Russia's ESPO Crude: a new benchmark for Asia?

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The Asian energy market is becoming an increasing focus for the Russian government and its major oil and gas companies as they seek to diversify their export revenues away from western markets and exploit the rapid growth being seen in the East.

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This trend was first established in the 'Energy Strategy of Russia for the period up to 2030', published in 2009, and has been further emphasized by President Putin in his State of the Nation speech in 2012, when he stated that 'in the 21st century Russia's development is vectored eastwards' while underlining that from an energy perspective 'Siberia and the [Russian] Far East hold colossal potential … it's an opportunity to take a good place in Asia and the Pacific' (quoted in *Interfax*, 12 December 2012). As far as the oil sector is concerned, this new strategic direction is based around the development of a vital new piece of infrastructure, the East Siberia–Pacific Ocean (ESPO) pipeline, which will bring Russian oil direct to China and also to the markets of the Pacific region. The first oil was delivered to both markets in 2009, but so rapid has been the expansion of production and sales since then that the Russian authorities are now actively considering the possibility that its ESPO crude could become a new benchmark in the Asian region, and the Russian Ministry of Energy is actively lobbying in this direction. However, although it is clear that ESPO crude has changed the dynamics of the Asian crude market, and is becoming one of the foundations of Russia's growing energy relationship with China, it is important to consider whether it can really meet the conditions to become a true benchmark crude in the region and provide an additional platform for Russian geopolitical influence.

The ESPO Pipeline and the Expansion of Russian Oil Exports to Asia

The idea of a pipeline from Russia to north-east Asia was initially conceived in the early 2000s by the now defunct Yukos oil company, but following its bankruptcy in 2004 the concept was taken over by state companies Rosneft and Transneft, with the latter being responsible for the country's oil pipeline network. The growing Chinese oil market was always the main target for the pipeline, providing an obvious link between Russia's vast oil resources in East Siberia and China's growing import requirement. As a result, it was natural that Chinese state oil company CNPC should arrange for a $25 billion loan to Rosneft and Transneft to help finance the initial phase of ESPO construction. This financing underpinned the first phase of the project, which comprised a 30 mmtpa pipeline from Taishet, at one end of the existing Russian trunk

Map 1: The ESPO pipeline: phase 1, Taishet to Skovorodino and spur to Daqing in China; phase 2, Skovorodino to Kozmino.

(source: Nefte Compass)

pipeline system, to Skovorodino, just north of the Chinese border, with a 15 mmtpa spur then running into China. The remaining 15 mmtpa of capacity was linked by rail to a new port at Kozmino Bay on the Russian Pacific coast (see Map).

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This initial system came online in 2009, but was filled with oil so rapidly by a variety of Russian producers that it soon became clear that expansion would be required, and construction of the second stage of the project commenced almost as the first crude was flowing. By November 2012 the overall capacity of the pipeline to Skovorodino had been expanded to 50 mmtpa (1 mb/d), with the rail link to Kozmino Bay replaced by a 30 mmtpa (600 kb/d) pipeline and the port facilities on the Pacific coast expanded accordingly. Exports have since been increased to an average of 18 to 20 loadings per month, equivalent to over 400 kb/d on an annual basis, and the expectation is that this will rapidly increase to the full capacity of the pipeline as companies such as GazpromNeft and Surgutneftegas, as well as Rosneft, seek to increase their eastern sales.

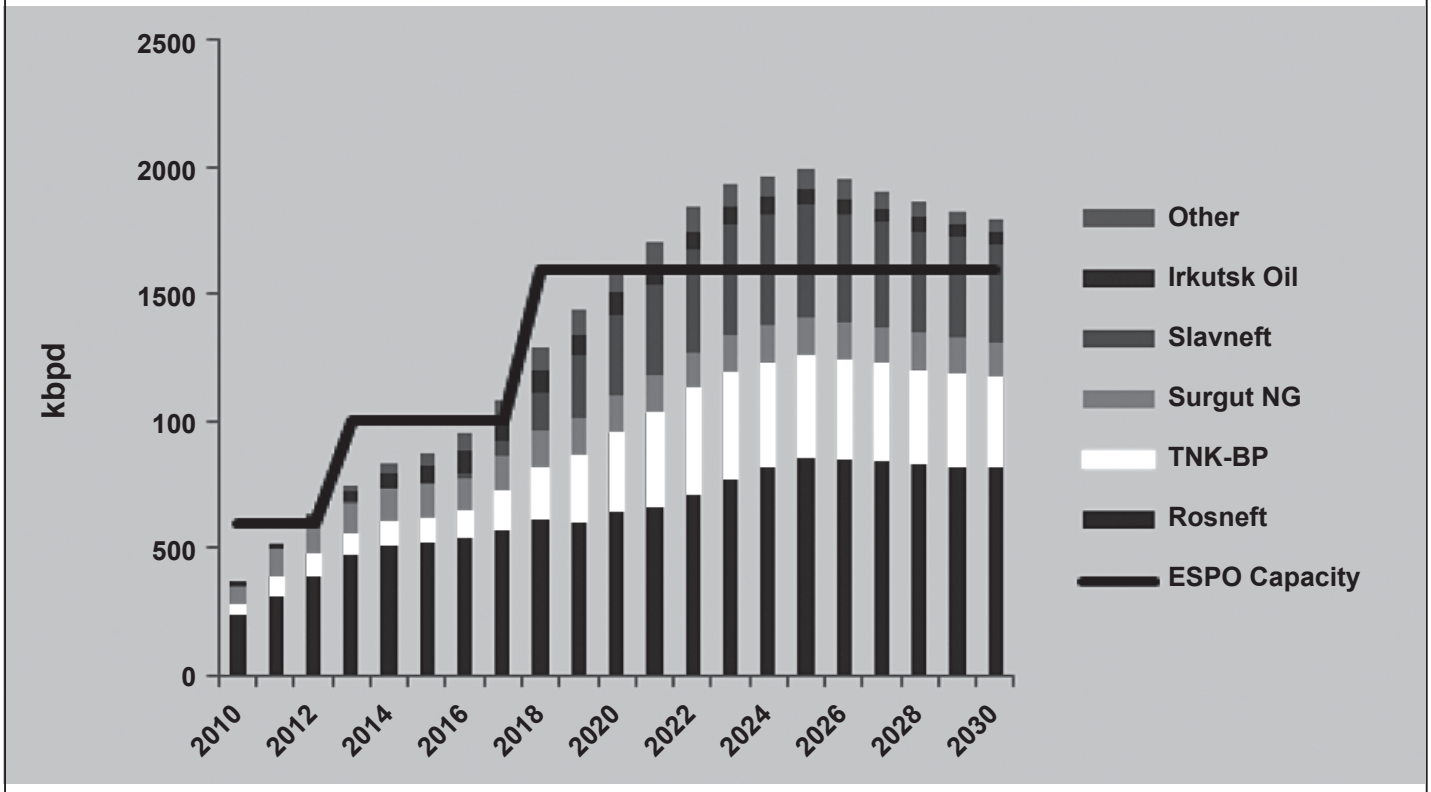
Furthermore, the pace of Russia's shift east accelerated in October 2013, following a series of new agreements reached by Rosneft and its Chinese state-owned counterparts. Firstly, Rosneft agreed an $85bn deal to supply 10 mmtpa for 10 years in a partly pre-financed arrangement with Sinopec, with first deliveries commencing in 2014. Secondly, Rosneft confirmed its involvement in the Tianjin refinery near Beijing with CNPC, with a commitment that Russia would provide 9 mmtpa to the plant once it has been completed (in 2019/2020). As a result, taking into account just the existing agreements in place, Russian oil exports to China are expected to increase to around 35 mmtpa by the end of this decade, and indeed the Energy Ministry claims that exports will reach 30 mmtpa as soon as 2014, with half moving through the existing spur pipeline and half coming by sea from Kozmino Bay. As a result of this trend, and increasing demand for Russian crude from other north-east Asian consumers, plans for development of the third stage of the ESPO pipeline are already under active discussion. This would see the total capacity of the system increased to 80 mmtpa (1.6 mb/d), with the spur to China increased to a capacity of 30 mmtpa and the line to Kozmino Bay reaching 50 mmtpa, with the expansion confirming Russia's recently announced plan that one third of its oil exports should be sold into Asia by 2020. Indeed Transneft CEO Nikolay Tokarev and the Russian Energy Ministry are now actively considering the possibility that the ESPO may need to be expanded further beyond 2020, with a plan that oil exports to Asia should reach almost 2 mb/d by 2030.

The Possibility of ESPO Becoming an Oil Benchmark

In the light of this planned growth in eastern oil exports, the question of ESPO crude becoming a benchmark in Asia is one that has been hotly debated in Russia, and the government is clearly keen to find a way to demonstrate its growing influence in the region's energy market. This goal has been encouraged by the fact that the credibility of some of the existing benchmarks in Asia appears to have weakened, with the main Dubai benchmark actually only trading a very small number of lots during the year. However, despite this lack of specific liquidity, oil companies appear reluctant to abandon a historic trading mechanism, while the development of highly liquid swaps markets, which have allowed traders to convert Dubai price risk into Brent price risk, has increased the effective liquidity of the Dubai benchmark and allowed it to remain the main price market for Middle Eastern crudes around the world. Furthermore, the introduction of a new DME Oman crude oil futures contract on the Dubai Mercantile Exchange in 2007 has introduced another benchmarking option for Asian buyers, and trading volumes have doubled since 2010 to 6.5 mb/d, according to the agency Risk.net in an article on 15 April 2013. With more than 60 market participants already using the contract to provide a reference to the price for crude produced in the major exporting region to Asia, it is clear that buyers will not give up a Middle East benchmark easily. As a result, ESPO crude would have to pass a number of crucial tests if it is to have any hope of usurping the position of Dubai or DME Oman as key benchmarks in Asia, given that, according to the *BP Statistical Review of World Energy 2012*, more than half of the region's imports still come from the Middle East.

The first key question is whether there is adequate crude supply to maintain throughput through the ESPO at full capacity. The answer at present would appear to be a reserved yes, although Russian companies will need to establish a long-term development and production plan for new and existing fields if consumers are ultimately to be convinced that an ESPO benchmark is sustainable. The construction of the pipeline has already provided development incentives, with three major fields, Vankor, Verkhnechonsk, and Talakan, supplemented by a number of smaller fields, providing the initial foundation for Russia's eastern production. Two other large fields, Yurubcheno–Tokhomskoye and Kuyumba, are set to be linked to the ESPO by 2016, and a number of other discoveries have been made by Rosneft close to its existing assets in the region. As a result, production of 1 mb/d from East Siberia alone is possible within the next five years. Added to this will be fields in West Siberia that have now been linked to the ESPO via a new pipeline connection from the Yamal region, and as a result it is possible to create a production profile that can fill the fully expanded three-phase ESPO with 1.6 mb/d of output by 2020 (Figure 1). When one also considers that East Siberia has 10 billion barrels of identified reserves and at least as much again of potential resources, then the opportunity to increase production is obvious. However, what is also clear is that both the Russian government, via a stable tax regime providing appropriate tax

Figure 1: Potential Russian production that could be exported through the ESPO.



(source: author's estimates based on company data and Wood Mackenzie Consultants CAT database)

incentives, and Russian oil companies, via a commitment to invest, must demonstrate that this potential can become a reality before ESPO crude can hope to become a benchmark.

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However, it is not just a question of oil being available to flow through the ESPO, but also of its ability to create a liquid market in Asia upon which contracts can be reliably based and derivatives markets be established. According to Jorge Montepeque, the global director of market reporting at Platts, reported in a *Wall Street Journal* article of 28 October 2012, it is generally accepted that for any crude to establish itself as a benchmark, it should have at least 500 kb/d of output, and in the case of ESPO this should really mean output available for trading at Kozmino Bay. As discussed above, of the 1.6 mb/d capacity that could be available from ESPO, at least 600 kbpd will be sent to China via a direct spur that provides no market liquidity. In addition, another market for ESPO crude is domestic – to support the development of infrastructure and industry in the Far East of Russia, a key government priority. As a result, ESPO crude is expected to be delivered to two refineries, at Komsomolsk and Khabarovsk, and also to a petrochemicals plant that Rosneft is planning to build near Vladivostok. The combined capacity of these three plants is approximately 500 kbpd. As Figure 2 shows, if they do all reach full utilization, then the amount of crude traded at Kozmino Bay would be very close to the notional 500 kbpd limit for benchmark status. Any further expansion in Russia's eastern downstream capacity after 2020 would clearly undermine any ESPO benchmark, unless the pipeline system is expanded further.

Another fundamental issue that will need to be addressed will be confirmation of the long-term quality of the ESPO blend. At present, this would not appear to be an issue as it has been defined as having a sulphur content of 0.61 per cent and a density of 0.843 kg/cubic metre; the proof of the high quality of the blend and its relative stability can be seen in the increasing premium at which it has traded to the Dubai marker in Asia, which has risen from $1.25/bbl in 2010 to an average of $4–5/bbl in 2013. However, despite this apparent success, two main risks remain for the ESPO crude blend. The first is that crude quality in western Russia appears to be in decline, and Transneft may be forced to make some adjustments that could see more sour crude moved east in order to reduce the sulphur content in west-facing exports. Although the company is keen to reassure its customers that this will not mean that ESPO crude will exceed its maximum parameters, the risk of deterioration is clear, as highlighted in an *Interfax* article of 15 October 2012. An additional risk is that the introduction of new field production could also change the quality of ESPO crude. As mentioned above, new fields in East and West Siberia are expected to contribute new oil supply from 2016, but once again (according to

another *Interfax* article of 15 October 2012) Transneft has moved to assure its Asian customers that quality will not be impaired.

In terms of creating the liquidity required of a crude benchmark, the question of diversity of buyers and sellers also needs to be considered. From a buyer's perspective, a broad market for ESPO crude has already been established in Asia, with consumers in Japan, Korea, the USA, and China taking similar shares of Russia's eastern exports. However, this split could be undermined if China continues to supplement its piped imports of ESPO crude with additional purchases from Kozmino Bay. The diversity of sellers of ESPO crude is linked to another crucial issue, namely political risk, as the state-owned company Rosneft is becoming increasingly dominant in terms of Russia's eastern expansion. GazpromNeft, Surgutneftegas, and TNK-BP were initially the other key players, but TNK-BP has now been acquired by Rosneft, which means that the Russian state now controls all piped sales to China and around one third of exports from Kozmino Bay. With a state-owned company also controlling the pipeline artery to the Pacific coast, the risk to consumers of a change in Russian government policy towards exports in general, or to specific markets, is clear. Despite that fact that the Russian authorities are unlikely to undermine a significant source of budget revenues by disrupting exports for any length of time, the uncertainty of political relations with both China and Japan could provide a continuing source of concern.

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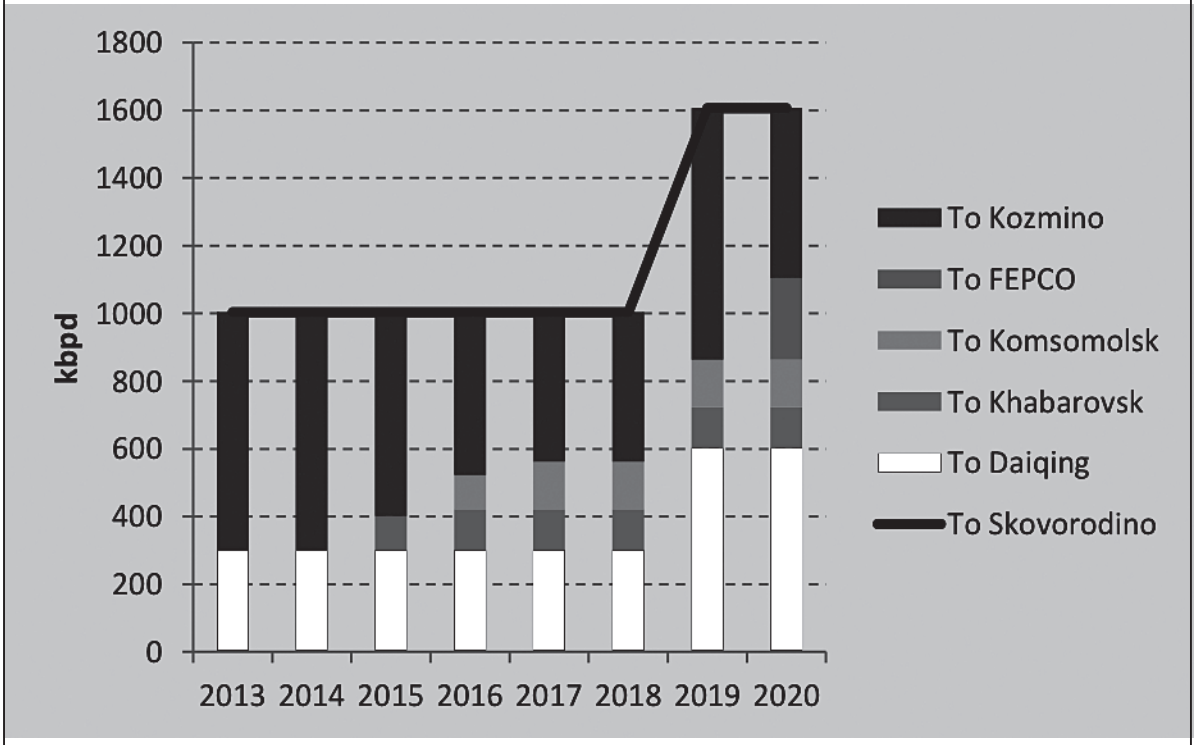
Finally, and perhaps equally importantly, is the need for any crude that has aspirations of benchmark status to offer hedging opportunities to buyers and sellers on a futures exchange, (see Bassam Fattouh's OIES paper 'The Dubai Benchmark and its Role in the International Oil Pricing System'). To date, Russian crude oil has not been traded on an exchange basis, and the only futures trading has been in a very limited market on SPIMEX in St Petersburg, where one type of future for summer diesel has been offered since 2010 (see *Interfax*, 16 July 2012). However, interest in creating a broader marker for both oil and oil product trading has emerged in 2013, with the Russian Energy Ministry currently working on a road map for trading to commence in 2014, probably based on the St Petersburg SPIMEX exchange which actually tried to implement this independently in 2011, and managed one trade in ESPO crude. However, much more assertive action will clearly need to be taken if the ESPO blend is to offer a financial as well as a physical market, and indeed the Head of SPIMEX has forecast (see *Interfax* 19 December 2012) that it would be five years before the development of exchange trading could allow ESPO to become a benchmark crude. This forecast would seem to be realistic given the challenges facing the establishment of a solid production base in East Siberia, a continued diversity of buyers and sellers, a secure quality assessment and, most critically, an improved perception of Russian political risk.

Figure 2: Possible Sales of ESPO Crude to 2020



(source: author's estimates)