

No Correct Price

RECENT ENERGY NEGOTIATIONS BETWEEN RUSSIA AND CHINA

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For more than a decade, the Russian government has sought to increase energy exports to the Far East, while the Chinese government has searched the world over for new sources of energy imports. Nonetheless, six years after a memorandum of understanding and three years after the signing of a “framework agreement,” the two sides still have not reached an agreement on a long-term natural gas deal. While some uncertainty remains regarding pipeline construction and supply volumes, the key sticking point is and has been price. It is sometimes tempting to believe that an appropriate price exists and that one side or the other is refusing to acknowledge this reality. Alternatively, some observers argue that the gas negotiations, which have dragged on longer than similar discussions over oil, are more difficult precisely because there is no world gas price as markets are too fragmented.

This memo argues that there is no “correct” price, only a price on which two sides can agree. At the same time, there are forces—including world markets—that can affect the range of acceptable prices in understandable ways. This memo first explores the difficulties of reaching an agreement on price for Russia and China’s deal on oil, a sector in which finding the “right” price is allegedly straightforward because of the widespread use of market-based benchmark pricing around the world. The memo then examines the factors affecting the bargaining power of the two sides in gas negotiations. Notably, while a number of mechanisms for determining gas prices exist, those mechanisms are changing rapidly, in part because of new developments in production and shipping capacity. In addition, both governments continue to seek alternative partners, and both face pressures from their own domestic political economies. The conclusion is that both sides have some incentives to delay finalizing a price, and even if

an agreement is reached, we should expect renegotiations in the future as the context continues to shift.

The Pricing of Oil and Gas

Students of the world oil market correctly point out that the pricing mechanism has become much more transparent in the last 20-30 years. In the old system, large corporations and governments set prices in confidential long-term contracts, while short-term deals were made between private parties who did not need to report their deals. Today, however, prices are based on global instantly-reported trades of futures and cargoes in New York, London, Dubai, and Singapore.

By contrast, natural gas markets are much more disparate and pricing mechanisms much more opaque. One of the most important reasons for this fact is the physical nature of gas; it is much harder than oil to transport by ship, train, or any other mode besides a pipeline. This, in turn, means that gas cannot be exported outside its pipeline network, so markets in, say, North America, Europe, and Asia do not influence each other nearly as much as they do in oil. (According to World Bank commodity price data for June 2012, the price of gas in the United States is \$2.46 per million btu, in Europe \$11.49, and in Japan \$16.90.) Furthermore, natural gas cargoes and futures are not traded nearly as widely as oil cargoes and futures, so the mechanism for determining the price in a given contract is far less clear for gas than for oil.

However, we should not overstate these differences, especially in their implications for negotiating long-term contracts. The current 30-year oil deal between Russia and China, for example, took several years to hammer out, and the system for determining prices has been renegotiated a number of times. Initially, both sides agreed that China's price would be linked to a particular benchmark (the price of Brent blend oil from the North Sea, a very common marker), but they disagreed on the formula. It began as a discount of about three dollars per barrel but was later re-negotiated to a discount of about \$2.30 per barrel, although Russia argued for an even higher price. Once the Far Eastern port of Kozmino was opened for oil trade, China agreed to pay the spot price of oil purchased at Kozmino. Soon, however, China argued that it should be paying less, since Kozmino oil had to transit about 2,000 kilometers by rail, while oil shipped to China was arriving by pipeline, a much less expensive form of transportation. Currently, China has agreed to pay the higher price for oil that has already been delivered, but Russia has agreed to lower the price by \$1.50 per barrel for future deliveries. The existence of relatively transparent market prices for oil in the world does not preclude drawn out negotiations and renegotiations of particular deals.

Conversely, the fragmented nature of world gas markets does not mean there are no market-based mechanisms for pricing. In the United States, in fact, the system looks quite similar to the one used for oil. Spot and futures trades for oil are conducted based on delivery to Cushing, OK (where several major pipelines meet); for natural gas, they are conducted based on delivery to the Henry Hub in Louisiana (likewise, where several major pipelines meet). Most deals in North America are linked to the price generated by the relatively liquid and transparent trade of Henry Hub gas. In the 1990s, Great Britain

adopted a similar system of pricing, and that approach began to spread to northwestern Europe when a pipeline was built from Great Britain to Belgium.

Most of continental Europe uses a different market-related approach—“oil indexation”—to determine natural gas prices. This system links gas prices to the price of various oil products, such as heating oil, which could conceivably be used as alternatives to natural gas. The oil products are typically more widely and easily traded than natural gas, so this approach allows market-linked pricing for a commodity that is more difficult to trade. Asia, too, uses oil indexation to set natural gas prices, although there are more choices of benchmark price (including Europe, Dubai, and Singapore) and often more disagreement over the appropriate formula (since the local markets are more varied than in Europe).

In order to understand gas negotiations between Russia and China, the important difference between oil and gas markets is not that one is market-based and one is not; it is that the world of natural gas trading is in a state of flux. Although no one knows where it will end up, the recent trend seems to be away from oil-indexed pricing and toward hub-based pricing along American lines. Three factors are pushing in this direction. The first is technological: the ability to economically compress natural gas into liquid form and build ports and ships to transport it on a commercial scale is changing the world of natural gas. The liquefied natural gas (LNG) industry is breaking the monopoly of pipelines and making trade—and therefore arbitrage—between previously segregated markets possible. The second is ideological: hub pricing and futures markets fit well with neoliberal principles for trading systems, and those principles continue to spread around the world. The third is material: traders and would-be traders stand to make a great deal of money from a change in the system, so they advocate for that direction.

In the midst of this change, Russia has argued for a pricing formula with China similar to the oil-indexed pricing it uses with European customers, while China has resisted. Under current market conditions, oil indexation would produce a higher price than hub pricing, although that could change in the future. With uncertainty surrounding which pricing mechanism is likely to be the standard in the near future, negotiations over a long-term gas deal are bound to be drawn-out, as neither side can be sure how best to pursue its interest regarding price.

Other Changes in the Global Gas Trade

Beyond the pricing mechanism, several other factors shape the negotiations. Perhaps most important is what is colloquially known as the shale gas revolution. Shale is a type of rock that forms in thin layers as particles of clay and other materials are deposited and then compressed. Within those layers and between those particles can reside small pockets of natural gas (as well as oil). Although shale gas has been exploited in small quantities for more than a century, it has only been technologically and economically feasible to produce it on a large scale for about a decade: improvements in horizontal drilling and in hydraulic fracturing (“fracking”), in turn made feasible by high energy prices, have seen shale gas production take off. In the United States, where the

technology has been deployed most widely, natural gas production has grown by about 20 percent since 2005, and shale gas accounted for more than 20 percent of total production in 2010. Although the main effect of this new production has been to lower gas prices in North America, the expansion of LNG shipping raises the possibility of transporting excess natural gas to markets around the world, including Asia. Furthermore, many analysts believe that China has enormous shale gas deposits to be exploited, although exploration and production are in their infancy, and commercial production may be a decade away.

Another important factor shaping Russian-Chinese relations is the development of other sources of gas imports for China. The most prominent of these is a major gas deal between China and Turkmenistan. Shipments began in the second half of 2010 and total about 30 billion cubic meters per year—which currently accounts for between 20 and 25 percent of total Chinese consumption—with plans to more than double that volume. Notably, the Turkmenistan deal is a “take-or-pay” arrangement, so China does not have the option of decreasing its Turkmen imports in favor of Russian imports even if it could agree on an advantageous price for Russian gas. In addition to the deal with Turkmenistan, China has signed a number of long-term agreements to import LNG from Australia, another country with significant shale gas potential. China appears likely to continue seeking out new contracts with suppliers around the world, including arrangements that give Chinese companies equity stakes in producers, much as it has done in the oil sector.

These factors seem to either strengthen China’s hand (the arrival of new supplies on the market) or at least put Russia’s strength in doubt (the uncertainty regarding popular pricing mechanisms). There are two significant developments, however, that appear to push in Russia’s favor. First, the flexibility provided by the growing LNG market does not just give China access to new supplies; it also gives Russia access to new customers. LNG from Sakhalin, for example, can be sold to Japan (its current main customer), South Korea, Taiwan, or other gas-hungry economies, in addition to China. Russia has lagged behind other major exporters in the construction of LNG terminals, but it is expanding its presence in the industry. Experience with the Eastern Siberian-Pacific Ocean (ESPO) oil pipeline has shown just how beneficial it can be to have multiple customers, as demand for oil delivered to the Far Eastern port of Kozmino has driven its price well above its opening level in 2009, even in relation to other marker crudes. Expansion into LNG may give Russia increased negotiating leverage with China, even if China’s gas eventually comes through a pipeline.

China’s fundamental weakness in the negotiations, however, is its almost impossibly large and growing thirst for natural gas. Among the drivers of this demand, the most obvious is the continued growth of the Chinese economy. Just as industrialization made China a net importer of oil in the early 1990s, it has made the country a net importer of natural gas in the last half-decade; continued growth will mean continued energy demand. Even more important, however, is the changing profile of energy consumption in China. The country has long relied on coal as its main fuel for stationary uses (mostly electricity generation). Coal accounts for about 70 percent of total

energy consumption in China, while natural gas accounts for only about three to four percent. The environmental impact of such large-scale coal use is clear to the Chinese government, however, which has announced a policy to raise the contribution of natural gas in total energy consumption to 10 percent by 2020, in part by converting some coal-fired electrical plants to gas. If the Chinese automobile market begins to include more gas-powered vehicles, demand could increase even more quickly. In any case, projected rates of gas consumption show that China will still need Russia regardless of how many alternative supplies it taps.

Conclusion

The negotiations over a Russia-China gas deal have dragged on for a number of years after an oil agreement was reached. One important reason for the delay has been the nature of pricing in the gas industry, although not because one side or the other is refusing to agree to an objectively fair price or because there is no market-linked mechanism for determining gas prices. Instead, the issue is that the accepted mechanism for determining prices in Asia appears to be changing. Neither side, therefore, can be certain of the price that would be most advantageous, although delay at this point would appear to benefit China. The delay, however, does not mean that Russia will be left out of the Chinese natural gas market. While it is true that China is developing as many options as it can, the sheer size of Chinese demand means that Russia will be an important player – and indeed may see its position strengthen – for decades to come.

A deal will eventually be done because both sides need it and because there is room to reach an agreement that benefits both of them. There is, however, no objectively correct solution. It is, instead, a matter of negotiating power, in flux at the moment. In fact, any deal that is reached is likely to be renegotiated during the life of the contract, just as has happened with the oil agreement.