Photo: Martin Roemers/ Hollandse Hoogte

The decline of the energy *superpower*

Russia's status as an energy powerhouse is, for the most part, well-deserved. But the future is not looking as bright as it should. Poor economic strategy, reduced production and a lack of competition are only some of the factors dragging down Russia's energy sector, a development that will have consequences for Europe as well.

by Vladislav Inozemtsev

Russia is widely regarded as an "energy superpower". There is a good reason for that: Russia provides EU countries with 26% of their oil and more than 29% of their gas. Some regard Russia as an energy monster sprawling on the Eastern boundaries of Europe. While energy dependence on Russia was acceptable even during the Cold War, it came to be seen as a threat after the winter of 2005-2006 when Gazprom cut off gas supplies to Ukraine. Compounding the problem are the record prices, which are currently three times as high as the average between 1976 and 1991 when Europe became dependent on the USSR for energy.

Most European politicians today are convinced that Russia's diktat is dangerous for Europe, hence the proliferation of plans to diminish dependence. The Russian authorities for their part fear a drop in oil prices as the country's prosperity depends on them more than ever. But it may be that the most serious challenge does not come from Russia's political unpredictability (which is probably overestimated), nor from price instability (which is currently a subject of much overblown hysteria). It may well be that by 2015 or 2020, Russia will simply be unable to meet not only Europe's but its own energy needs. Indications of this occuring are already emerging and they cannot be ignored.

Signs of decline

Russia is the second biggest oil producer in the world after Saudi Arabia. According to the BP Statistical Review of World Energy, in 2007 Russia produced 9.98 million barrels of oil per day. However, unlike Saudi Arabia whose output hit an all-time high in recent years, Russia's oil production was 15% less than in 1987, when the Russian Federation was a republic of the Soviet Union. When Russia's oil production dropped to its lowest level in the post-Soviet period, production was increased primarily by reactivating the fields where production was suspended from 1992 to 1998, and by increasing the oil recovery rate at long neglected wells. The annual

rate of oil production growth dropped from 7.7-10.8% in the early 2000s to 2.1% in 2006-2007 and to negative growth in the early 2008 (see the graphic on page X). The situation with gas extraction is similar if not worse, as can be seen in the graphic. As a result, Russia has yet to reach the levels of oil and natural gas output that it had in its Soviet period, when world prices for these commodities were far lower.

The situation is quite different for other countries of the former USSR, where production of hydrocarbons has been increasing rapidly in recent years. Oil extraction in Azerbaijan rose from 182,000 barrels per day in 1997 to 654,000 barrels per day in 2007 and Kazakhstan's output grew from 0.53 to 1.43 million barrels per day. Uzbekistan increased its gas extraction from 49 to 63 billion cubic metres (bcm) and Turkmenistan from 25 to 64 bcm a year. While in 1989 Russia accounted for 90.5% of oil produced in the former USSR and for 94.2% of gas, today its share in the output in the former Soviet Union barely reaches 79.3% for oil and 78.6% for gas. The situation is likely to get worse: according to official Rosstat data, Russia's oil output dropped by 0.2% between January and May compared the same period last year, whereas in Kazakhstan it increased by 7.7% and in Azerbaijan by almost 13%. Gas extraction in Russia began to decline in 2007, dropping by 0.8% compared to 2006.

Russia spends on exploration half of what the Russian Federation spent in the crisis year of 1991

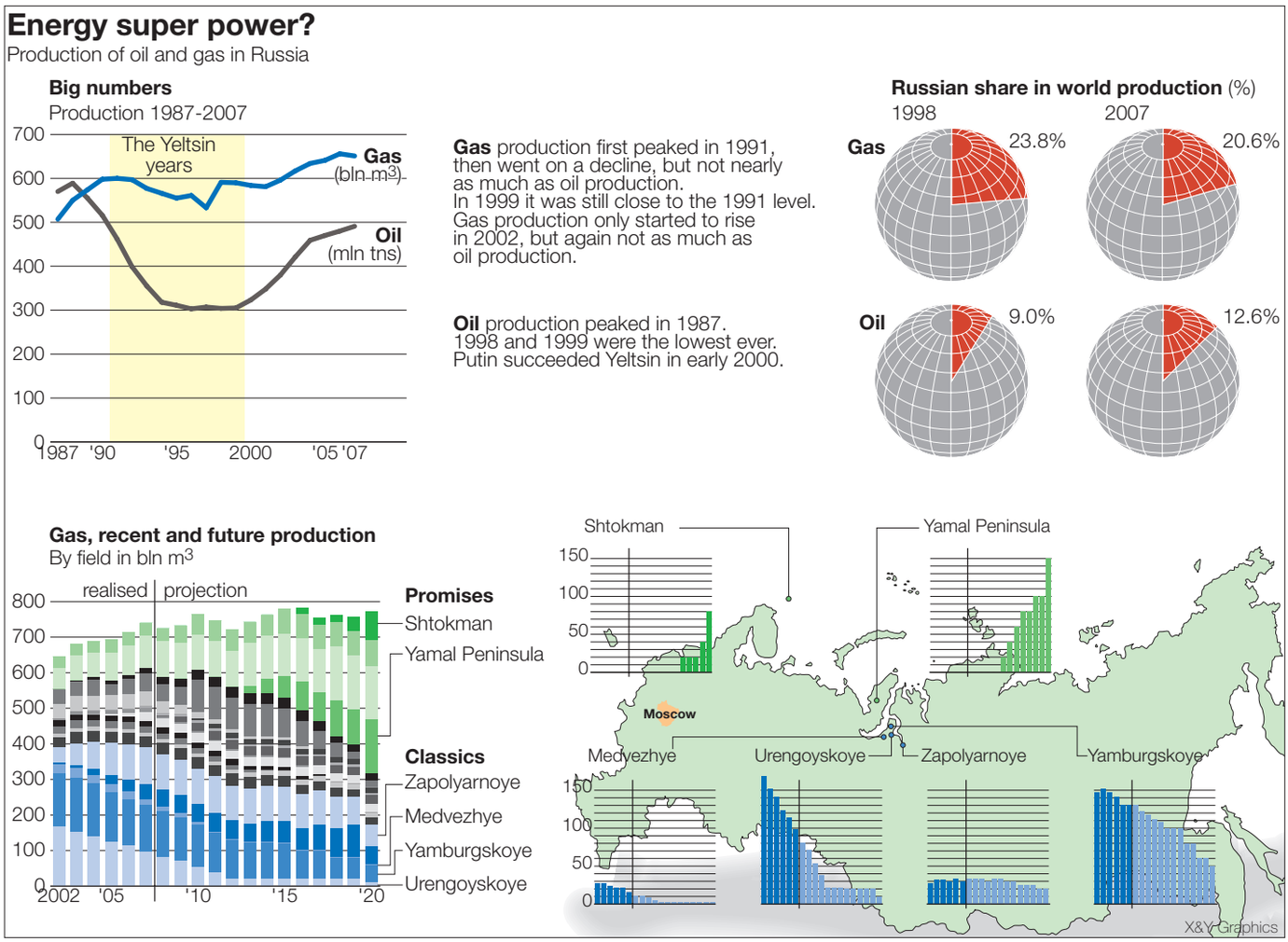
Misguided strategy

How does one account for such a dismal situation? There are several reasons. The first one is the misguided economic strategy that prevails in the sector. In the 1990s, most of the oil industry was privatized and the new owners saw it as an instrument of making "quick money": they shut down wells with a small rate of recovery as well as fields that required further investment to develop. This began to change in the early 2000s, leading to a rapid growth of production. The growth continued until all the suspended production capacity was back in operation and the authorities initiated a policy of "renationalisation", whose early victims were Yukos and Russneft and (indirectly) Surgutneftegaz.

In the new situation, as in the 1990s, oil producers had no incentive to invest money in new projects. The situation in the gas sector was similar with one difference. In the 1990s, the factors that limited the development of Gazprom were customer payment arrears and the policy of the company's management that created around Gazprom a swarm of companies that were not controlled by the shareholders. In the 2000s, Gazprom, under the chairmanship of Dmitri Medvedev, now Russia's president, became "a state within a state", addressing political rather than financial tasks. The net result is that since the breakup of the USSR, the Russian oil and gas sector has failed to organise itself on basic market principles and commit itself to the development of its core business free of political pressures. The destruction of Yukos and Russneft, which were the most efficient companies, and the virtual nationalisation of the new projects implemented by foreign investors on Sakhalin shows that the Russian energy sector is developing according to its own laws rather than the universally-accepted laws of business.

Second, the USSR had an extensive government system of geological exploration that was the main factor in the country becoming an energy superpower in the 1970s. That system is in a sorry state today. At present, Russia spends on exploration half of what the Russian Federation spent in the crisis year of 1991, according to Alexei Kashik, the ceo of the Moscow-based open joint stock company Central Geophysical Expedition. It lacks a system for centralised auditing of hydrocarbon reserves in the country. In 2003, the government lifted the requirement for 'mandatory deductions for the reproduction of the mineral and raw materials base' that obliged oil companies to spend 2.5% of their revenues on exploration and the development of new fields. The reaction was swift. While the increase in proven reserves of oil and gas between 1998 and 2003 amounted to, respectively, 82.2% and 80.9% of annual production, at the end of 2006 these indicators dropped to 59% and 47%. Production and exploratory drilling has been falling by 7.5 to 10% a year, and even the recovery rate dropped to 34% (the world's lowest level) at the end of 2004 (it later rose somewhat, to 41% by 2007). To date, no visible effort is being made to turn the situation around. Ironically, exploration today is spearheaded by Western companies and if the 2002-2007 trend continues, they will control more than 70% of the services to the Russian oil and gas sector by 2010. The Russian government has so far done next to nothing to rectify the situation.

Third, a deliberate effort is underway to eradicate competition in Russia's energy sector, which is being done even more aggressively than in other sectors. According to a report of the Federal Antimonopoly Service (FAS) published in late June 2008, more than 80% of oil extraction and 76% of oil refining in Russia today is controlled by five companies while the share of small companies in the total oil production has dropped from 11% to 5% in the last ten years. The result is that Russian oil companies have been increasing their profits without any substantial modernisation or diversification. In 2007, the share of light oil products produced at Russian oil refineries was a little over 48%, compared with the average European figure of 88%. At the same time, the price of petrol at filling stations reached $1.15, which is 3.1 times higher than the average in ten major non-OECD oil



producing countries. Of course, there is no competition to speak of in the gas sector where Gazprom enjoys a total monopoly in the domestic market and is the sole exporter of gas through its subsidiary OOO Gazexport. In this situation, one can hardly expect Gazprom to do anything to develop its core business while the oil companies may only do so to the extent that they are not totally subjugated to the increasingly severe government diktat.

Thus the much-touted oil and gas-powered take-off of the Russian economy is very uncertain. Unlike most of the other oil producing countries, Russia has hit a plateau in oil and gas extraction and further growth of hydrocarbon production looks unlikely.

Underinvestment

The key problem that has confronted the Russian oil and gas sector in recent years has been the shortage of investment. This may sound hard to believe considering that oil prices between 2001 and 2008 rose from $27 to $145 per barrel, that the price of Russian gas sold by Gazprom at the border with Poland went up from $78 to $243 per 1,000 cubic metres, and that the Central Bank's foreign currency reserves soared from $28 billion to $568 billion. Yet it is an undeniable fact. Between 2000 and 2006 trebled, Gazprom did not start up a single new gas field. The increase in production this year will be more than 100% due to the Sakhalin gas fields in which Gazprom bought shares from the international consortiums Sakhalin-1 and Sakhalin-2. The two major fields, Bovanenkovskoye and Kharasaveiskoye, were never put into operation. This is happening at a time when production at the two biggest operational gas fields, Urengoi and Yamburg, fell by more than a third between 2000 and 2006. According to Gazprom experts, making the Bovanenkovskoye and Kharasaveiskoye fields operational would require an investment of at least $17 billion. As it is, only $950 million was allocated for them in 2007. Why? The answer is obvious: Gazprom overspends heavily to finance non-core activities and to build infrastructure for the supply of non-existent gas that is still only "theoretical".

Over the past five years, Gazprom spent a mere $18.5 billion on the exploration

Russia's President Dmitry Medvedev in the Kremlin. Photo: Gamma / Hollandse Hoogte

and development of gas fields compared with $34 billion spent on buying assets (of which $16 billion were non-core assets). As a result, the value of the assets directly related to the production and transportation of gas dropped to 50.3% of all Gazprom's assets and this year will amount to less than half of its total assets. Of the investments planned for 2008 only $10.5 billion will go into gas extraction, which is less than 8.5% of the total revenue of $125.8 billion. Gazprom seeks to make up for the shortage of investment resources by taking more and more loans, which increased from $13.5 billion to $52.8 billion between 2000 and 2007. In 2007, that sum reached a staggering 80.3% of Gazprom's gas sales both in the domestic and foreign markets (by comparison, the percentage for Chevron and Shell is less than 8%, for BP about 10%, for Total and Conoco less than 15%) and is almost double the company's annual profit ($29 billion). Overall, Gazprom's debt increased in 2007 by 52%, or $18 billion, while its profits dropped by 10.7% for the first time in ten years. This year's results are unlikely to be much better.

The Russian oil companies have similar problems, particularly the state-owned Rosneft, Gazprom-controlled Gazpromneft (formerly Sibneft) and government-controlled Surgutneftegaz, which between them account for 42.3% of Russia's total oil production. We see the same trends here as with Gazprom: Rosneft's debt in 2007 grew by 97.2% to more than double its net profits ($26.3 versus $12.9 billion); Gazpromneft's investment in core activities dropped from 81.8% of all capital investments in 2006 to 39.2% in 2007. The list could go on and on. The overall conclusion is clear: the oil and gas majors in Russia seek not so much to boost their basic performance indicators as to increase their operational costs (which benefits the contractors, who are typically close to the management of the companies), to acquire non-core (and poorly controlled) assets and increase their capitalisation. As a result, eight out of ten biggest Russian oil companies reported a drop in the production of oil and gas condensate in 2007. Even if the Russian energy companies doubled their investment in core projects between 2008 and 2010, the shortfall of investments would be at least 60% of what could keep extraction at current levels. This may trigger major undesirable consequences both for Russia and the EU.

Russia consumes more gas than seven of the world's biggest economies combined

Stagnation

Given that not a single Russian oil company or Gazprom have met their own exploratory drilling targets for 2007 and that their investment in oil and gas extraction cannot maintain the current level of production, it is fair to assume that the Russian oil and gas sector has entered a period of stagnation. Most oil companies will see their extraction drop slightly while production costs will increase and investment projects will become more costly. This could well cause a reduction in oil and gas exports.

Based on the results of 2007, much of Russia's oil and gas is used for domestic consumption. The country consumes 26% of the oil produced and 67% of gas. While oil consumption in Russia has remained the same since 1999, gas consumption has increased by more than 25%. A repeat of the same scenario in the next decade would cut the amount of Russian gas available for export by half. The oil situation is better but one has to bear in mind that oil exports from Russia were growing faster than production between 1999 and 2007: they more than. As oil production growth grinds to a halt, oil exports will also begin to stagnate.

A way out?

There are signs of moves in Russia to address the problem. Some energy-producing facilities are switched from gas to coal. Gazprom is becoming more active (and realistic) in Central Asia where it intends 'to buy all Turkmenistann gas at market prices', as Gazprom's ceo Alexei Miller said recently. Today, Gazprom buys about 42 to 45 bcm of gas from Turkmenistan and about 10 to 12 bcm from Uzbekistan. This shows, among other things, that the agreement concluded by President Putin and Saparmurat Niyazov of Turkmenistan in 2003 is not being fulfilled (under the agreement Turkmenistan was to supply 70-80 bcm of gas to Russia in 2008 and 90 billion in 2009). Turkmenistan does not intend to substantially increase its supplies (it has reserved a mere 10 bcm for the Transcaspian Gas Pipeline, which Moscow is actively lobbying for, while planning to supply 40 bcm of gas to China in 2009). Russia's attempts to monopolise gas and oil export routes from Central Asia are bound to fail. There are already oil pipelines linking Kazakhstan and Uzbekistan to China and a gas pipeline from Turkmenistan to China will be launched next year. Negotiations on oil supplies via Iran, as well as on building Trans-Caspian pipelines to ports in Georgia and Turkey, are underway.

> *Russian oil companies have been increasing their profits without any substantial modernisation or diversification*

Russian (and European) efforts in other directions could be more fruitful. First, there needs to be genuine competition in the sphere of oil and gas extraction. It would make sense to transfer Gazprom's licenses for the Bovanenkovskoye field and other gas fields at Yamal, and possibly even for Shtokman, to major private oil and gas corporations. At the very least, they should be singled out as separate companies that would become Gazprom's competitors and would be less conservative in attracting foreign investments. If these assets are put into operation, gas extraction could increase by more than 200 bcm a year by 2015, which would be enough for Russia to fulfil its ambition and preserve its status as the world's number one gas power. Unfortunately, this scenario is extremely unlikely. European leaders and Gazprom's business partners will not start to clamour for such measures earlier than 2011 or 2012, when disruption of supplies via the North European pipeline will become practically inevitable because of underinvestment in the Shtokman project and delays in opening up new fields at Yamal.

Secondly, as a stopgap measure, the Europeans could propose cooperating with Gazprom in exploring and developing new fields on a turnkey basis and with a fixed cost estimate.

Third, and more realistically, Europe could try to take part in Russia's energy saving programme. Russia consumes more gas than seven of the world's biggest economies combined. Russia consumes 6.2 times more energy to produce a ton of aluminium than Europe, and 4.75 times more to produce a ton of cement. Domestic gas prices increased by 26% in 2008 and they are set to double again by 2011. Despite that, statistics show that gas consumption in Russia is not going down, unlike, for example, in Eastern European countries where the share of energy consumption in the GDP dropped by 29% to 44% between 1994 and 2005. This would be impossible to achieve in Russia but even a 10% reduction in gas consumption would enable Russia to forego importing gas from Turkmenistan. The EU could consider trying to initiate negotiations with Russia on improving energy efficiency, to be paid for by supplies of the gas thus saved at greatly reduced prices.

There is yet another option for Europe: to try to become less dependent on Russia. Contrary to what Moscow is saying, it is not such an improbable scenario but in that case Europe should brace itself for a showdown with Russia because its political elite have linked its destiny with building a vertical oil and gas monopoly. European leaders probably have no appetite for such a scenario, as witnessed by the readiness of German and Italian leaders to cooperate with Gazprom, the continuing disagreements between EU members over a common energy policy, the demonopolisation of energy in Europe itself, and a lack of any real progress in building alternative oil and gas pipelines. It is therefore obvious that Europe has resigned itself to its status of consumer of Russian energy that makes it, to borrow a phrase from Russian political analyst Vitaly Tretyakov, an "industrial appendage" of Russia. If the Europeans don't mind that prospect, is up to them. This is simply a warning that it might very soon turn out that Russia's oil and gas export capacity is not unlimited. ■

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