural gas. In 2015, China's total gas demand is expected to surpass 230 bcm, while its domestic gas production will only reach 172.5 bcm. The IEA further expects that China's gas dependency will increase to over forty per cent by 2035 (IEA, 2012). Even with the inclusion of China's alternative import options from Central Asia, Myanmar and LNG imports, there will still be a substantial gap between the current gas supply and the expected consumption (Skalamera, 2014). Moreover, China has already planned to expand its pipeline capacity for natural gas import, since it is calculated to be forty per cent cheaper to bring energy through pipelines than bringing LNG via sea routes (Tanquintic-Misa, 2014). Russia, holding the world's largest gas reserves, therefore makes an ideal candidate to meet China's energy hunger.

In sum, striking a gas pipeline deal with Russia has some clear advantages to China: It will seal the gap between its nation's oil and gas consumption and production; it can mitigate the impact of LNG disruption through sea routes; it will diversify China's gas supply by being less reliant on its current largest gas supplier, Turkmenistan; and, the price of pipeline gas is cheaper than that of the LNG.

4.5.2 Sino-Russian Energy Cooperation from a Political Perspective

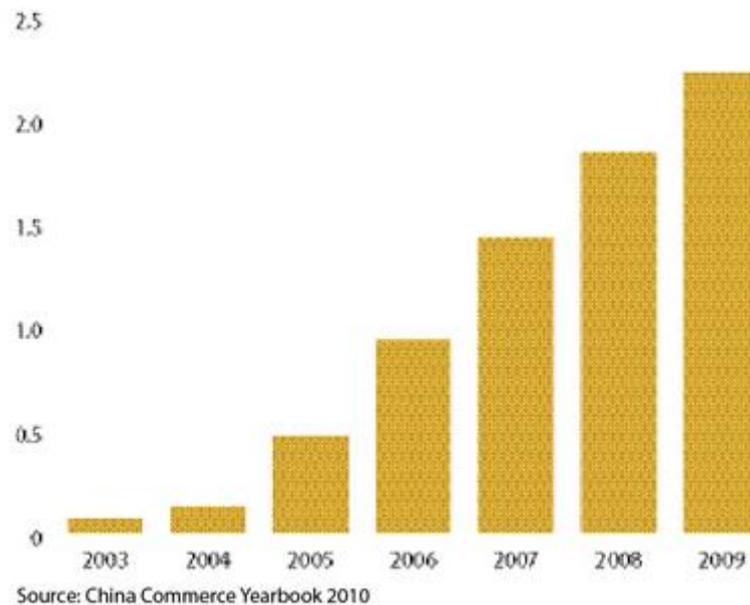
From a political perspective, as mentioned in the previous chapter, the two nations share the same world vision, which is supporting the idea of a multi-polar world instead of a unipolar world dominated by the United States. This geopolitical alliance of the two nations has been evident, especially in the United Nation's Security Council where both countries have worked together, vetoing the same resolutions, for instance on the war in Syria (Goncharenko, 2014). While Russia is activating its strategy of 'pivoting' to Asia, China has proposed its 'Marching Westwards' strategy in response to Washington's focus on Japan and South Asian countries. Chinese scholars perceive Washington's acts as a policy to contain Chinese power in the Asia-Pacific region as part of a 'zero-sum game' in the Sino-U.S. relationships (Wang, 2012, p. 8). American activities in the South China Sea also pose concerns to the Chinese authorities over the security of its energy supply through sea lanes. Once tensions between China and the U.S. in the South China Sea escalate into conflicts, there is a great chance that the energy supply routes will be manipulated by the United States (Skalamera, 2014).

4.6 Chinese Investments in Russia

A clear way to show that China is willing and interested in forging a deeper partnership with Russia is to look at the bilateral economic ties between the two nations and the development of Chinese foreign investment in Russia. In June 2012, the Russian Direct Investment Fund (RDIF) and China Investment Corporation (CIC) signed a memorandum to establish the Russia-China Investment Fund, highlighting a strong economic cooperation between the two countries. The Fund was composed of \$1 billion from the RDIF and CIC each and about \$2 billion from other China-based institutional investors. One of the main purposes of the fund is to improve the infrastructure for the transportation of minerals. The CEO of RDIF, Kirill Dmitriev, specifically noted that "special attention will be given to energy efficiency and energy saving projects" (Jin, Teow, & Rui, 2013; RDIF, 2012).

Figure 14 shows that the Chinese Foreign Direct Investment (FDI) in Russia grows at a rapid speed since 2003.

Figure 14: China outbound FDI stock in Russia in USD bn from 2003-2009



(Popov, 2011)

In 2013, Chinese companies made investments in Russia of in total \$4.1 billion, five times the amount of the previous year.(MarketWatch, 2014) Chinese companies show a great interest in investing in the Russian energy sector. In 2006, Sinopec acquired the Russian oil company Udmurtneft for \$3.5 billion. By 2020, China plans to invest \$12 billion in Russia’s energy sector (Krkoska & Korniyenko, 2008; Invest in Russia, n.d.). It is estimated that between 2005 and 2010, Chinese investments in Russia reached close to \$9 billion, in 64 separate deals; 67% of the investments were made in the energy sector (Apoteker, 2012). The Far East and Eastern Siberia regions even receive more investments from China than their national government. In 2011, Chinese investments in Russia’s Far East region totaled \$3 billion, roughly \$2 billion more than the Russian federal government’s funds allocated for the same region (Russia Briefing, 2012).

On the other hand, Russia is now also strategically choosing China as a large investor in its energy sectors. The Russian government is able to control foreign investments. The government usually agrees to investments by foreign companies which will be able to form strategic alliances regarding its energy sector. As a result, in 2010 Rosneft and the China National Petroleum Corporation (CNPC) established a joint venture for the construction and exploitation of a refinery (Apoteker, 2012). More recently, in 2014, Russia’s largest private natural gas producer, Novatek, has granted a 20% stake in a \$20 billion LNG project to a subsidiary of CNPC (British Embassy

Beijing, 2014).

As the former chapter focused on Russia's energy security and its 'pivoting to the East' strategy, this chapter discusses the overall energy security situation and energy security strategies of China. It demonstrates the political and economic incentives for China to cooperate with Russia on energy, and the pivotal role Russia plays in fulfilling China's policy goals. The following chapter will provide further illustrations on the Sino-Russian energy cooperation. It will address both the advantages and challenges to this partnership.

5. The Sino-Russian Energy Partnership

5.1 A Complementary Relationship

Russia and China seem to be a perfect match when it comes to energy partnership. China is now the world's second largest energy consumer with both its oil and gas import dependency rates rising. As regards to the Chinese energy security strategy, the nation searches new long-term energy suppliers to improve its over-reliance on energy supplies from the unstable Middle East and African regions. On the other side, Russia in reducing its dependency on energy exports to a single European market is now looking eastwards to diversify its energy exports. Russia is seeking a way to develop its abundant gas and oil reserves in the far inland Siberia, and cooperating with China appears to be an ideal solution to the issue, since China can guarantee Russia a long-term energy deal and it is geographically more cost-efficient to transport energy from Siberia to China than to any other energy-thirsty nation. There is clear evidence that the two countries now form quite a solid and good relationship. Over the past years, Russia and China have reached many joint declarations and signed treaties on a strategic partnership in the energy, security and economic domains.

5.2 Russia's Energy Development in the Far East

In 2009, Russia announced its Energy Strategy of Russia for the period up to 2030. In this policy plan, Moscow states that, although the EU will remain its main energy market for the period of the strategy, the "proportion of European markets in the total volume of Russian energy export will steadily decline due to export diversification to Eastern energy markets (China, Japan, Republic of Korea, other countries of the Asia-Pacific region" (Ministry of Energy of the Russian Federation, 2009, p. 23). In addition to set a goal of increase Russian energy exports to the Asian market, the policy paper also emphasizes the speeding up of the energy development in the Far East and Eastern Siberia regions in order to boost its Asian-Pacific markets. The new energy strategy also sets a goal of increasing Russia's oil production to 11 million bbl/d by 2030, roughly ten per cent higher than its current oil production (Moscow, 2010).

The development in the Far East region also bears political consideration. Russian Far East is geographically isolated from Moscow, and it's one of the least populated regions in Russia. Underdeveloped, the region has lost about twenty per cent of its population for the past two decades. Only six million people now reside in the Far East. Being distant from the central government, the Far East also has a bad reputation

for corruption (The Economist, 2012). The corruption in the local government has hindered foreign companies from venturing. However, the strategic importance of Russian Far East has increased with the rise of Asian-Pacific economy. Moscow is now putting effort in modernizing the Far East by increasing regional investment and establishing the Ministry for the Development of the Russian Far East. Russian government's effort in developing the Far East has two main reasons: strengthening the administrative control of the region; and promoting the economic ties with Asian-Pacific neighboring countries (Hepler, n.d.).

From an economic perspective, it is an urgent matter for Russia to develop its energy in the Far East and Eastern Siberia regions in order to sustain the country's economic growth. There is a growing concern that the oil production potential in Western Siberia has reached its peak. Many of the oil fields in this region have been depleted and the oil wells have nearly reached the end of their useful lives. It is expected that over 75% of the reserves has been exploited (Itoh, 2011). Thus, opening up the oil products and exports in Eastern Siberia will not only correspond with Russia's strategy of increasing energy exports to Asian markets, but also ease the oil production stress originating from the depletion of Western Siberian sources. Table 1 shows that Russia is aiming at increasing the oil productions from the Eastern Siberia and Far East region, while the energy production from the Western Siberia will slightly decrease.

Table 1: Crude oil production in Western Siberia, Eastern Siberia and Far East from 2005 to 2030 in million tons

| Area of Russia | 2005 | 2008 | 2013-2015 | 2020-2022 | 2030 |
|-----------------|-------|-------|-----------|-----------|---------|
| Western Siberia | 334,3 | 332,7 | 294-310 | 286-312 | 301-303 |
| Eastern Siberia | 0,2 | 0,5 | 21-33 | 41-52 | 69-75 |
| Far East | 4,4 | 13,8 | 23-25 | 30-31 | 32-33 |

(Itoh, 2011, p. 5)

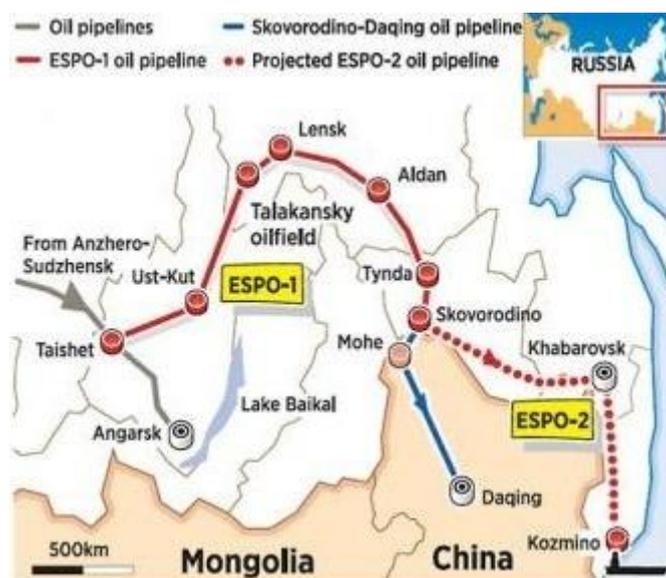
Developing the resources in Eastern Siberia requires huge investments; yet attracting investments in Russia's oil industry has proven to be difficult over the past years. Historically, most of Russia's foreign investments in the energy sector have come from European and Western investors. Since Russia's energy policy in the past decades has been mostly EU-focused, its energy market also goes up and down in parallel with the EU economic situation. After the global financial crisis, in 2009 only sixty per cent of the planned investments in Russia's oil and gas sectors have been realized (Coburn, 2010). In order to meet the goal of enhancing its oil production by

ten per cent, Russia not only has to find more investors in its energy industry, but develop more oil fields. According to its energy strategy, Russia will need \$600 billion to invest in its oil sector up till 2030. About seventy per cent of the estimated amount will have to be dedicated to the Eastern Siberia and Sakhalin regions for developing new oil industry here (Coburn, 2010). The problem remains for Russia, however, that it is hard to attract its traditional Western investors for the energy development in the Far East region. For one, Western investors usually support the free market mechanism and are suspicious of the political corruption and the increasing governmental control over the economy (Sin, 2014). Secondly, due to the long distance from Eastern Siberia to Europe, it seems less cost effective for Europe to invest in Russia's energy projects in the Far East and Eastern Siberia. Russia's most feasible strategy therefore will be to attract more Eastern investments, in particular from China and Japan.

5.3 The Eastern Siberia-Pacific Ocean Pipeline

The Eastern Siberia-Pacific Ocean (ESPO) pipeline was constructed to fulfill Russia's policy objectives of expanding and diversifying its oil exports to the Asian-Pacific markets. The pipeline project consisted of two construction stages and was fully operational in 2012 (see also Figure 15).

Figure 15: The ESPO pipeline routes



(Dovlatov, 2010)

The first stage began in 2010, with a 2,575km Taishet-Skovorodino line, connecting Irkutsk to the Amur Region. The second stage of the pipeline project was finalized in

2012, connecting Skovorodino with Kozmino, an oil port located near Russia's borders with China and North Korea on the coast of the Sea of Japan. The construction and expansion of the ESPO pipeline also serves the purpose of opening up East Siberia for large-scale commercial oil production and resulted in a major increase in upstream investment (Global Horizons Service, 2013). The geopolitical pipeline project, according to Russian President Vladimir Putin, is meant to "open a window" to the East. It should also indirectly put pressure on Europe, with more potential buyers competing for Russia's natural resources (Poussenkova, 2013, p. 13). The ESPO pipeline has increased the profits for the Russian government by replacing the more costly conventional transfer of oil by rail from Skovorodino to the Kozmino sea terminal to the Asian markets. In 2012, Russia exported in total 30 million tons of oil from ESPO; 15 million tons were sold on the world market while another 15 million tons were delivered to China (Pravda, 2014). By February 2013, the ESPO pipeline carried 1.1 million bbl/d of crude oil, constituting 22% of the Russian exports to its eastern clients (Rudnitsky, 2013).

The pipeline not only serves as a gateway to the Asian-Pacific markets, but also as a new pricing point for Russia's oil trade which has traditionally been dominated by the crude export via the Druzhba pipeline and ports on the Baltic seas to Europe. The Russian oil companies will realize a profit of \$46 per barrel if exported via the ESPO pipeline, compared to \$42 if it is sent to the ports on the Baltic Sea (Rudnitsky, 2013). The Asian countries also see the economic benefits of the ESPO pipeline project. While oil deliveries from the Middle East and Africa take at least two weeks of sailing, with this pipeline it only takes five days to export Russian energy to the Asian markets (Shadrina, 2013).

Before the operation of ESPO pipeline, Russia only exported crude oil via railway transport and a small part of Kazakh pipeline to China. The ESPO pipeline marks a new stage for Russian energy, for the pipeline now allows Russia to export ever-larger volumes of oil to Asia-Pacific, particularly to China (IEA, 2014). The successful construction and operation of ESPO pipeline also opens up more opportunities for Sino-Russian energy cooperation. In 2013, a \$270 billion deal was made between Rosneft and CNPC to increase the oil supplies. Therefore, the capacity of the ESPO spur pipeline from Skovorodino via Mohe to Chinese city Daqing is expected to increase from 15 million tons per year to 30 million tons per year by 2018. In addition, another project is now in discussion between Russia and China over the construction of refinery in Tianjin, targeting the market in Northern China (IEA, 2014).

5.3.1 ESPO Pipeline Politics

The construction of the ESPO pipelines is a perfect illustration of Russia's long term plan to expand its energy export to the Asian markets and to increase its regional influence. Demir (2010) gives both economic and political explanations for the geopolitics of this pipeline project. The ESPO oil pipeline is one of Russia's most expensive energy infrastructural projects, with a total construction cost exceeding \$23 billion. With the completion of the pipeline, Russia is expected to increase the pipeline capacity from the present level of 50 million tons to 80 million tons (Fischer, 2013).

A pipeline project consists of two types of costs: Capital costs and operational costs. The capital costs include pipes, pumping stations, land and other construction costs. Operational costs include fuel cost, personnel cost and maintenance cost (Demir, 2010). Given the high construction costs of oil pipelines, it is important for energy providing states to have guarantees of the operation of the pipelines. In constructing oil pipelines, oil providing states should also take into consideration that pipelines continue to operate even if the pipeline is not operated in its full capacity. If the pipeline operates well below its capacity, it becomes loss-making and it is then not sensible to continue its operation (Demir, 2010). Therefore, Russia usually favors long-term and huge capacity energy deals with energy importing countries.

The second factor explains the countries' political dedication in building energy pipelines. After pipelines are built, it is costly and impossible to redirect or dismantle them. As Demir (2010) states, pipelines "create cobweb of relations among the producers, consumers and the transit states" (Demir, 2010, p. 8). Therefore, the energy providing and energy receiving countries must also, to some extent, maintain political friendships and interactions, first, to decide to build the pipelines and, second, to ensure the efficiency and continuity of pipeline operations. More often than not pipelines have to go through several transit countries before reaching the energy end-using country. Hence, maintaining regional security is also a decisive factor to a successful pipeline operation. In other words, pipelines create some sort of interdependency among all participants, be it energy supplying states, transit countries, or energy consuming states.

5.3.2 The Choice between Japan and China

As Lo & Rothman (2006) state, Moscow eventually favors to access the wider Asian-Pacific market by constructing a pipeline to Perevoznaya on the Pacific coast. However, there are two commercial and political explanations to why it is not feasible

for Russia to only construct the pipeline to the Pacific coast. First of all, the shortest distance and therefore most cost-effective way to construct a pipeline from the Eastern Siberian oil fields to the Pacific coast will inevitably bypass China, implying that Russia would have to look for the Japanese and U.S. markets instead of the Chinese one. Yet, it would not be wise for Russia to take such a move since China's energy demand is projected to increase in the near future and has the largest potential to become Russia's long-term energy customer. Secondly, a pipeline to the Pacific coast is way longer than a pipeline from Taishet to Daqing. The energy prices therefore would not be the most favorable for China, if it could only get oil from Russia via the pipeline to the Pacific coast; this would encourage China to look for alternative energy suppliers in Central Asia, Africa or South America (Lo & Rothman, 2006). Russia, however, needs the Chinese market urgently in order to diversify its energy supply and to help develop the Far East and Eastern Siberia regions. Thus, the decision has been made that, in addition to building the ESPO pipeline from Taishet to Perevoznaya on the Pacific coast, Russia would also construct a spur pipeline from Taishet to Daqing.

Chinese and Russian authorities and oil companies have been discussing the possibility of building a cross-border oil pipeline since the mid-1990s. Initially, the plan was to build a pipeline from Angarsk in East Siberia to the Chinese city of Daqing, and the deal was expected to be finalized by 2002. However, the project was halted due to Moscow's concerns about building a pipeline to a single customer (Downs, 2010). At that point, in 2003, the Japanese government offered Russia \$7 billion to build a pipeline from Angarsk to the Pacific port of Nakhodka, as well as plus an extra \$5 billion to explore new oil deposits in Eastern Siberia. Japanese lobbying for the construction of a rival pipeline from Angarsk to Nakhodka matches with Russia's ultimate goal of delivering energy to various Asian-Pacific countries. However, due to the territorial disputes between Moscow and Tokyo, Putin indicated in 2005 that the priority would still be given to the Taishet-Daqing branch pipeline. Nevertheless, Moscow would eventually build both the pipeline to Daqing and to the Pacific port. Japan, in response, indicated that it would not invest in the Pacific pipeline if Russia decided to build a pipeline to Daqing first, and it did so after Russia announced to build a spur pipeline to China before the final phase of the entire ESPO pipeline is finished. Japan is afraid that it will only end up investing in a pipeline to China (Chang, 2014; Lo & Rothman, 2006).

5.4 Obstacles in the Sino-Russian Energy Partnership

Despite all the convergence of interests and the strategic partnership Russia and China

now share, there is a paradox that the energy partnership between the two nations has been stalled during last couple of years. Already at the beginning of 2000, Russia and China did plan potential cooperation regarding the sale of natural gas. However, it took until 2014 for both parties to finalize the agreement (Lelyveld, 2014b).

The question remains whether there is a real, valid strategic energy partnership between the two nations. From an energy security perspective, both countries fear that the other side will use energy resources as a political or economic leverage against the other. Even though China is willing to invest in Russia's energy sector in order to increase its energy imports from Russia, it is also actively interested in developing partnerships around the world, be it in Central Asia, Africa or Latin America (Holtzinger, 2010). Particularly in Central Asia the ambitions and interests of China and Russia clash. Russia fears that it will lose its influence in Central Asia to China after the completion of a Central Asia-China gas pipeline. Moreover, the pipeline through Central Asia has given China a better position in its negotiations with Russia over gas prices (Holtzinger, 2010). Central Asia is rich in energy reserves and is located between China, Russia and the Middle East. The region is vulnerable to radical ideologies and separatism. China's objectives for gaining influence in Central Asia are that it not only can help in stabilizing the situation in its own separatist region, Xinjiang, but also in diversifying its energy supply sources (Bolt, 2013). Russia, on the other hand, has always considered Central Asia to be within its own sphere of influence, trying to establish itself as the regional power among Central Asian states. Moreover, as mentioned in the former chapter, Russia has been trying to control the energy infrastructure of Central Asia. It has purchased energy at low prices and re-selling it to the European market.

Thus, although the two countries still share the common interest of ensuring regional stability and keeping the U.S. influence out of Central Asia, Russia still fears that China one day will be able to dominate the region, given its unstoppable economic growth (Bolt, 2013). Russia worries that as the Chinese economy is growing at a rapid speed, China will become the next regional or even global superpower. The rise of China is perceived by Russia as a long-term threat to its own national security. China, to some extent it still viewed by Russia with suspicion and anxiety (Lo & Rothman, 2006).

Besides Central Asia, Russia is also concerned about China's increasing presence in the Russian Far East region both in demographic and economic terms. While Russian Far East is sparsely populated, The North-Eastern part of China hosts about 110

million people. More Chinese are immigrating to Russian Far East and Eastern Siberia. It was estimated that as many as 500,000 Chinese immigrated to Siberia and the Russian Far East in 2009 (Collins, 2011). In addition, as mentioned in Chapter 4, the amount of Chinese investment in the Russian Far East is even greater than the amount spent by the Russian federal government in the region. Out of the fear that the central government will gradually lose its control over the Far East to the Chinese, some Russian politicians even proposed the idea of moving the Russian capital from the European side to the Asian side of the country. The Russian Defense Secretary Sergey Shoygu also suggested that more officials should be allocated to the Far East region (Bowen & Rodeheffer, 2013).

Another concern of Moscow is that the closer the Sino-Russian relation become, the more uncomfortable Russia will feel about its dependence on China. In terms of energy trade, the rising demand of energy from Asian-Pacific countries gives Russia the opportunity to engage more in the region. The ideal goal of Russia is to diversify its energy market to the Asian Pacific markets beyond China, to Japan, South Korea, Southeast Asia, and even the U.S. By doing so, it gives Russia a good ground in dictating the terms and conditions of energy deliveries, to use it as in instrument of geopolitical influence in the Asian Pacific region (Lo & Rothman, 2006). If Russia continues to solely rely on China as a primary market for Russia's oil and gas exports, it might eventually miss the bargaining advantage in gaining more energy and political influence in the Asian markets. In addition, Russian policy-makers suspect that Beijing holds the geopolitical concern that it "wants Russian energy for Chinese industrial consumption – and energy security – but does not welcome the arrival of a new, increasingly influential economic player in the region" (Lo & Rothman, 2006, p. 15).

Price disputes might pose a potential problem for the sustainable development of the pipeline deals and the energy partnership between the two countries. In 2011, China and Russia had a dispute over the cost of transporting oil via the ESPO pipeline. Russian oil companies argued that the calculation of oil transporting prices should include the costs of energy transports through the entire route of the ESPO pipeline, up till the end point of Kozmino. China, on the other hand, insisted that the price should only be calculated based on the costs of transportation from Skovorodino, a 2,046 km distance from Kozmino. Although the price dispute was eventually settled after many rounds of talks, the Chinese government reduced half of its oil import from Russia in July 2011, showing China's dissatisfaction over the pricing mechanism (Shadrina, 2013, p. 45). This incident also illustrates the uncertainty over the

partnership between the two nations.

In sum, China plays a vital role in developing Russia's Far East and Eastern Siberia energy sectors. For one, China's geographical closeness to Russia's Far East and Eastern Siberia allows it to have fast and convenient access to the resources in these regions. Secondly, China holds sufficient funds and is willing to invest in the energy sectors. However, as Russia fears over dependence on energy exports to Europe, it holds similar concerns in over relying on China as a single market in the Asia-Pacific region. Moreover, Russia is anxious about losing its influence in Central Asian countries to China. As Realism would argue, if one party has too much relative gains in the partnership, the other side would fear that their security and survival is being threatened. Therefore, Russia still holds reserved opinion on the extent such partnership should be and will be tightened.

6. Conclusion

This concluding section will be dedicated in providing a short recap by answering all the (sub) research questions, as previously stated in the introduction. In addition the implications and limitations of this research will be elaborated upon.

6.1 Answering the Research Questions

6.1.1 The Geopolitics of Sino-Russian Partnership

The thesis assesses the geopolitical notions behind Russia's intensifying energy cooperation with China. The main question is *“To what extent do geopolitical considerations explain the dynamics, interests and limits underpinning Russia's growing energy partnership with China?”* The theoretical framework this thesis applies, which is the Realism notion, regards competition for natural resources as a zero-sum game. To ensure one nation's security and survival, states will try to reduce the strategic value of oil and gas. This argument can be reflected on Russian and Chinese energy policy. While Russia seeks to diversify its energy markets toward the East, China is also looking to reduce its energy import dependency on the relative unstable Middle East and African countries. In Realism, there is no sheer friendship in international politics, cooperation among states is just a way for states to achieve absolute or relative gains. This helps us understand Russia's hesitation and worries over forming deep energy relations with China.

Geopolitics of energy helps explain the Russia's specific choice of China as strategic partner. The abundant Far East and Eastern Siberia oil and gas fields need a demand market for extraction to be economically viable. Without a large consumer near the Eastern part of Russia, the current levels of infrastructure investments would be unattainable. A shift towards East makes sense in reducing the over-reliance on customers located in markets westwards. Developing the Eastern fields provides an additional base of power for Russia. Secondly, a Sino-Russian alliance is also a strategy to maintain regional security and balance of power in international politics since the two countries share the value of a multi-polar world instead of a uni-polar world dominated by the United States.

6.1.2 Russian Objectives

In the introduction the first sub-question concerns Russia's incentives for further developing a closer energy relation with China, more specifically:

What are the motivations for Russia to develop the energy cooperation with China?

Increased cooperation between Russia and China is a real-life development, a fact. One of the main reasons for Russia choosing China is the diversification of its energy market in order to increase energy security. The other reason is the geographical location of China in relation to the underdeveloped but substantial resources in the Far Eastern part of Russia. To maintain a healthy budget, financed for over fifty per cent by energy resource income, Russia has to continue developing new energy resources as the current ones are slowly depleting. A direct transit route from the Far East to China is relatively short, therefore cheaper, and involves no third parties. Secondly, Russia's recently energy and foreign policy focus has been gradually redirecting from the West to Asian countries. A solid partnership with China grants Russia a stable and growing influence in the Asian-Pacific region. In addition, China is able to provide FDI and funds to Russia for the development, in contrast to the rather hesitant Western investors or Japan. Lastly, over the past decade the overall relations between Russia and China have become stronger, as demonstrated by various treaties, pacts, trading output and the cooperation in the United Nations.

6.1.3 Chinese Objectives

The second sub-question revolves around the benefits for China:

What are the objectives for China in the Sino-Russian energy partnership?

The Chinese economy currently runs largely on coal, a type of fuel emitting large quantities of pollution relative to other fossil fuels. Chinese residents with a rising income are demanding cleaner air, and the government has set the strategic goal of diversifying China's fuel mix. In addition to a replacement for coal, the expected increase of energy consumption and import dependency, currently over 55% for oil and over 30% for natural gas, effectively means a necessity for uncovering new sources for oil and gas. China's current primary suppliers in the Middle East and Africa are not considered stable enough, as illustrated by a six month oil disruption from Libya. In addition, the majority of imports from the Middle East and Africa arrive by sea, 77% travelling through the Strait of Malacca between Malaysia and Indonesia, posing a high security risk making high spending on protection necessary. The Chinese objective is thus to diversify its imports and preferably so from a stable long term source, avoiding the Strait of Malacca. The Chinese objectives seem pragmatic in wishing to stabilize and diversify their energy supplies and supply routes, while not having a track record of consistently using energy as a political tool.

6.1.4 Challenges

The Sino-Russian partnership has materialized gradually, yet is not without risks. In exploring the potential risks this thesis has asked the question:

What are the challenges in such a partnership?

Given the fact that negotiations on energy supplies took over a decade, it is evident that the level of trust is not absolute, nor are the interests of Russia and China always in line with each other. By starting such an intensive partnership there is the inherent risk of providing too much leverage to the other partner. Given that according to the predominant notions of Realism in international relations states act selfishly, any imbalance in such a partnership might be harmful in the long run. Indeed, both countries hold concerns that energy resources can be used as political or economic leverage by the other party. One symptom of this is the already recurring disagreements on pricing and changes in supply or demand.

In addition, Russian and Chinese interests clash in Central Asia. Russia considers these predominantly CIS and former Soviet Union countries as its own sphere of influence, trying to control the energy infrastructure throughout the region. China, on the other hand, views Central Asia as another supplier providing possibilities for diversification and has therefore funded a gas pipeline through Uzbekistan and Kazakhstan. Central Asia is thus made into a competitor to Russia. China is striving to become a regional and even global power, with the potential to overshadow Russia's regional assertiveness. Moreover, a growing amount of Chinese immigrants and foreign investments are found in the Russian Far East. Although Russia is attracting Chinese investment to develop the energy sector in the Far East, it is concerned that the increasing Chinese presence and business activities might threaten the authority of Russian central government in the region.

6.2 Implications

As indicated in the relevance section of this thesis, the Sino-Russian energy partnership has the potential to have an impact beyond Russia and China. The partnership is likely to influence the balance of power also between Russia and its other main partners, most notably the EU and the United States.

In the relationship between Russia and China, it seems that Russia needs China more than China needs Russia. The development of the Russian Eastern Siberia and Far East regions would be difficult without Chinese financial backing, or without the large

Chinese market. The development in Russia's Far East is essential for Russia to maintain a dominant role in world politics and international energy markets. China, however, has actively sourced its resources from other regions, including Central Asia. China has the potential to become a large market for Russia, but Russia's main energy trading partner will still be Europe. The Crimea crisis is seen as accelerating Russia's energy shift towards the East. An expanding partnership between Russia and China can be expected, where Russia will also seek additional, albeit more limited partnerships with other Asian-Pacific countries as not to be overwhelmingly dependent on China for its energy demand from Eastern Siberia and the Far East. Seen from a more global perspective, the intensifying energy relation means East Asia will be a more important region with more influence on global energy markets.

6.3 Contribution, Limitations, Recommendations

The thesis has attempted to provide an explanation for Russia's intentions to intensify its energy cooperation with China by using geopolitical notions; in that respect the thesis has indeed found strong links between the distribution of energy resources and the foreign policies of countries. This thesis also illustrates how Realism notions of balance of power and relative gains can be and are applied to the contemporary energy policies and cooperation among great powers. It is demonstrated Russia has used energy to exert its political strength where Russia has interests in. One of the drives for China to diversify its energy importers also comes from the fear that other nations, particularly the U.S., will interrupt the energy provisions that pass through the Strait of Malacca.

In exploring Russia's energy policies and dealings, this thesis has followed a Realist perspective, particularly the notion of the balance of power. As a consequence, it relies on states as the main actors rather than institutions, individuals, or other parties. It assumes states are selfish and cooperation is not altruistic. States use policies and resources to shift the balance of power into their favor to the relative expense of other states. As a consequence of these assumptions, this thesis has focused on absolute and relative gains for Russia and China vis-à-vis each other as well as towards other parties, rather than considering a strive for collective benefits. A lens assuming the latter might make result in different observations. Since the objects of research are Russia and China, the thesis does not elaborate much on the strategic stances of other political players in the Asia-Pacific region, such as Japan, South Korea, India or the United States.

The expectations and outlooks presented in this thesis are grounded in various

institutional and scholarly works. It mainly focuses on the energy outlook of oil and gas, based on the current situation. The thesis does not consider the possibility of industry shocks nor of sharp changes in the global energy market, such as the exploitation of shale-gas, the production of renewable energy, or the occurrence of natural disasters or political conflicts that might disrupt the provision of energy resources.

In addition to China, it is recommended for future research to also look at the energy strategies and geopolitics in other key Asia-Pacific countries, namely Japan, India and South Korea. Since the Asia-Pacific region is expected to be the biggest energy consumption hub in the future, a great change in the current energy market distribution is expected. The redistribution of energy resources might, as demonstrated by the Sino-Russian case in the thesis, reshape the world politics. It would be interesting for future research to also examine whether the theories applied in the thesis, which are Realist and the geopolitics of energy, are also viable in explaining the energy strategies or cooperation in other countries.

7. Bibliography

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