CUTTING THE TENTACLES OF RUSSIAN ENERGY ‘OCTOPUS’

DiXi Group follows on the series of materials aimed at exploring the foreign ties of key Russian energy companies for elaboration of proposals for expanding sanctions limiting the international influence of Russian energy sector.

ROSATOM
ROSATOM’S TENTACLES SORTED OUT

ROSATOM IS AMONG LEADING PLAYERS IN THE GLOBAL NUCLEAR ENERGY MARKET. IT IS ESSENTIAL TO LOOK AT ALL THE ‘TENTACLES’ OF THIS RUSSIAN ENERGY ‘OCTOPUS’ TO SEE WHERE THEY CAN BE CUT OFF.

**Europe**

- **GERMANY**
  - uranium for Germany’s three remaining reactors
  - cooperation on the Facility for Anti-proton and Ion Research (5 partners, located in Germany)
  - cooperation with Nukem Technologies, Urenco

- **BULGARIA**
  - fuel supply
  - Belene NPP (agreement on construction suspended, probably would not be realized)
  - Kozloduy NPP (potential use of Atomstroyexport equipment)

- **CZECH REPUBLIC**
  - fuel supply contract
  - cooperation with ŠKODA JS

- **HUNGARY**
  - fuel supply
  - Paks II NPP construction
  - joint ventures Ganz EEG (from Hungary) and European Power Services Ltd

- **FINLAND**
  - focus on mining in North America and Asia
  - cooperation with Fortum, Fennovoima

- **SWITZERLAND**
  - energy-related activities
  - cooperation with the Nuclear Research and Technology Center

**North America**

- **CANADA**
  - Alpha Lithium Corporation made a joint venture agreement to develop a lithium project of Argentina
  - cooperation with Wealth Minerals Ltd in a lithium project in Chile

- **USA**
  - fuel supply (16% in 2020)
  - the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

**South America**

- **ARGENTINA**
  - possible NPP construction

- **BOLIVIA**
  - cooperation with the Nuclear Research and Technology Center
  - MoU in the field of developing the lithium industry

- **CHILE**
  - fuel supply

- **CUBA**
  - fuel supply

- **PARAGUAY**
  - cooperation with Nupec

- **SLOVAKIA**
  - An agreement to build a nuclear science and technology center

- **FRANCE**
  - Cooperation with the Alternative Energies and Atomic Energy Commission (CEA), EDF, Framatome, ROBATEL Industries, D&S Groupe, Air Liquide, Orano, ROBATEL Industries, D&S Groupe, possibly with GEAST

**Asia & other**

- **TURKEY**
  - Akkuyu NPP construction

- **EGYPT**
  - fuel components supply
  - El Dabaa NPP construction

- **SOUTH AFRICA**
  - fuel supply

- **ALGERIA**
  - fuel supply

- **AFGHANISTAN**
  - fuel supply

- **ARMENIA**
  - fuel supply
  - Armenian NPP (upgrade, plans to construct phases 2, 3)

- **UZBEKISTAN**
  - fuel supply
  - fuel fabrication in Kazakhstan
  - KAZ Minerals in Baimsky GOK
  - gold mining projects with KAZ Minerals in Baimsky GOK

- **KAZAKHSTAN**
  - fuel supply
  - cooperation with the Nuclear Research and Technology Center

- **VIETNAM**
  - fuel supply
  - possible small reactors projects

Please note only the most crucial connections are reflected. Rosatom’s global business network is more extensive, as the company has partners in 50 countries around the globe.
HOW TO CUT ROSATOM’S TENTACLES

- Rosatom should be delisted from the participants of the UN Global Compact.
- Russia should be excluded from the IAEA governing bodies, by removing all Russians from key positions in the Agency’s Secretariat and restricting their access to information about Ukraine’s nuclear power plants. The IAEA and Rosatom Agreement to Strengthen IAEA Nuclear Infrastructure Capacity Building should be terminated.
- Rosatom should be excluded from the international research projects such as the International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO), the Generation IV International Forum (GIF), and the Stable Nuclear Energy Technological Platform (SNETP).
- Exclusion of Russia (subsequently, also Rosatom) from the ITER International Fusion Energy Organization or suspension of any activities with Russian specialists (or in any relation to them) in the ITER project.
- Rosatom’s regional representative offices (Praha, Budapest, Johannesburg, Singapore, Tokyo, Paris, Nur-Sultan, Tashkent, Rio de Janeiro, Beijing, Washington D.C., Mumbai, Dubai) should be closed or reduced.
- Expanding the sanctions list to Rosatom’s companies to prevent them from international financial operations, would put the necessary pressure on the group’s ability to invest in its projects abroad. Any new foreign projects of Rosatom should be blocked using financial restrictions.

NORTH & SOUTH AMERICA

- USA
  - Revision of the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation
  - Launching support and cooperation programs for non-Russian producers on the global uranium market
- CANADA
  - Irrevocably renounce closing the suspended deal between Alpha Lithium Corporation (company from Canada) and Uranium One (part of Rosatom) on developing a lithium project in Argentina; reject any possible cooperation of Uranium One Group with Canada-listed Wealth Minerals Ltd in a lithium project in Chile
- ARGENTINA
  - CHILE
  - BOLIVIA

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RUSIA

- USA
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- ARGENTINA
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Europe

- Cooperation agreements between the European Autonomic Energy Community (Euratom) and the Government of the Russian Federation in the fields of nuclear safety and controlled nuclear fusion should be denounced or revised.
- The Euratom Supply Agency shall ensure the maximum possible limitation of the Russian nuclear supply to the EU (using its right of option to acquire nuclear materials granted by Article 52 of the Euratom Treaty).
- Support the dialogue of the EU authorities and Westinghouse on the matters of substituting Russian nuclear fuel for VVER-type reactors.

- SERBIA
  - Revision of the IAEA Nuclear Infrastructure Capacity Building (full exit, in view of the decision to terminate the contract with Rosatom)
- HUNGARY
  - Revision of the Paks II project with a Western alternative provider as an option
- TURKEY
  - Revision of the Akkuyu NPP project, at least for units 2-4 which are at early stages of construction, with a Western alternative provider as an option
- CZECH REPUBLIC
  - Revision of the supply contracts with ALTA and CVR

Asia & Africa

- CHINA
  - Revision of the Tianwan NPP units 7 and 8 (with a Western alternative provider as an option) and the Xudabao NPP units 3 and 4 projects (with possible extension of Westinghouse AP1000 reactors contract on all 4 planned units)
- INDIA
  - Revision the Kudankulam NPP units 5 and 6 project, with a Western alternative provider as an option
  - Revision of the supply contracts with Nuclear Power Corporation of India Limited (NPCIL)
- EGYPT
  - Revision of the El Dabaa NPP project, with a Western alternative provider as an option
- TANZANIA
- NAMIBIA
- ZIMBABWE
  - Prevent Rosatom or its subsidiaries from developing mining projects for uranium (Tanzania, Namibia) and lithium (Zimbabwe)
- BANGLADESH
  - Revision of the Rooppur NPP project, at least for unit 2
The Russian economy is being held tight in the grip of sanctions due to Russia’s barbaric attack on Ukraine. However, many Russian companies, including those in the energy sector, have managed to avoid the impact of the sanction measures. Notably, President Biden’s executive order prohibiting certain imports and new investments in Russia, issued on March 8, didn’t target the nuclear energy sector while banning the imports of Russian oil, liquefied natural gas, and coal to the US1.

Russia’s energy giant Rosatom, a company that provides Russia’s military budget with revenues from international cooperation and directly participates in the Russian nuclear terrorism in Ukraine, is remarkably unaffected by sanctions. Rosatom demonstrated it was a part of war crimes by capturing and declaring the Zaporizhzhia nuclear power plant as its property2.

Meanwhile, Rosatom is a key intentional player in the nuclear energy sector. In 2020, there were 36 power units in Rosatom’s portfolio of foreign projects3. International cooperation and access to the global markets are essential for Rosatom, and this fact should be used as leverage. For instance, Rosatom’s 10-year portfolio of overseas orders is estimated at 138.3 billion USD4.

Foreign projects and contracts are the key sources of revenue (7.5 billion USD out of 16.7 billion of general revenue in 2020)5, taxes on which – and this is 3.5 billion USD in 20206 – are used to finance Russia’s war machine.

The current lack of sanctions against the company is motivated by the fact that the company’s products and services are too unique to be replaced quickly and play a significant role in international markets7. Indeed, in 2020 Rosatom was first in the global uranium enrichment market (36%), second in the world in terms of uranium production (15% of the market), and third in the global nuclear fuel market (17%).

In 2020, 16% of total US purchases of uranium (48.9 million pounds) were originated from Russia8. This is a relatively uncomfortable dependence from a country that has waged the biggest war in Europe since WWII and has proven itself to be an unreliable partner. With that in mind, revision of the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation9 and the Agreement between the Government of the Russian Federation and the Government of the United States of America on Cooperation in Nuclear- and Energy-related Scientific Research and Development10 might be a logical next step, as well as launching support programs for non-Russian producers on the global uranium market, especially depressed after COVID-19 pandemic11. As for the EU, uranium imports from Russia were the second-largest after those from Niger in 2020 (20.2%)12, 13.

In 2020, Rosatom provided services for 49 operating and planned power units of Soviet and Russian design abroad14. Under the umbrella of Rosatom International Network, there are offices in Praha, Budapest, Johannesburg, Singapore, Tokyo, Paris, Nur-Sultan, Tashkent, Rio de Janeiro, Beijing, Washington D.C., Mumbai, Dubai15.

Why is a decisive response to Rosatom’s criminal actions so important?

First, the current response (such as the IAEA statements16 on the seizure of the Zaporizhzhia NPP and turning it into a ‘military base’), have not yielded visible results. Suppose the situation will remain the same, and the threats of nuclear terrorism would not find proper response and action. It could provide a signal that the Russian coercive actions toward other nuclear facilities in Ukraine (as in other countries under conditions of conflict) are possible and will not be punished.

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CUTTING THE TENTACLES OF RUSSIAN ENERGY ‘OCTOPUS’

RECOMMENDATIONS

1. Political exclusion as a response to Russian (and Rosatom’s) malign actions

Rosatom is a part of a comprehensive system of related international organizations and treaties; therefore, associated mechanisms could be applied on different levels to give a clear statement to the company.

By continuing de facto and de jure cooperation with Russia and Rosatom, those and other organizations are discrediting themselves.

2. Financial exclusion of Rosatom and its subsidiaries

In the case of nuclear energy, it is not always possible to withdraw from the project or abruptly terminate cooperation. However, as Rosatom is closely dependent on the international financial streams and instruments (primarily due to implementation of a large number of foreign projects), blocking access to financial markets, services, and bank accounts is an optimal way to help ensure security at nuclear facilities while not financing the war through the Russian economy.

Financial sanctions can be applied to both Rosatom and its subsidiaries, the key ones of which are listed below.

Key Rosatom’s subsidiaries

<table>
<thead>
<tr>
<th>TENEX</th>
<th>JSC TENEX (Technobsexport) is responsible for supplying uranium products abroad (one of the world’s leading suppliers of initial nuclear fuel cycle products). In 2020, TENEX supplied uranium products to 42 customers in 16 countries worldwide and concluded 30 deals with 17 customers in 7 countries for 1.7 billion USD. The annual sales volume totaled about 2 billion USD.</th>
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<tr>
<td>Uranium One</td>
<td>Uranium One Inc. is a part of TENEX, and one of the world’s largest uranium producers, with assets in Kazakhstan, Tanzania, Namibia, etc. The mineral resource base of the company (including a 100% share of Mantra Resources Pty Limited) in 2020 amounted to 187,000 tons. In the same year, 4,300 tons of uranium were mined in Kazakhstan.</td>
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<tr>
<td>TVEL</td>
<td>JSC TVEL is Rosatom’s organization that exports nuclear fuel, totaling 0.7 billion USD in 2020, with a 15.7 billion USD 10-years portfolio. In 2020, TVEL fully covered the nuclear fuel needs of Armenia, Belarus, Bulgaria, Hungary, Slovakia, and the Czech Republic, and partially for India, China, Ukraine, and Finland. In the partnership with Framatome, fuel and components produced in Russia from reprocessed uranium are supplied to Western Europe.</td>
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<tr>
<td>European Power Services Ltd</td>
<td>European Power Services Ltd is a joint venture of JSC Rusatom Service and the Hungarian holding MVM to strengthen its presence in Central and Eastern Europe.</td>
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<tr>
<td>Rusatom Service and DZHET</td>
<td>JSC ITC DZHET and Rusatom Service JSC are subsidiaries of Rosatom, responsible for the personnel training and equipping training centers for foreign NPPs.</td>
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</tbody>
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United Nations

Since October 2020, Rosatom has joined the UN Global Compact, committing itself to follow human rights principles, among others. Due to the participation and assistance in the Zaporizhzhia NPP occupation, Rosatom should be delisted from the participants.

International Atomic Energy Agency

Within the permanent management of the IAEA, about 100 people are citizens of the Russian Federation. As the Russian government has captured the largest nuclear power plant in Ukraine, these people shouldn’t have access to the data from Ukraine and be a part of the decision-making process due to safety and confidentiality reasons and to ensure unbiasedness. The Ukrainian side has already filed the corresponding request.

Moreover, Russian Federation should be excluded from the Member States list, or its role should be limited until Russian troops leave Ukraine. All scientific and technological cooperation with the Russian counterparts should be terminated.

European Atomic Energy Community

Any further cooperation should be terminated, and the Agreement for cooperation between Euratom and the Russian Federation in the field of nuclear safety should be revised.

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21 ROSATOM has joined UN Global Compact.
22 Ukraine asks the IAEA to dissuade Russians from making decisions during the war
23 Agreement for cooperation between the European Atomic Energy Community and the Government of the Russian Federation in the field of nuclear safety
24 Rosatom Annual Report 2020
25 Rosatom Annual Report 2020
26 Rosatom Annual Report 2020
27 Rosatom Annual Report 2020
28 Rusatom Service. Industry replenishment
3. Recognizing the problem of dependence on Rosatom and the Russian nuclear industry and taking immediate steps to reduce this dependence

Right after the Russian intervention, the European Parliament has already voted for the resolution on the Russian aggression against Ukraine with a clear call to the Member States “to stop any collaboration with Russia in the nuclear field, in particular cooperation with Rosatom and its subsidiaries, including cooperation with Russia in the International Atomic Energy Agency and the termination or removal of operating licenses for all Rosatom subsidiaries”.29

The following steps should be considered:

- The Euratom Supply Agency shall guarantee the maximum possible limitation of the Russian nuclear supply to the EU using its right of option to acquire nuclear materials granted by Article 52 of the Euratom Treaty30.

- The EU authorities should foster the dialogue with Westinghouse, the only competitor of Rosatom’s fuel manufacturing subsidiary TVEL, to ensure as urgent as possible refusal form Russian fuel for VVER-type European reactors (five EU member states – Bulgaria, Czech Republic, Finland, Hungary, and Slovakia – operate four VVER-1000 and 14 VVER-440 units).31

4. Targeting Rosatom’s projects abroad

There are two main ways to limit the Russian ability to receive revenues from these projects:

- Suspension or closing of the projects under construction. Following the example of the Hanhikivi-1 project (Finland) where the decision was made on termination of the contract with Rosatom32, other projects such as Paks II in Hungary and Akkuyu NPP in Turkey should freeze any cooperation with Rosatom. As the sites are ready for construction, Western providers and designs could be proposed to build nuclear power plants in those countries.

- Imposing the sanctions on Rosatom’s assets and explore the secondary sanctions on Russian financial system to prevent Rosatom from international financial operations with the American and European banks, as a way to limit Rosatom’s ability to generate revenue on Asian and African construction projects (e.g. El Dabaa NPP in Egypt, Tianwan and Xudabao NPPs in China, Rooppur NPP in Bangladesh, and Kudankulam NPP in India) and supply contracts (e.g. with the NPC from Bangladesh, NPCIL from India, IAEA from Egypt, etc.)33.

Also, it is important to stop all the new possible contracts of Rosatom, as in the case of the possible purchase of the share of GEAST company (French manufacturer of the Arabelle turbine)34.

5. Termination of any technological cooperation and research projects

In 2020, Rosatom provided services for 49 operating and planned power units of Soviet and Russian design abroad35. Rosatom as a company is deeply integrated into the world nuclear sector as a services provider, and the process of putting it to an end should include:

- The termination of the IAEA and Rosatom Agreement to Strengthen IAEA Nuclear Infrastructure Capacity Building36;

- The termination of the agreement between the Republic of Serbia and Rosatom on the construction of a Centre for Nuclear Science, Technology and Innovation in Serbia37.

- The termination of the strategic cooperation agreement between Rosatom and EDF Group, and closing of the EDF office in Russia38.

- The exclusion of Russia (and subsequently Rosatom) from the ITER (International Thermonuclear Experimental Reactor) International Fusion Energy Organization or suspension of any activities with Russian specialists (or in any relation to them) in the ITER project39.

- The exclusion of Rosatom from the list of signatories of the FAIR Convention and activities of the Facility for Antiproton and Ion Research (Germany)40.

- The exclusion of Rosatom from the international innovative research projects such as the International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO), the Generation IV International Forum (GIF), and the Stable Nuclear Energy Technological Platform (SNETP)41.

As targeted measures by countries, the work of Rosatom’s regional representative offices should be blocked.

6. Prevent Rosatom from entering the global market of critical minerals

While cutting the existing tentacles of Rosatom, attention should also be brought to the company’s new possible business directions, i.a., Rosatom’s strategy of entering the global market of critical minerals. Specifically, Uranium One Inc. (a Rosatom entity) planned to control 3.5% of the global lithium market in 2025 and reach a 9%-10% milestone by 2030 using the M&A deals over the raw material assets42.

In order to stop Rosatom’s promotion in the lithium market, the following should be done:

Western companies should not compromise themselves cooperating with Rosatom or its subsidiaries in the critical minerals sphere. This applies particularly to Canadian companies Alpha Lithium Corporation43 and Wealth Minerals Ltd44, working with Uranium One in lithium projects in Argentina and Chile, respectively. Alpha Lithium Corporation has already provisionally suspended closing the deal with Uranium One45; however, all such projects should be permanently abandoned.

Rosatom or its subsidiaries shouldn’t receive access to lithium reserves in South America (Argentina, Chile, and Bolivia46) and Africa (Zimbabwe47) as well as to the lithium carbonate export (export from Bolivia to Russia should be suspended following the example of Argentina and Chile48).

29 European Parliament resolution on the Russian aggression against Ukraine (2022/2564/885), 28.2.2022
30 Consolidated version of the Treaty establishing the European Atomic Energy Community 2016/C 203/01. Article 52
31 World Nuclear News. Westinghouse ready to supply VVER-440 fuel
32 ROSATOM statement on the Hanhikivi 1 NPP project
33 Rosatom Annual Report 2020
34 French Daily News. Will the Russian Rosatom buy 20% of Arabelle?
35 French Daily News. Will the Russian Rosatom buy 20% of Arabelle?
36 French Daily News. Will the Russian Rosatom buy 20% of Arabelle?
37 GCR. Russia to help Serbia build Centre for Nuclear Science and Technology
38 EDF. Rosatom and EDF Group join forces to develop green hydrogen
39 Rosatom. Areas of cooperation
40 Facility for Antiproton and Ion Research. Russia in Fair
41 Rosatom. International Relations
42 S&P Global. Russia’s Uranium One aims to capture 10% of global lithium market by 2030
43 Nuclear Engineering International. Rosatom’s Uranium One and Alpha Lithium to develop lithium deposit in Argentina
44 Reuters. UPDATE 1-Russia’s Rosatom may buy controlling stake in Chile’s Wushan project
45 Alpha Lithium Provides Update on Argentine Operations and Uranium One Transaction
46 Reuters. Russia’s Rosatom and Norrckell plan lithium project, RIA reports
47 newsZWire. Unit of Russian energy giant in talks for stake in Zimbabwe’s lithium project, could buy bulk of output
48 Reuters. Russia’s Rosatom and Norrckell plan lithium project, RIA reports