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# Russia's Uranium Breakthrough

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Russia has overtaken Niger to become the world's fourth largest uranium producer, after Canada, Australia, and Kazakhstan. Russia received its new rating in 2007, when it produced 3,527 tons of uranium.

It has ambitious plans to move even further up the league, based on promising deposits in Eastern Siberia and other regions, and opportunities for mutually advantageous cooperation with countries rich in uranium ore.

Today, the uranium market is very busy and full of optimism. It is characterized by a high-level of monopolization - three quarters of all uranium is produced by five countries. Having placed its stake on nuclear energy, Russia has left itself no choice but to replenish its uranium reserves under a clear-cut and rational program.

In 2006, Russia launched cooperation with Kazakhstan. It owns 49% of shares in the Zarechnoye Joint Venture (JV), which is in charge of a 19,000-ton uranium deposit. Last year, Russia signed a bilateral agreement with Australia, which will supply it with one million dollars worth of uranium for civilian purposes every year.

Also last year, Russia set up joint ventures with Canada's Cameco Corporation to undertake uranium prospecting and extraction in both countries. Potential for uranium production has also been assessed in Armenia; and Russia and Armenia have signed an agreement on uranium prospecting and production.

Mongolia may also occupy a major place in the global nuclear industry. In theory, its uranium resources are the biggest in the world, and it only remains to explore and produce them.

Russia's state-owned nuclear energy corporation, Rosatom, will have to work hard to guarantee the steady growth of its nuclear industry. Expansion is encouraged by uranium prices that are growing even faster than those for oil and gold.

The world is not short of uranium. On the contrary, nature has preordained a future atomic renaissance. Experts believe that there are billions of tons of uranium ore in the entrails of the earth - much more than silver or mercury. It was the nuclear industry that stood behind the dazzling career of the modest 92nd element in Mendeleev's Periodic Table, having invented technologies that release enormous amounts of energy from it. Against the background of the global energy crisis, this soft, silver-white metal has become highly precious. One cubic centimeter of uranium is equivalent to 60,000 liters of gasoline, 110-160 tons of coal, or almost 60,000 cubic meters of natural gas.

The Priargun mining and dressing plant in the city of Krasnokamensk in the Chita Region in Russia's Far East produces 93% of Russia's uranium. The deposit's proven reserves are estimated at 150,000 tons, with 2,500-3,000 tons mined annually using expensive conventional methods. Another seven percent are extracted more cheaply by underground leaching in the Kurgan Region (Dalur), and the Republic of Buryatia (Khiagda). These deposits are enough to meet the national demand for uranium, but this is about it.

Meanwhile, Russia has to supply uranium to nuclear power plants that were built abroad in Soviet times, and it also has export contracts for uranium

enrichment and processing. If we take into account all these factors, the gap between demand and supply adds up to 6,000 tons a year. Russia currently makes up for the shortfall with uranium from "secondary reserves" - depots of fissionable materials, converted nuclear weapons, and so-called "depleted uranium tails" (uranium ore used twice). But these secondary reserves, which every nuclear power has stockpiled since the start of the nuclear era, are disappearing fast. They will last no more than 10 or 15 years.

Aware of the situation, Russia is building up its uranium ore production.

The process is carried out by Rosatom's uranium monopoly, Atomredmetzoloto.

This year, the company plans to produce 3,880 tons of uranium, bringing its extraction to 20,000 tons by 2024.

Russia has some 564,000 tons of proven uranium reserves, including its biggest deposit at Elkön (344,000 tons) on the shores of the Aldan River in the north of Republic of Sakha (Yakutia). This deposit is hard to access; it is located in permafrost, and the ore lies deep. But the requirements of the nuclear Renaissance are tough and call for extreme efforts. Russia wants to extract no less than 5,000 tons of uranium from the Elkön deposit by 2020.

At the same time, it is planning to increase uranium production at its joint ventures in Kazakhstan.

Experts believe that Russia's total uranium potential (natural and weapons-grade) will enable it to enrich 45% of the world's uranium for nuclear power plants by the year 2030.

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