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Uranium Leverage

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The Russian Government has temporarily restricted the enriched uranium exports to the USA. Earlier, this mid-September President Vladimir Putin proposed to the government to consider the issue of restricting the Russian exports of strategic commodities**: uranium, titanium or nickel, but** so as “not to do any damage to ourselves”. V. Putin did not limit the list with these three positions only and reminded that Russia is a global leader in reserves of other strategic commodities: it has almost 22% of natural gas, almost 23% of gold, about 55% of diamonds. This shows that the range of our leverage over the global strategic commodity markets is rather extensive. Although, access of almost all of the mentioned commodities to the markets of unfriendly countries is already restricted due to the sanctions, imposed upon Russia. Moreover, one cannot say that the restrictions have been entirely painless for their originators. For example, we have already covered the Russian titanium situation at the Western markets: the ban on the imports of the metal dealt a painful blow to famous aircraft manufacturers.

Could we make matters worse for Western corporations by introducing our own bans?

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Let us look at the case of uranium. To make things clear, Russia does not export naturally occurring uranium (uranium ore). What is generally referred to as exports of Russian uranium, as a matter of fact, means exports of the enriched uranium product (EUP).

The uranium market has a very significant feature (among other): over the latest years the demand for uranium ore has been higher than the level of its annual production. According to the World Nuclear Association (WNA), 48332 tons of uranium are mined across the world per year, covering the global demand just by 77%. Europe is not featured among the largest producers of uranium. The USA mines less than 0,1% of the global volume. To supply the NPP demand, the USA receives uranium from Russia, Canada, Australia, the UK and other countries, and also utilizes its Cold War stockpiles, accumulated over decades: Americans are processing their weapon-grade (highly enriched) uranium into energy-grade (low enriched) one.

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The United States can only provide 30% of their nuclear fuel on their own. They get uranium from Russia in the form of EUP to cover 20% of their needs. This bar was set by American lawmakers back in the 1990s, so that more competitive Russian products could not completely oust the domestically manufactured product. In 2023 the USA bought enriched uranium from Russia for $1,2 billion; the volume of supply amounted to 702 tons, a historic record.

Today the major EUP manufacturer in the USA is European URENCO. Its enrichment plant capacity provides for less than 15%

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of the total demand. Some of the demand is covered by reprocessing of nuclear fuel (HEU-LEU) from dismantled nuclear warheads. American companies have failed to master production of gas centrifuges for uranium enrichment, and their previous products were manufactured with obsolete technologies, totally uncompetitive today. However, in the first quarter of 2024 Joe Biden claimed that the Americans finally produced the first 90 kg of enriched uranium (compare this to 702 tons, supplied last year from the RF) and intended to ramp up volumes. As it turned out later, the manufactured fuel could only be used at yet to be implemented low power nuclear plants, and it is not fit for the existing 90 NPPs, because the level of enrichment is inadequate.

Therefore, it would be a very risky initiative for Washington to impose sanctions against the Russian product under very uncertain prospects for the uranium industry. But nevertheless …



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The USA introduced their sanctions against the Russian EUP back in May, completely banning its imports starting from this April. The ban will be active till 2040, and it is designed as a law, adopted by the Congress and signed by the President. But there is a loophole in the law: up to January 2028 there may be temporary exclusions when "similar commodities will be unavailable on the international market and when there are threats to energy security". This means that up to this date American NPPs will be actively fighting for these exclusions, because there are no actual alternatives. It is known that Centrus Energy has already obtained a permit from the US Department of Energy for imports of enriched uranium from Russia in 2024 and 2025 under existing contracts.

Can the Americans resolve the issue of future severe shortages by building new uranium enrichment plants over the remaining period of time? It is doubtful, because all previous construction experience ended in failure – projects got closed down. And URENCO has no plans to share their technologies, though it could build yet another plant of its own. But still, the given timeline for construction is too short for such technologies.

What are other suppliers of EUP to the USA? Kazakhstan and Uzbekistan. Their combined shares make up for 15% of the American market. But these countries do not enrich uranium on their own, but use production capacity in Russia.

Another, recently emerged major supplier to the USA is China. From 2020 to 2022 China did not supply any enriched uranium to the USA, but started large volume deliveries at the end of 2023. At the same time the imports of Russian enriched uranium to China also rose significantly, raising concerns of American lawmakers, who initiated an investigation of this fact.

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