

there is a drawing closer to the West, and moves have occurred toward a resolution between Russia and Ukraine. When looking for a solution to the Iran problem, why this cannot be done for the DPRK comes to mind. The Minsk III agreement will bring great potential for improvement in US–Russia relations. Secretary of State John Kerry mentioned the possibility of the lifting of sanctions at the Davos meeting also, and that will emerge around July at the earliest.

In such a context, it can be said that Japan is unexpectedly

in an interesting position. Japan has had homework on Japan–Russia relations ever since the Cold War period, but with being the country holding the G7 presidency we can't help but hope that it will be an unexpected opportunity. It is my dream only that they invite President Putin at the time of the Ise-Shima Summit at the end of May, and that issues such as the global economic crisis, regional conflicts, the Middle East, Ukraine, East Asia, and the Korean Peninsula move forward.

[Translated by ERINA]

## *Development of China–Russia Energy Cooperation*

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I began preparing my book (*Sino–Russian Oil and Gas Cooperation: The Reality and Implications*) in 2012, and from the time I put together data from 2010, a lot of things have changed. In particular, what changed was the scale of GDP for China and Russia, and it was really shocking to me. Another huge change was that US\$700 billion of China's foreign currency reserves was wiped out with the economic crisis and is a massive amount of money, but they still retain US\$3.3 trillion. How these two big countries cooperate will have very serious implications, not just for the two countries, but for regional and global trade as well. The importance of Sino–Russian oil and gas cooperation is not only bilateral, but also multilateral. If there is agreement on and then implementation of multilateral cooperation, there is a good chance of great change in the Northeast Asian region for the first time. I will pay more attention to gas cooperation, because oil cooperation is already ongoing work.

The Asian part of Russia does not have any infrastructure except for pipelines. For Russia this region is still a frontier area. The Eastern Siberia–Pacific Ocean (ESPO) pipeline is already established, but is limited to oil. If infrastructure development is to be carried out, there should be a gas pipeline. The driving force of this regional infrastructure development is China. China makes large-scale gas imports from neighboring countries. The infrastructure development level will be determined depending on how it is implemented.

What surprised me was that within the Vankor oil development being undertaken centered on Rosneft, India's state oil company, ONGC, is very keen on taking a 15% equity stake in the Vankor project. Vankor is the most important oil supply source for the ESPO, and oil production is currently around 22 to 25 million tonnes per year, but now they are talking about a very substantial production decline. In other words, Rosneft is now being forced to not just focus on the Vankor development, but also the Krasnoyarsk frontier oil development. Despite the current low oil price, they need to accelerate comprehensive oil field development. The dilemma is that on the one hand

Russia is damaged by the low oil price, but on the other Russia has a pivot to Asia policy and wants to export more oil to Asia. I would say that the current low oil price is not going to affect their stance on the pivot to Asia.

Figure 1 is a map produced by JOGMEC, and the recipients of ESPO oil are China and Kozmino. The question is whether Russia has the intention of further developing frontier oil, and at what speed they will pursue eastern development, including eastern Siberia and Sakhalin. Last year journalists contacted me to ask why there was a delay in the construction of the pipeline from Skovorodino to China's Daqing field. When the authorities in Beijing were accelerating the ESPO negotiations, they projected that the Daqing oil field production would decline to 30 million tonnes. In reality, however, it hasn't declined that much. This has provided them with some breathing space.

At the time when the plan for the unified gas supply system in eastern Siberia and the Far East was announced in 2003, no one was really expecting that Vladivostok would have an LNG export port. This illustrates the change to Russia's pivot to Asia policy. But the problem was that after the dramatic fall in the oil price, it was not possible for them to go ahead with their grandiose scheme in one stroke.

In May 2014 there was a major announcement. It was the Power of Siberia pipeline, having in mind gas exports of 38 billion cubic meters (bcm) from eastern Siberia to China's Northeast, plus the Bohai Bay region (Figure 2). At that time the oil price was at the level of US\$100. This memorandum was not legally-binding, however. Then two months later the oil price started to collapse. Gazprom is in a very difficult financial position regarding implementing it.

As the initial scheme for the Power of Siberia pipeline was to export 60 bcm of gas to Asia, including China via pipeline, and then the Asian market via LNG, it was planned to put out 38 bcm as pipeline gas, and 23 bcm from Vladivostok as LNG. However, this Vladivostok LNG was very expensive for Japan. From Gazprom's point of view, they were talking about US\$55 billion of investment in this new pipeline, but didn't have the financial room to

Figure 1: Energy Flows from Russia to China

***Drastic Increase of Energy Flow from Russia to Asia***



Figure 2: The “Power of Siberia” Pipeline



maneuver. Consequently, it is considered that Gazprom cannot implement the project in stages. If they pursue the development of two supply sources, of Chayanda with 25 bcm and Kovykta with 35 bcm which when combined are 60 bcm, then they can send 38 bcm of gas and 23 bcm of LNG to China. Gazprom is seriously interested in implementing this whole scheme, but the minimum financial burden must be given to Gazprom.

The issue Gazprom is faced with, even with the 38 bcm market in China, is that it is composed of two markets. One is 20 bcm for the three provinces of Heilongjiang, Jilin, Liaoning, and the remaining 18 bcm market is Bohai Bay, Beijing, Tianjin, and Shandong Province. The 20 bcm market in the three provinces can be easily protected, but

the 18 bcm market of Bohai Bay and Hebei, etc., is vulnerable. This is because there is the possibility of a very competitively priced LNG supply from abroad. Even if Gazprom lobbies the National Development and Reform Commission (NDRC) and the State Council, they can't get a guarantee of their gas being bought. The key to success of this scheme is how quickly and how effectively they can develop this Power of Siberia pipeline with the minimum financial burden on Gazprom.

How is China looking at this gas supply from Russia? First, in Russia there are a number of LNG export options. However, assuming there is a limited financial investment made, the best project is Yamal LNG, because now China is really aggressively pushing the Yamal LNG project. If

Figure 3: The New Silk Roads



Table 1: China's Primary Energy Consumption by Resource (%)

	2000	2005	2015
Coal	69.2	70.8	66.0
Oil	22.2	19.8	17.1
Gas	2.2	2.6	5.7
Hydro, Nuclear & Renewable	6.4	6.8	11.2

Source : CNPC (2015)

there is a good synergy between the two parties, the three-train LNG scheme will be on the right track. If a consensus between the Chinese and Russian parties on financing is made, I think it will succeed.

Before talking on the China gas pipeline expansion scheme, I would like to explain briefly about the One Belt, One Road (Figure 3). I think that this map is going to be revised as time passes by. At this moment they are talking about the Middle East, Europe, and Central Asia, with Russia not included. However, when explaining what role the Chinese authorities have given to Gazprom and the Power of Siberia pipeline, Xi Jinping himself is without doubt strengthening the relationship between China and Russia, and is considering including Russia in the One Belt, One Road.

China has been actively promoting their economic policy. In particular the last two decades have provided enough incentive for the coastal areas, and they have succeeded in greatly developing trading cities. At the beginning of 2000 they had to develop western China, and with a disparity emerging they changed their viewpoint to social stability not being maintained. Internal affairs and social stability have come to be of higher priority than external affairs for the Chinese government. One of the key issues in particular is the largely Muslim Xinjiang region. For the State Council, regarding the development of the west, new market development is essential in connecting China to the Central Asian republics and the Middle East,

and the pipeline gas network linking Xinjiang to the coastal provinces is important.

The One Belt, One Road is important for bringing LNG supply diversification. Through adding maritime LNG supply to the pipeline network development, it will strategically diversify gas supply sources.

The most important issue in China's gas expansion is the dependence on coal, which was 69% in 2000, and was still 66% in 2015 (Table 1). For the fossil fuel industry it is not possible to eliminate the vested interest groups. As the coal industry in China is massive it is necessary to undertake this in stages, and the most important task is how fast the transition from coal to gas, and then renewable energy, can be made.

This is not just an issue for China alone. In China the price for power generation from coal is still around one-fourth that of gas, and if there is no real policy adjustment it will be very difficult to implement the COP 21 as planned. If China cannot reduce its dependence on coal, then what about India and ASEAN? These countries and regions also have a high dependence on coal, and implementing COP 21 will not be easy. These countries view COP 21 as OECD-country turf, and I don't think they will be very happy to take all the burden.

While I agree that renewable energy is important, you cannot expect to move from fossil fuels to renewable energy in a day. So that must be a gradual transition, and what would be the most important thing for that is gas.

Figure 4: Gas Pipelines in China

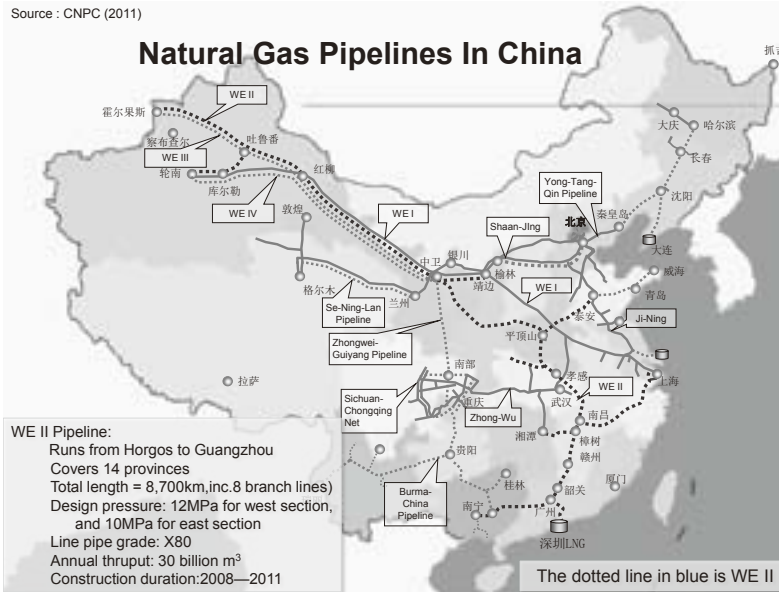
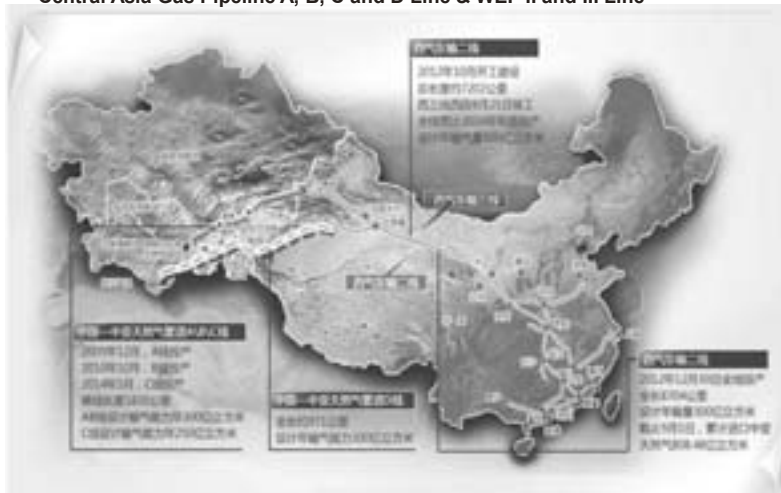


Figure 5: Central Asian Gas Pipelines

Central Asia Gas Pipeline A, B, C and D Line & WEP II and III Line



Source : SASAC ( 2015)

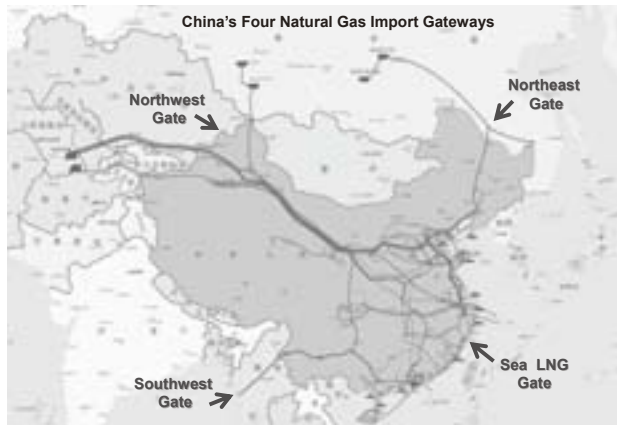
China's dependence on gas went from 2.2% in 2000 to 5.7% in 2014. This figure has to be significantly increased. If the gas price were much lower, and then if they had a policy change, there is a good chance for them to move from coal to gas.

China's gas demand will be 454 bcm in 2030 in the business-as-usual scenario (Paik, 2015). In the gas-production projections, the production of coalbed methane (CBM) and shale gas will grow, and the upper projection is 410 bcm in 2020 (Xu Bo, 2013). The gas market forecast is 457.3 bcm in 2030 on a conservative projection (CNPC, 2015). In the gas market forecast the highest priority is imported pipeline gas. The Chinese leadership is diversifying gas supply sources.

Regarding China's West–East Gas Pipelines (WEPs), they are currently talking about four (Figure 4). Gas pipelines A, B and C have been achieved in the Central

Asian republics (Figure 5). The trunk pipelines for the gas pipeline network run west to east, but the coastal region import of LNG is not connected up to the network. Pipeline gas is supplied from the northwest, northeast, and southwest, and LNG comes in by sea (Figure 6). The gas import scheme is considered in this format, but the respective proportions are not mentioned. What is important is price competitiveness, and China is aiming for LNG coming in at a low price.

I have considered the West–East Gas Pipelines (WEPs) up to WEP-IV. The supply sources for WEP-I and WEP-IV are within China, and from Central Asia for WEP-I, WEP-III, and WEP-V. In addition to these, China has not been negative on pipeline gas from Altai in Russia (WEP-VI) coming in in around five years' time. Moreover, unless the South China Sea conflict becomes intense in around five years' time, a pipeline from Myanmar can also be built.

**Figure 6: China's Gas Import Gateways**

Source: CNPC 2015

**Table 2: China's LNG Terminal Expansion (2015)**

Unit : no. of terminals / volume

	Operation	Under construction	Planned	Total
CNOOC	8 / 26.5 mt	6 / 13.5 mt	12 / 33.6 mt	26 / 73.6 mt
CNPC	4 / 10.6 mt	1 / 3.0 mt	5 / 15.5 mt	10 / 29.1 mt
SINOPEC	1 / 3.0 mt	3 / 9.1 mt	6 / 17.9 mt	10 / 30.0 mt
Total	13 / 40.1 mt	10 / 25.6 mt	23 / 67.0 mt	46 / 132.7 mt

Source : author's data base

**Figure 7: Supply of Russian Gas to the Korean Peninsula**

Source : Chatham House (Nov 2015)

Furthermore, they are talking about 38 bcm in the Northeast.

Currently in the coastal areas 13 LNG terminals (40 million tonnes) are in operation. Ten more (25 million tonnes) are under construction, and 23 (67 million tonnes) are being planned (Table 2). Even if only half of those planned are realized, the total volume of LNG imports will be larger than that for Japan. If these projects are realized, China will become the largest importer of pipeline gas and LNG.

In the period of 2008–2011, when ROK President Lee Myung-bak was developing his policy toward the DPRK, Russia promoted a pipeline from Vladivostok to the DPRK and the ROK. The policy of the Lee Myung-bak administration disregarded Chinese pipelines. However, after Kim Jong Il, the Supreme Leader of the DPRK, died in 2011, Beijing boldly made the proposal of supplying gas to the ROK from Weihai (Figure 7). However, Beijing did not get a positive response from the ROK over three years. This was because if the ROK government were to have accepted, it would have had to disregard its own proposals over the three years. The Park Geun-hye administration has made no statement on this, but if the ROK were to agree to

extend the pipeline from China, the energy cooperation of the three nations would be realized for the first time.

If a trunk pipeline were to come into the ROK, then considering the distance from Busan to Kyushu, Japan, in addition to LNG, could get the benefit of the supply of pipeline gas. Japan and the ROK, via the success of the LNG industry, are conversely suffering the disadvantage of the Asian premium. A fall in the high-price Asian premium will trouble the major international oil companies, but the only other supply destination is China. For China, with domestic gas and also WEP pipeline gas, that only leaves LNG. The price is extremely high, but China is intending to realize this, shouldering the financial burden. However, the burden is too great for China alone. If Weihai–ROK and ROK–Kyushu pipelines are realized, symbolic multilateral cooperation can be realized, and using this as leverage, the creation of a consumer country alliance can be achieved. Furthermore, China and the ROK will together be able to get bargaining power on the DPRK's nuclear program. In that sense, I think Figure 7 has extremely profound significance. Unfortunately there has not yet been a favorable response to Beijing from Seoul, however.

The principal LNG supply source for China is currently

77 million tonnes from Qatar. Next comes Australia, but in around three or four years' time it will probably grow to 80 million tonnes. Additionally there is also the possibility of the LNG supply of the United States increasing from 60 million tonnes to a level of 100 million tonnes. China wants to diversify its supply sources, and is focusing on Yamal LNG and East African LNG.

Currently the oil price has fallen, but for Asian consumers the diversification of energy sources is extremely important. I think that the creation of one hub is possible via regional cooperation. Through Asian buyers, such as Japan, the ROK, China, Thailand and India, becoming stakeholders, they will become able to wield great influence. This is because it is not a supplier's game, but a buyer's game. Sino-Russian gas cooperation itself is diversifying supply options, and for China Russian gas has become a part of its diversification.

I am often asked why China and Russia gas pipeline

cooperation is being supported, and this is not for the sake of the supplier, but of the consumer. It is said that there are conflicts of ideology and religion, but at the heart of the conflict is a money game. Asian consumer countries pay far too much money to the suppliers. They have to rethink the approach to date, and protect their position as consumer countries. As I wrote in the epilogue of my book, the most important point of Sino-Russian gas cooperation is that it aids the Asian buyer. If LNG producers come to not selfishly decide the situation, it will be owing to the consumer countries. The diversification of supply, such as the development of Yamal LNG and East African LNG, is a cause of happiness for Asian consumer countries.

What I want to emphasize is that although it is said that there is no multilateral cooperation in the true sense in Northeast Asia, we can go on introducing new cooperation. I think that taking energy as a new tool for cooperation can go on being introduced in Northeast Asia.