

## The mega-deal: win-win

Russia has long craved the Chinese market and China needs gas. The \$400 billion deal opens a new trade

**F**IFTEEN years after starting negotiations, Russia and China signed a 30-year gas-sales agreement in Shanghai on 21 May. Gazprom agreed to supply 38 billion cubic metres per year (cm/y) – or roughly one-fifth of Chinese gas demand last year – from its East Siberian fields into northeast China through the soon-to-be-built Power of Siberia pipeline.

Details on pricing and the timing of first deliveries for the landmark deal are not clear, but initial gas flows are expected through the pipeline starting 2020.

It appears that China will not participate in the gas resource development in Russia, which simplifies the deal structure. But Chinese companies might be invited to help build the pipeline on Russian soil. Financing arrangements have not yet been agreed. Gazprom said it would invest \$55 billion, while China is expected to provide at least \$20 billion in the form of pre-payment or loans. Some estimates put the total cost of the scheme in excess of \$70 billion, which makes it one of the largest oil and gas investment decisions made this year.

### Pricing issues

Based on the contract value, which Gazprom says is worth \$400 billion, the average price of gas would equate to \$350 per 1,000 cubic metres ('000cm). But the price will be higher as such simple arithmetic does not take into account that supplies will ramp up gradually during the first five years, Vitaliy Yermakov, Moscow-based research director at IHS Cera, told *Petroleum Economist*.

By some estimates, Gazprom would lose money if it sold the gas, extracted from fields in the Yakutia region in the extreme north, at less than \$400/'000 cm. But pricing below \$380/'000 – roughly the price to deliver gas from Sakhalin Island, which is closer to China – would certainly dent the national champion's bottom line. Therefore it seems unlikely that Russia is prepared to sell piped gas to China below this floor level unless it's for political purposes. Following the official signing, Reuters reported that Gazprom had refused to go below \$350/'000 cm, citing company sources.

Based on the total estimated supply

volume of around 1 trillion cm, the average price could be more like \$380/'000 cm or around \$10.50 per million British thermal units (Btu) delivered to the border point. It is a good deal for China, say analysts, giving a price competitive with its imports from Turkmenistan, although that deal also includes an upstream component.

Pricing of the China-Russia deal will be linked to an oil index, possibly the Japanese Crude Cocktail, and will be tied to a schedule of deliveries, probably starting with small volumes in 2020.

The delivered price to eastern demand centres looks fair to good at the moment. It's certainly cheaper than the price China pays for Qatari liquefied natural gas (LNG). However, if crude prices fall to \$90 a barrel in a few years then it might not look such a good deal. But at around \$12-14/million Btu delivered to market (including freight) it's still a pretty good hedge for China.

Northeast China is gas-short and needs Russian supply to balance long-term demand. The eight provinces that will receive East Siberian gas have a population of around 360 million – roughly equal to western Europe.

By 2025 Wood Mackenzie estimates total gas demand from these eight provinces will hit 125 billion cm/y. Without East Siberian gas, alternative supplies would have to be sourced requiring significant additional infrastructure and cost. It would also deprive eastern coastal markets of supply, forcing an increased reliance on imported LNG.

Yet at a company level, China National Petroleum Corporation or PetroChina – it's not clear if the gas purchase will be at the list or group level – will not make a positive return on the deal unless domestic gas prices, now around \$8.90/million Btu for non-residential users, are raised significantly.

But reforms in China are pushing domestic prices higher towards LNG parity.

Gazprom now has the option to source gas from Chayanda and Kovykta, mix gas supplies from Sakhalin Island and add volumes from the Russian independents' fields in

East Siberia, which will be a boon for Rosneft. Indeed, some sources said the deal reflected Rosneft boss Igor Sechin's lobbying of Putin, while Gazprom's Alexei Miller had been willing to hold off.

The Power of Siberia pipeline will connect the Chayanda gasfield in Yakutia with a border crossing point near Blagoveshchensk on the Amur River.

### Road to China

Before reaching the Chinese border, it will tie in into a chemical and gas-treatment plant at Belogorsk in the Amur Region. The transportation system will later acquire two more spurs: one connecting the Kovykta field in the Irkutsk region with Chayanda, and another extending from Belogorsk to Khabarovsk, to link to the Sakhalin-Vladivostok line.

But there will be challenges for Gazprom, particularly with the development of the capital intensive and technically tricky liquids-rich Chayanda field in the far north. The Chayanda upstream development, Power of Siberia pipeline and processing costs could total more than \$40 billion.

It would be logical to start deliveries from Sakhalin, which is nearer the border and could deliver volumes earlier and more economically than gas sourced from the far north. Mikhail Krutikhin, co-founder of RusEnergy, a consultancy, predicts 7 billion to 8 billion cm/y will flow from Sakhalin, with just 4 billion cm/y flowing from Yakutia, starting 2020.

Still, citing Gazprom's pre-feasibility studies, he does not expect the Russian firm to ramp up volumes to 38 billion cm/y until 2030. But some analysts are more optimistic, with 2025 seen as a realistic target.

The Power of Siberia pipeline will also enable Gazprom to pursue extra export projects. Once developed, the east Siberian fields will supply not just the China pipeline, but also a planned LNG plant in Vladivostok.

Yermakov expects the Vladivostok LNG complex to proceed as it offers an alternative export outlet, preventing China from exercising any leverage over Russia, as well as providing an alternative pricing benchmark for Russian gas in Asia. **DE ●**