

Sino-Russian Energy Relations

An Uncertain Courtship

Erica S. Downs

Introduction

The China-Russia energy relationship has not reached the level of development their geographical proximity and economic complementariness implies. In terms of forging an energy partnership, China and Russia appear to be a perfect match. China, the world's second largest oil consumer and third largest oil importer and a small but growing consumer and importer of natural gas, is seeking "security of supply" and the diversification of its imports away from the Persian Gulf and the sea lines of communication. Russia, the world's second largest oil producer and exporter and the world's top producer and exporter of natural gas, is pursuing "security of demand" and the diversification of its exports away from Europe. However, the development of the infrastructure necessary for the cost-effective delivery of large volumes of energy from Russia to China has not yet materialized despite more than a decade of bilateral negotiations and repeated statements by both Beijing and Moscow of their intention to tighten their energy embrace.

China-Russia energy relations are stuck in a protracted and uncertain courtship because the forces driving China and Russia apart outweigh, but do not fully mitigate, the forces propelling them together. Despite the attraction each holds for the other as an energy partner, the enormous potential for bilateral energy cooperation remains largely unfulfilled. Not only have historically developed mutual mistrust and lack of understanding contributed to commitment fears in both countries, but China and Russia also have not been equally interested in deepening bilateral energy ties at the same time. During the 1990s, when oil prices were low, Russia pushed for expanded energy cooperation, but China—which was reluctant to invest in expensive infrastructure projects and was intent on taking advantage of the buyer's market to extract maximum price concessions from the Russians—was in no hurry

to make binding commitments to cross-border pipelines. The rise in world oil prices after the turn of the century turned the tables. China, motivated by its surging energy demand and concerns that energy might become a constraint on the country's rapid economic growth, became more eager to "settle down" with its neighbor to the north. In contrast, Russia became increasingly reluctant to commit to deeper energy integration with its neighbor to the south in large part because of the intersection of fears about China's rise with the role that energy exports play in Russian foreign policy and domestic politics. The global financial crisis and the fall in world oil prices, however, facilitated a breakthrough in bilateral energy relations, with China lending cash-strapped Russian energy companies US\$ 25 billion in exchange for the completion of an oil pipeline to China and a 20-year oil supply contract. This chapter examines the current state of China-Russia energy trade, the forces of convergence and divergence shaping their energy relations, the role that energy plays in the broader bilateral relationship, and some of the factors that might strengthen or weaken energy cooperation between China and Russia.

The State of the Energy Relationship

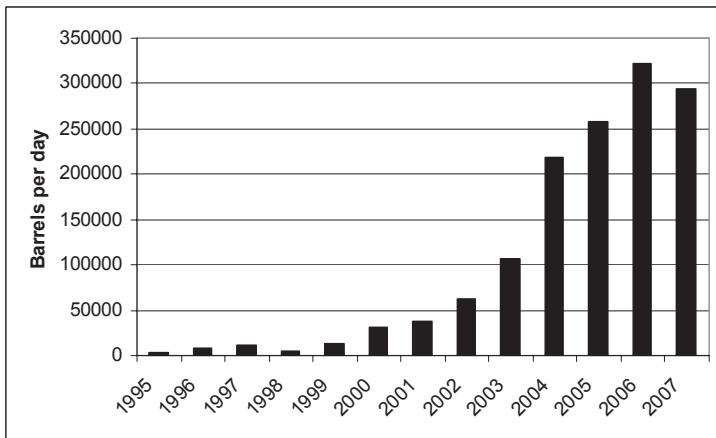
China-Russia energy trade has grown rapidly over the past decade. Russian crude oil exports to China increased from less than 1,000 barrels per day (b/d) in 1995 to 321,000 b/d in 2006, only to fall to 292,000 b/d in 2007, largely because Russian firms found it more profitable to sell to European customers (see figure 5.1).¹

In 2005, Russia accounted for 11 percent of China's crude oil imports and China accounted for about 4–5 percent of Russian crude exports. Almost 80 percent of China's crude oil imports are supplied by the Persian Gulf and Africa (see figure 5.2), and a little more than 80 percent of Russian crude exports are delivered to Europe (see figure 5.3). Russia currently does not send any natural gas to China.

Forces of Convergence

There is great potential for the expansion of China-Russia energy trade. China's rapidly growing demand for oil and natural gas complements Russia's substantial reserves of both. Beijing seeks to diversify China's energy imports away from the Persian Gulf, while Moscow aims to diversify its energy

Figure 5.1. China's Crude Oil Imports from Russia, 1995-2007



Sources: Data from the General Administration of Customs, People's Republic of China, cited in *International Petroleum Economics (guoji shiyou jingji)*, various issues, and provided by EIA CSS Information Service Center, Hong Kong.

exports away from Europe. Additionally, geographical proximity allows for direct, cross-border deliveries of energy without third-country transit.

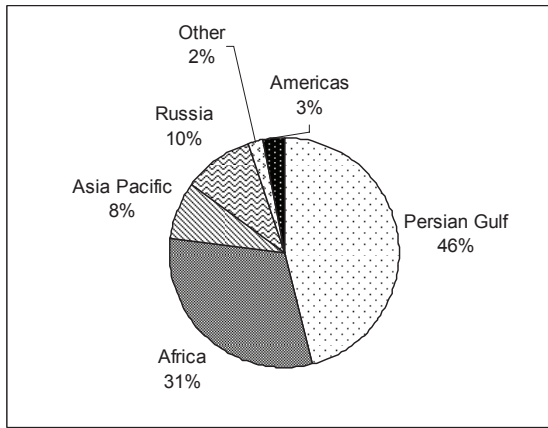
China's Energy Demand

China, self-sufficient in oil as recently as 1993, is the world's second largest oil consumer behind the United States and the world's third largest oil importer after the United States and Japan. Between 1997 and 2007, China accounted for about one-third of world oil demand growth.² In 2007, China consumed 7.9 million b/d, with imports of 4.1 million b/d supplying more than 50 percent.³

China's oil demand and imports are expected to increase markedly. The International Energy Agency (IEA) projects that by 2030 China's oil demand will climb to 16.5 million b/d and its production will decline to 3.4 million b/d. Consequently, net oil imports will rise to 13.1 million b/d, and China's dependence on imported oil will increase to 80 percent.⁴

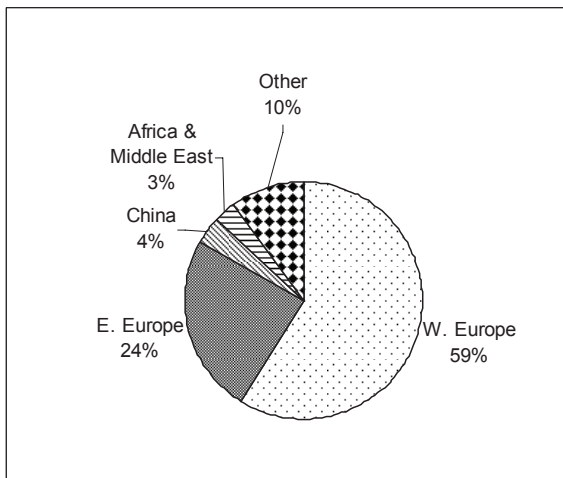
China's demand for natural gas, which accounted for just 3 percent of China's total primary energy demand in 2007, has also grown dramatically in recent years.⁵ Both consumption and production of natural gas more than tripled between 1997 and 2007, with consumption increasing from 19.5 bcm

Figure 5.2. China's Crude Oil Imports, 2005



Source: Tian Chunrong, "Analysis of China's Oil Imports and Exports in 2005" (2005 nian zhongguo shiyou jinchukou zhuangkuang fenxi), *International Petroleum Economics (guoji shiyou jingji)*, no. 3 (2006):4.

Figure 5.3. Russia's Crude Oil Exports, 2005



Source: *Almanac of Russian and Caspian Petroleum 2006* (New York: Energy Intelligence Group, 2007).

to 67.3 bcm and production growing from 22.7 bcm to 69.3 bcm.⁶ China began to import liquefied natural gas (LNG) from Australia in 2006.

China's demand for and imports of natural gas are also expected to grow substantially. The IEA projects that in 2030 China's natural gas demand of 238 bcm will be more than double its production of 111 bcm. As a result, China's dependence on natural gas imports will exceed 50 percent.⁷

Russia's Energy Supply

Russia has the potential oil and natural gas resources to help satisfy China's burgeoning demand. The country, which holds the world's sixth largest crude oil reserves, is the world's second largest oil producer and exporter after Saudi Arabia.⁸ Russian oil output has experienced a dramatic change in fortune since the late 1990s. Production plummeted from 11.5 million b/d in 1987 to 6.1 million b/d in 1996, largely because of reduced investment after the collapse of the Soviet Union.⁹ Recovery began in 1999, with the application of advanced production technologies at existing fields.¹⁰ The rise in world oil prices also encouraged expanded output. Between 1999 and 2007, Russian oil production grew by more than 50 percent from 6.2 million b/d to 10 million b/d.¹¹ Over this period, the increase in Russian oil production alone supplied about 40 percent of the total world oil demand growth and exceeded Chinese demand growth.¹² Russian oil exports have also increased from 3.5 million b/d in 1999 to 7.0 million b/d in 2007.¹³

The IEA expects Russia's oil production and exports to modestly increase, reaching 11.2 million b/d and 7.9 million b/d, respectively, in 2030.¹⁴ However, there is great uncertainty about how much Russia will be able to expand output. There have been no major oil field discoveries over the past decade, and most of the low-cost opportunities to increase production have already been exploited. The development of East Siberia, which the Russian government and oil companies regard as a potential major new production province, involves many challenges, including the remoteness of prospective areas, lack of infrastructure, and the harsh climate.¹⁵

Russia has the world's largest natural gas reserves—more than 25 percent—and is the world's largest natural gas producer and exporter.¹⁶ In 2007, Russia produced 607 bcm and exported 148 bcm by pipeline to Europe.¹⁷ The IEA projects that in 2030 Russia's natural gas production will reach 823 bcm, with exports of 237 bcm.¹⁸ Although Russia is expected to remain the world's top gas exporter in 2030, domestic and international energy experts are concerned that Gazprom, the Russian state gas monopoly, may have trouble meeting its future export commitments if it does not make the necessary investments in new pro-

duction and transportation infrastructure.¹⁹ In recent years, the company has focused on downstream investments in foreign countries.

Complementary Trade Diversification Strategies

China and Russia feature prominently in each other's energy trade diversification strategies. China is eager to diversify its oil imports away from the Persian Gulf—which supplies almost half of its crude imports—and away from the sea lines of communication through which more than 85 percent of its crude oil imports flow because of their vulnerability to disruption on the high seas by various modern navies.²⁰ Consequently, the construction of an oil pipeline from Russia is a high priority for China not only because Russia is located outside of the Persian Gulf region, but also because Russian oil is primarily shipped to China overland. Although Beijing is undoubtedly pleased with the growth in Russian oil exports over the past decade, it probably does not consider rail and tanker deliveries to be a perfect substitute for pipeline deliveries. Not only does a pipeline imply a larger, more stable, longer-term supply of crude, but pipeline deliveries are more cost-effective.²¹

Russia wants to diversify its energy exports away from Europe—the destination for the vast majority of Russia's oil exports and all of its natural gas exports—to have greater flexibility in energy trade. China is an attractive customer to Russia because of the expectation that China's demand for oil and natural gas will grow much more quickly than that of Europe. Viktor Khristenko, Russia's former minister of industry and energy, has projected that by 2020 the Asia-Pacific region's share of Russian crude oil exports will increase from 3 percent to 30 percent and its share of Russian natural gas exports will rise from 5 percent to 25 percent.²² Most of this oil and gas will probably go to China.

Geographical Proximity

The fact that China and Russia are neighbors is a compelling reason for expanded energy exports from Russia to China. The two countries share a 4,200 kilometer (km) border. This geographical proximity allows for direct trade free from third-party countries, which require transit fees and have the power to withhold supplies.

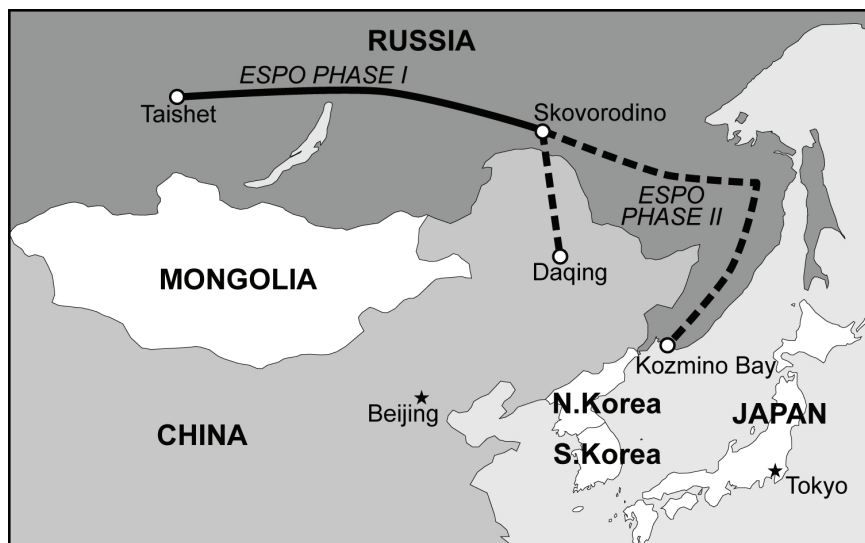
The Lack of Critical Infrastructure

China and Russia need to construct additional infrastructure to expand en-

ergy trade and to make it more cost-effective in the long term. Currently, the majority of Russia's oil exports to China are delivered by rail, which is about two and a half to three times as expensive for Russian oil producers as shipments by pipeline and may not be economical in the absence of high oil prices.²³ A pipeline or LNG facilities are also required for the delivery of natural gas from Russia to China.

Chinese and Russian officials and oil companies have been discussing the construction of a cross-border oil pipeline since the mid-1990s. The initial plan was for a pipeline from Angarsk in East Siberia to Daqing in northeastern China, which Chinese and international observers expected to be finalized during the meeting between Jiang Zemin and Vladimir Putin in December 2002.²⁴ However, Moscow's interest in the Angarsk-Daqing pipeline had begun to wane by the time of the Jiang-Putin summit. Not only was Moscow increasingly concerned about building a pipeline to a single customer and about the involvement of a private oil company—Yukos—in the project, but also the Russian state pipeline monopoly Transneft had developed a proposal for a rival pipeline from Angarsk to Russia's Pacific coast, which became the objective of an active lobbying campaign by Japan. Moscow subsequently abandoned the Angarsk-Daqing pipeline in favor of a pipeline from East Siberia to the Pacific coast, with a spur to China. This project, known as the East Siberia–Pacific Ocean (ESPO) pipeline, is being built in stages. In 2006, Transneft began work on the first leg from Taishet to Skovorodino. A 70-kilometer spur from Skovorodino to the Chinese border, currently being built by Transneft and which will be extended to Daqing by China National Petroleum Corporation (CNPC), is scheduled for completion in 2010. Moscow has not yet made a final decision about the construction of the second leg from Skovorodino to the Pacific coast. There is great uncertainty among industry experts about whether there is sufficient oil in East Siberia to make the construction of the ESPO commercially viable.²⁵ Moreover, the timetable for construction is vague.²⁶

The most advanced proposal for the export of natural gas from Russia to China is for a 4,000-kilometer pipeline that would supply 30 bcm per year of natural gas to China (20 bcm) and South Korea (10 bcm) from the Kovykta gas field in East Siberia near the Chinese border. Kovykta, which holds about 1.9 trillion cubic meters of gas, is the third largest undeveloped gas field in Russia. TNK-BP, the Russian-British joint venture which has a controlling share (62.9 percent) of Russia Petroleum, the consortium that holds the license to develop Kovykta, has championed the construction of a pipeline to China and South Korea for almost a decade; these countries are the most



Map 5.1. Proposed East Siberia–Pacific Ocean Pipeline.

Table 5.1. Segments of the East Siberia–Pacific Ocean Oil Pipeline

<u>Segment</u>	<u>Length (kilometers)</u>	<u>Design Capacity (barrels per day)</u>
Taishet-Skovorodino	2,300	600,000 (initial) 1,600,000 (if other segments built)
Skovorodino-Pacific Coast	2,000	1,000,000
Skovorodino-Daqing	900	600,000

logical markets for Kovykta gas.²⁷ However, TNK-BP does not have the right to export gas, which is monopolized by Gazprom.

Forces of Divergence

Transnational pipelines are large, complex, and expensive projects that require the active support of both the buyers and sellers. In the case of the proposed China–Russia pipelines, Beijing and Moscow have not been equally supportive of these projects at the same time. Over the past decade, the waxing of China’s interest and the waning of Russia’s interest in finalizing agreements for these pipelines is due to several factors, including the fall and rise of world oil prices and the inability of both countries to agree on oil and natural

gas pricing formulas, Russia's use of energy exports and pipelines as a foreign policy tool, mutual mistrust between the two countries, struggles between Russian energy and transportation companies for control over energy deliveries to China, and a lack of understanding by energy officials and companies in both countries about how their counterparts operate.

The Fall and Rise of Oil Prices

The dynamics of the China-Russia energy relationship have been shaped by fluctuations in world oil prices. In the 1990s, when world oil prices were low and the Russian oil industry was starved for capital, Russia was more interested in selling oil and natural gas to China than China was in buying. As Chinese analysts are fond of pointing out, it was the Russians who first proposed constructing an oil pipeline from Russia to China in 1994.²⁸ The Russians, according to Chinese analysts, were also willing to sell CNPC a stake in Russia Petroleum at a "reasonable price."²⁹ The Chinese hesitated, and BP purchased a 10 percent stake in 1997.

The Chinese, however, were in no hurry to finalize the negotiations for oil and gas pipelines that became a regular feature of meetings between Chinese and Russian leaders or to acquire upstream assets in Russia. Not only did the Chinese consider Russia to be a particularly risky country in which to invest,³⁰ but they were not preoccupied with securing oil supplies because of the low world oil prices, especially in the late 1990s when oil prices fell below \$11 per barrel in December 1998.³¹ In the last two years of the twentieth century there was a reluctance among the Chinese leadership, notably then-Premier Zhu Rongji, who was in charge of China's economy, to invest in transnational pipelines—the project economics of which are less attractive the lower the price of oil—and the acquisition of oil exploration and production assets abroad when oil could be purchased so cheaply on the international market.³² Chinese officials and CNPC were also content to discuss the proposed Kovykta pipeline at a leisurely pace because China was not ready to absorb the 20–30 bcm of natural gas it would deliver annually and they felt they had a captive supplier in TNK-BP.³³ The Chinese also stalled the oil and gas pipeline negotiations in hopes of gaining price concessions from the Russians.³⁴ They would later come to regret this tactic when the oil pipeline, which they had thought was firmly in their grasp, seemed to suddenly slip through their fingers.³⁵

The rise in world oil prices over the past decade shifted the power in the China-Russia energy relationship from China to Russia. The increase in the average annual price of oil from \$14 per barrel in 1998 to \$72 per barrel in 2007 and China's own oil consumption and import growth over this

period—a source of upward pressure on world oil prices—created anxiety in Beijing about the security of China’s oil supply.³⁶ This energy insecurity made Beijing increasingly eager to finalize the oil and gas pipeline negotiations.³⁷

Unfortunately for China, the feeling in Russia was not mutual. The rise in oil prices fueled the growth of resource nationalism in Russia, motivating Moscow to expand its control over oil and natural gas resources. While this phenomenon has emerged, to varying degrees, in hydrocarbon-rich states around the world, it took a decidedly more political bent in Russia.³⁸ For Moscow, greater state control of energy assets is not only a way to revitalize its economy but also a means to achieve international political and economic gains. (In his 1997 doctoral dissertation, former president and current prime minister Vladimir Putin argued that Russia’s energy resources were an important vehicle for revitalizing Russia’s economy and restoring Russia’s great power status.)³⁹

The emergence of higher oil prices and Russian resource nationalism were an unwelcome surprise to China. It was a surprise because the Chinese government and NOCs were caught off guard by how quickly the world oil and natural gas markets changed from buyer’s to seller’s markets.⁴⁰ Moreover, the news was unwelcome because it contributed to delays in the pipeline negotiations that the Chinese had limited ability to influence.

Indeed, both the oil and gas pipeline projects have been hindered by the involvement of private companies, whose control of export pipelines would undermine Moscow’s ability to use energy exports for foreign policy leverage. In the case of the oil pipeline, an important factor behind the abandonment of the Angarsk-Daqing route—and its replacement with the ESPO pipeline and spur to China—was the fact that the principal Russian supporter of the Angarsk-Daqing oil pipeline was Yukos, a private oil company increasingly resented by the Kremlin and Russian state oil companies. Not only had Yukos become the country’s largest oil producer through questionable privatizations in the 1990s (which left the state-owned companies indignant that they had been cheated out of assets they maintained rightfully belonged to them), but it also threatened to break the state’s export pipeline monopoly.⁴¹ Moreover, Yukos had been exploring the possibility of establishing a joint venture with ExxonMobil, and Moscow was opposed to an American oil company having even indirect ownership of an export pipeline.⁴² Additionally, with the reassertion of state control over the energy sector, the Kremlin and the Russian state energy firms became increasingly irritated with CNPC for continuing to negotiate with Yukos rather than the Russian state.⁴³ (Indeed, one of the lessons China learned from the “Yukos Affair” was to only negotiate with Russian state energy companies.)⁴⁴ In the case of the natural gas pipeline, op-

position from Gazprom has substantially delayed the plans of the private and half-foreign firm TNK-BP to export gas from the Kovykta field.⁴⁵

The sharp rise in natural gas prices also contributed to the lack of progress on the Kovykta pipeline by rendering the low prices insisted on by the Chinese even more unattractive to the Russians. Sino-Russian negotiations over the export of Russian natural gas to China have collapsed repeatedly over China's refusal to pay internationally competitive prices for natural gas.⁴⁶ In 2007, for example, the price CNPC offered Gazprom (\$5.28 per million Btu) was about 60 percent of the price at which Gazprom sold gas to Europe in mid-2008 (\$13–14 per million Btu).⁴⁷ Historically, CNPC has insisted that Gazprom sell natural gas to China at a price that is competitive with China's low domestic coal prices, while Gazprom wants CNPC to pay natural gas prices that are tied to oil prices, like its customers in Europe do.⁴⁸