

Russian Nuclear Diplomacy: Europe

An analysis of ROSATOM's political and economic influence within Europe

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Project Leads

Matthew Johnson & Nathan Alan-Lee

Research Analysts

Aidan Cross, Albert John Welirang, Azaria Kidane, Boyan Tsonev, Carlo Da Cas, Jonas Oswald, Kanishka Bhukya, Kris Sokas, Lāsma Kokina, Nathan Alan-Lee, & Sharif Fatourehchi



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Executive Summary

Matthew Johnson

Following the invasion of Ukraine on 24th of February, the EU has used sanctions as a key tool in achieving the foreign policy objective of punishing and subduing Russia's war aims. Since February, we have seen several rounds of sanctions against Russian energy introduced by the EU. During this time, the curtain has been pulled back to reveal the heavy dependence European countries have on the supply of Russian energy. However, despite efforts to cripple the economy, Russian nuclear remains untouched. Calls to sanction the state-owned enterprise, Rosatom and its subsidiaries, have only drawn greater interest. This has been especially the case since their claim of ownership over the Zaporizhzhya nuclear power plant in Ukraine and forcing Ukrainians to work under Rosatom. Yet even with countries such as Poland and Lithuania calling for stronger and more widespread sanctions, countries such as Hungary and Serbia remain unsupportive of such actions.

The following report seeks to unveil the influence which Rosatom and their subsidiaries maintain over countries in Europe. Of the 27 EU Member States, our team of analysts present 9 country case studies, each offering analysis of Russia's nuclear presence with a focus on each country's political climate and nuclear industry. In no particular order, the countries within the report include: Bulgaria, Czech Republic, Finland, France, Germany, Hungary, Serbia, Slovakia, and Turkey. Each one reveals some level of Russian presence; however, each vary in terms of Russia's overarching influence. Additionally, as a complement to the primary case studies, our analysts also focused on 4 indirect influencers – Lithuania, United Kingdom, Slovenia and Poland – of which demonstrate an overall weakening of Russian influence amongst these 4 cases.

The report reveals a deterioration of Russia's nuclear influence in the long-term for cases such as the Czech Republic, Finland and Slovakia. In the case of Slovakia, for instance, Russia has lost financial leverage after Italy's UniCredit agreed to take on the loan financed by Sberbank, a major Russian bank, thanks to sanctions placed on the Russian financier. However, in the case of Hungary and Serbia, the governments have shown an interest to only increase cooperation with Rosatom and/or its subsidiaries.

One prominent issue found throughout the report involves the ability for countries to cut off Russia's supply of uranium, especially during a pivotal moment for the global green energy transition. Even with countries such as Slovakia looking to other suppliers such as Westinghouse and Framatome, the latter was revealed to be supplying Russian uranium from the Port of Dunkirk to Germany's nuclear power plants. Therefore, where Russian nuclear is on the decline, further analysis on the current state of their competitors in the West, such as Westinghouse, is worth exploring in future research. In saying this, the report will exemplify the complexity of implementing sanctions against Rosatom if and when they are seriously considered by the West. The report has much to offer those interested in the politics of Russian nuclear energy within Europe, offering in-depth analysis on Russia's presence in Europe's nuclear industries.



COUNTRY CASE STUDIES



Bulgaria

Boyan Tsonev

Brief History of Nuclear Industry in Bulgaria

In the 1950s, Bulgarian authorities started supporting the use of [nuclear power](#) for energy generation as part of the plan to rapidly industrialise the country. A small research reactor was started in 1961 and in 1965 the Politburo of the Bulgarian Communist Party (BKP) voted in favour of [asking](#) the Soviet Union (USSR) for help in building a nuclear power plant (NPP). [Bulgaria](#) launched its nuclear power program in 1974, when the first unit of the Kozloduy NPP was commissioned. Up to six power units were built and commissioned in Kozloduy between 1974 and 1991. Currently, only two are operating (units 5 and 6), while the rest (1-4) are being decommissioned as part of the accession agreement with the European Union (EU). Bulgaria also has the Belene NPP, a project started in 1981 but stopped due to the fall of communism and repeated financial problems.

In 2021, nuclear power is still very important for Bulgaria, representing around [34.6%](#) of the total electricity production of the country. Bulgaria's main entities for the nuclear power industry are the Nuclear Regulatory Agency (NRA) and the Kozloduy Nuclear Power Plant plc. Other important entities are the Bulgarian Energy Holding EAD (BEH-EAD) and the National Electric Company (NEK). Bulgaria has pursued a transparent energy policy with respect to the national and public interests. The government's commitment to nuclear energy has remained strong over the years, with [new](#) partnerships, cooperation, and [projects](#) being constantly [searched](#) for.

Political Analysis and Russian Presence in Bulgarian Nuclear Sector

Bulgaria has five bilateral [agreements](#) with Russia pertaining to nuclear energy:

- ◆ Agreement in the domain of peaceful use of atomic energy (1995).
- ◆ Agreement in the domain of the atomic energy sector (1995).
- ◆ Agreement on the transportation of nuclear material between Russia and Bulgaria through Ukraine and Moldova (2006 and 1997 respectively).
- ◆ Agreement for cooperation in the field of nuclear energy and radiation safety regulation in the peaceful use of atomic energy (2014).



In the 2000s, Bulgaria became part of what was locally known as the “[grand energy slam](#)”. It consisted of a series of Russian energy projects (South Stream or the Alexandropoulis-Burgas interconnector) of which the [unfinished Belene](#) NPP was part. The Saxe-Coburg-Gotha cabinet (2001-2005) and the Bulgarian Socialist Party (BSP) cabinet that came after it (2005-2009) [strongly supported](#) the Belene NPP project, though not without opposition. Equipment for two Belene reactors had already been bought and delivered and their upkeep depended on the Russian company AtomStroyExport (ASE). One of the most prominent promoters of this “grand energy slam” with Russia was President Georgi Parvanov (2002-2010). The BSP party, along with its varying political allies in several coalitions during the last 20 years (either nationalist or even the Turkish minority party), have been the main political supporters of cooperating with Russia in energy and nuclear matters. In the early 2000s, Russia exercised some ideological leverage with [former BKP](#) members who transitioned to BSP or to its sphere, however, currently this influence is more about personal gain and it doesn't exclude other parties and organisations.

Between 2006 and 2019, Bulgaria reached [agreements](#) with Russian companies such as Rosenergoatom (a subsidiary of Atomenergopom) and Rosatom to upgrade the two operational units at the Kozloduy plant. Nonetheless, there have been several plans for expanding Kozloduy with the cooperation of enterprises from other countries. Westinghouse and Toshiba have for years been considered as serious [options](#) for upgrading Kozloduy without Russian involvement. Rosatom decided to not cooperate with Westinghouse and declined to share information or equipment with them. After multiple delays, budget problems and even the expiration of the shareholder agreement for the new unit at Kozloduy, the Bulgarian government confirmed its intention to build the new unit with a completely [different](#) technology and fuel. In October 2020 Bulgaria and the US [signed](#) a memorandum of understanding (MoU) concerning strategic civil nuclear cooperation. In January 2021, Bulgaria's Council of Ministers [approved](#) plans for constructing a seventh unit at the Kozloduy NPP using Russian supplied equipment intended for the Belene project. Although this required a Russian-American partnership that now seems impossible.

Regarding the Belene NPP, authorities started to consider it as a necessary means of replacement after the closure of units at the Kozloduy NPP. The equipment for Belene was of Soviet origin, so [in 2005 the ASE's led consortium was deemed the best positioned](#) during the tender by NEK. It is notable that [Milko Kovachev](#), the expert who oversaw the restart of Belene in the 2000s, worked for Rosatom only stepping down in 2013. Not without delays, the project moved forward until 2009, when the new Citizens for European Development of Bulgaria (GERB) party, led by Boyko Borissov, came to power. The German RWE was supposed to take a 49% stake in the project, but pulled out of it in late 2009, [allegedly](#), because they were kept in the dark regarding talks between BSP (later GERB's government) and Moscow.

[In February 2010](#), Russia offered Bulgaria a \$2 billion loan to finance the construction in exchange for 80% of the venture in Belene, but this was rejected by GERB as they were “not



willing to provide any state guarantees for loans”. NEK signed a MoU with Rosatom in November 2010 in order to establish the Belene Power Company, of which NEK was going to hold a 51% stake. Rosatom was tasked with attracting more investors, however several problems regarding the cost escalation of the project emerged. [In March 2011](#), Bulgarian Minister of Energy and Economy, Traicho Traikov, said it was considering stopping “its Belene nuclear project and instead install a Russian reactor it has already ordered at its Kozloduy plant to reduce safety risks.” Traikov, along with Borissov, was highly sceptical of the Belene project. By 2010, [the costs of the project soared](#) from \$4 billion to \$6.5 billion, with \$2 billion more already spent building the site. [In the summer of 2011](#), ASE opted for taking NEK to an international court for non-payment of \$58 million worth of equipment supplied for Belene. In 2012, Borissov [called off](#) the project at Belene. Meanwhile, ASE decided to [escalate](#) its claim against NEK to \$1 billion when Rosatom learned that the Bulgarian authorities considered Westinghouse as a new partner for the Kozloduy NPP. In February 2013, the BSP and ATAKA parties organised a [referendum](#) on building a new NPP. Most of the respondents (61%) were in favour, however, the turnout did not reach the required threshold and thus was non-binding. A new short-lived cabinet under BSP began to reconsider the possibility of carrying on with Belene between 2013 and 2014, but no agreement was reached. Because of the Russian seizure of Crimea in 2014, [Bulgaria found itself in a difficult position](#) regarding its ties with Russia. BSP decided to [endorse the EU sanctions against Russia](#), though even as the party chairman, Kherson-born Sergei Stanishev, supported the move, the stance against Russia was tepid.

Borissov and GERB returned in late 2014 and ASE took the matter to the International Court of Arbitration in Geneva, claiming around \$1.2 billion. In June 2016 the court [ruled](#) in favour of ASE and NEK agreed to pay \$645 million in compensation. Following this, in 2018, the Bulgarian parliament voted to abolish the moratorium with Russia on the construction of the NPP. In 2019, Borissov's cabinet tried again to [seek investors](#) for Belene, receiving [13 applications](#) from companies such as China National Nuclear Corporation (CNNC), Korea Hydro & Nuclear Power (KHNP), Framatome, General Electric (GE), and Rosatom. Rosatom, Framatome and GE had a preliminary agreement to form a consortium, but this move did not see further progress. The hardships caused by the COVID-19, the significant anti-Borissov protests and the chaotic cycle of [four elections](#) in the last two years have momentarily shifted attention away from the Belene NPP saga, but undoubtedly, it remains a key issue.

Final Points

Support for nuclear power will continue to be strong in Bulgaria in the coming decades. Organisations such as the Bulgarian Bulatom Atomic Forum [support](#) the development of both the Belene NPP and Kozloduy NPP and consider that Bulgaria will still need those plants for 2040, when coal-fired plants close as part of the “Green Deal” plan in the EU.



It remains to be seen how Russia's influence will persist, as Bulgaria is looking forward to diversifying its energy needs and imports. Russia has been pushed away from the Bulgarian nuclear energy sector during the last two decades, however, it will remain a powerful actor for several years. Bulgaria has recently started considering the benefits of US-made small modular reactors (SMRs). The country will most likely wait to see how this project develops in the US and if it is viable for Bulgaria's energy future. In February 2022, the then Bulgarian Prime Minister, Kiril Petkov, announced that Bulgaria would **consider** the possibility of building totally new reactors at Kozloduy after agreements between NuScale Power and the BEH-EAD in the field of SMRs. Petkov's government, ousted during the summer of 2022, stressed that it would not support the Belene project and that Bulgaria still had two years' worth of Russian **nuclear fuel**. If the country manages to get out of the political deadlock of seemingly never-ending elections, it will have to make a long-term decision regarding its nuclear future, cooperating with Russia or choosing a new partner.



Czech Republic

Jonas Oswald

Relations with Russia

The history of Czech Republic – Russia relations is a long and complex one, with its historical relations with Russia being chiefly formed during its time as part of Czechoslovakia. Following the pro-Soviet [coup d'état](#) in February 1948, Czechoslovakia became part of the Soviet-led eastern bloc and was a founding member of the Warsaw Pact in May 1955. With the Czechoslovak Communist Party firmly in power and with the instructions of the Soviet Union, industry was nationalized, agriculture was collectivized, and the political sphere was purged of non-communists. However, it was in the late sixties when the Czechoslovak government fell increasingly under the control of more liberal reformists, which culminated in the appointing of Alexander Dubcek as Communist Party Secretary with the objective to ‘deliver socialism with a human face’ – i.e., freedom of press, speech, and movement. This period became known as the [Prague Spring](#). As a result of this transition, Moscow sent 500,000 troops to reinstall a government that would enforce its interpretation of communist rule. In late 1989, the [Velvet Revolution](#) finally ended communist rule, along with Russia’s direct political influence. The legacy of the Soviet rule largely informs the Czech Republic’s mindset with regard to Russia. In other words, the people of the Czech Republic tend to be [distrustful of Russia](#) given this history and often prefer political and economic orientation towards the West.

Over the past two decades, the relationship between the Czech Republic and Russia has become more nuanced. Prior to the sanctions of 2014, the Czech Republic maintained a good economic relationship with Russia. For instance, the country used to receive 75% of its [natural gas](#) supply from Russia, and it was until recently a popular tourist destination for Russian citizens. Moreover, Russian citizens were investing heavily in [real estate](#) in the country, particularly in Prague. Despite the Czech Republic’s participation in sanctions against Russia after the annexation of Crimea, its President, Milos Zeman, held a [pro-Russia](#) stance until the full-scale invasion in February when he reportedly referred to the invasion as “[a crime against peace](#).” However, the Czech foreign policy apparatus, like much of the country’s population and allies in the European Union and NATO, has been critical of Russia ever since 2014. Heightened tensions arose in April of 2021, when the Czech Security Information Service and Police alleged that the Russian military intelligence was responsible for [explosions](#) at two Czech munitions depots in 2014. Consequently, the Czech Republic expelled eighteen Russian diplomats it considered spies. In response, Russia expelled Czech diplomats, after which the Czech foreign ministry announced it was [reducing and capping](#) the number of staff at the Russian Embassy in Prague at the current number of their staff in Moscow. As a result, Russia added the Czech Republic to its list of [unfriendly](#) states.



History of Nuclear Power in Czech Republic

The Czech Republic has six nuclear reactors distributed across [two plants](#) generating about one-third of its electricity. The first nuclear power plant in the Czech Republic, the Dukovany Nuclear Power Station, began construction in 1978 and entered operation in 1985. Its four VVER-400 model V-213 reactors were designed by Russian organisations and Serbian Energoprojekt, and built by CEZ Group subsidiary Skoda Praha. The country's second power plant, Temelin Nuclear Power Station, entered operation in 2002. Its two VVER 1000 model V-230 reactors were also designed by Russian organisations and Energoprojekt, and built by VSB, a subsidiary of the German Hochtief AG. Notably, Temelin is equipped with instrumentation and control systems made by Westinghouse, an American manufacturer. Both power plants are owned and operated by the Czech [CEZ Group](#), which is seventy percent state-owned. Unlike many other members of the European Union, the Czech Republic plans to increase its nuclear energy programme. In Its 2015 [energy policy](#), the country outlined its aim of making nuclear energy its main source of electricity production by 2040.

Trade Relations with Russia in the Nuclear Sphere

Fuel

The Dukovany Nuclear Power Station had its uranium fuel [supplied](#) by TVEL, a Rosatom subsidiary, ever since its commission. Temelin however, was supplied by Westinghouse after its commission, until TVEL received the contract, which started in 2009, due to a series of technical problems including fuel deformation and incomplete rod insertion. This means that currently, the Czech Republic sources all of its nuclear fuel from Russian companies. However, in April of 2022, in response to the Russian invasion of Ukraine, the CEZ group [concluded contracts](#) with American Westinghouse and French Framatome for the supply of fuel for the Temelin Nuclear Power Station, citing energy security concerns. Deliveries are expected to start in 2024. The Dukovany Nuclear Power Station has sufficient fuel stocks for the next three years, but according to [Bohdan Zronek](#), member of the board of directors of CEZ Group, the company is continuing to 'think about the diversification of suppliers'. This suggests that Dukovany may also source its future supplies from a company other than Rosatom, which would be a significant hit to the Russian state-owned company's influence in the Czech Republic.

Reactors

In July 2008, CEZ Group announced its [intention](#) to build two more nuclear reactors at Temelin Nuclear Power Station and a public tender process for contractors to build the two new reactors commenced in August 2009. The three bidders consisted of Westinghouse, a consortium of



Skoda and Rosatom subsidiaries AtomStroyExport and OKB Hidropress, and French Areva. However, following the Czech government's refusal to provide future energy price guarantees, the CEZ cancelled the procurement process in 2014. In June of 2015, as part of the aforementioned new energy policy, talks of a fifth reactor at Dukovany emerged, which would take priority over the postponed expansion of Temelin. Thus, in 2016, six companies and conglomerates submitted offers to CEZ and the Czech Government; EDF/Areva, Atmea, China General Nuclear Group, Korea HNP, Rusatom Overseas, and Westinghouse. Rusatom Overseas offered a full engineering, procurement and construction contract, as well as the holding of minority ownership, similar to the arrangements with Finnish Fennovoima. Finally, in March of 2021 the Czech Ministry of Industry selected EDF/Areva, Korea HNP, Rosatom, and Westinghouse to participate in a pre-qualification round for a tender for Dukovany reactor 5. However, in April of 2021, the Czech Republic announced that it would [exclude](#) Rosatom from the tender. This decision came only two days after the Czech government expelled eighteen diplomats in connection with the allegations that Russian military intelligence was responsible for explosions at two Czech munitions depots. In April of 2022, [Westinghouse](#) signed a memorandum of understanding with seven Czech companies regarding the construction of Dukovany reactor five.

Final Points

The Czech government remains committed to nuclear energy and is planning to expand its production capacity with the construction of new reactors at the existing power plants. Unlike with its aborted expansion plans in 2009 however, Rosatom and its subsidiaries will not be considered for participation in any capacity. Similarly, TVEL has already lost its contract for the supply of fuel for the Temelin Nuclear Power Station, and will most likely lose its contract for Dukovany in the near future. As such, it may be concluded that the influence of Rosatom and its subsidiaries in the Czech Republic has declined significantly.

This comes as no surprise considering the state of the Czech Republic's relationship with Russia; it appears to have no appetite for continued cooperation on matters so integral to national security as energy production. Instead, the Czech Republic will look to the west, especially to France and the US, when it comes to the expansion and maintenance of its nuclear power infrastructure. Westinghouse will most likely be of continued importance to this transition, having a history of operating in the Czech Republic.



Finland

Lāsma Kokina

History with Russia

Finland has a long and complex [history with Russia](#). For many years Finland maintained a non-aligned status, skirting potential friction with their powerful neighbour. Despite this, the war in Ukraine has reopened wounds in a conflict-ridden relationship between Finland and Russia, causing Finland to [request NATO membership](#) and end their period of military neutrality. Russia's reaction to Finland's decision to join NATO has been somewhat mixed. Russian Deputy Foreign Minister Sergei Ryabkov, called the decision a “grave mistake” that would have “far-reaching consequences.” At the same time, [Russian President Vladimir Putin stated](#) that Finland's NATO membership would pose no direct threat to Russia, but warned NATO against moving weapons into its territory. Looking forward, this decisive move by Finland will fundamentally change the relationship between the two countries, and a shift in policy has already been observed in the energy sector.

Nuclear Energy and Cooperation with Russia

Nuclear energy is of [key importance](#) to Finland, with 33% of the electricity produced in Finland being from [nuclear power](#). Nuclear energy enjoys high public support, with a 2022 [survey](#) conducted by Finnish Energy identifying the fight against climate change as the primary reason. According to the data, about 60% of Finns said they favoured nuclear power. Finland has five [operating nuclear reactors](#), with Finland's reactors being among the world's most efficient. In 2010, the government of Finland granted permits for construction of the [sixth and seventh](#) commercial reactors to [Teollisuuden Voima](#), a Finnish nuclear power company, and [Fennovoima](#), a nuclear power company established by the Russian state nuclear company, Rosatom, and a consortium of Finnish state-owned power and industrial companies.

This led to a [plan by Fennovoima](#) to build a new nuclear reactor in Pyhäjoki, on the Finnish Hanhikivi peninsula, which came to be known as the [Hanhikivi 1 project](#). This was a controversial move due to the fact that Rosatom, the Russian state nuclear company, acted not just as the supplier of the reactor but also as the main shareholder and financial investor in the Fennovoima consortium. Fennovoima [initially estimated](#) that the construction of the power plant would begin in the summer of 2023, with commercial operation beginning in 2029. At the same time, the Hanhikivi 1 project was considered of high [importance for Russia](#), and viewed as a means of promoting interest in the modernisation of the Russian economy, the diversification of its export structure and by demonstrating Russian nuclear technology.



Yet, following Russia's invasion of Ukraine in May 2022, [Fennovoima terminated the contract](#) it had awarded to Rosatom's subsidiary, RAOS, to build the Hanhikivi 1 nuclear power plant, naming "significant delays and inability to deliver the project" as the reasons for termination. Fennovoima argued that it had experienced severe and increasing delays during the last years. In addition, the war in Ukraine was named as a factor that worsened the risks for the project, with Fennovoima arguing that RAOS has been unable to reduce any of these risks.

This decision did not come as a surprise. On February 22, shortly before Russia's invasion of Ukraine, Finnish Prime Minister Sanna Marin and Minister of Economic Affairs Mika Lintilä requested a more exacting [risk assessment of the project](#). As a response, [Rosatom announced](#) that they were "extremely disappointed that Fennovoima Oy has taken the decision to terminate its EPC contract with RAOS Project", arguing that "the reasons behind this decision are completely inexplicable to us." Following this, Rosatom stated that the termination of the contract by Fennovoima was illegal, adding that Rosatom plans to [demand compensation](#).

However, Fennovoima's decision was backed by Finland's political leadership. Finnish Economic Development Minister Mika Lintilä [stated](#) that Fennovoima's decision was right and is "a completely understandable measure in this situation." Lintilä further stated to the Finnish parliament that it was "completely impossible" to issue a permit for the construction of the nuclear power plant after Rosatom took control of a nuclear power plant in Ukraine. The decision by Russia to seize a Ukrainian power plant, which violated international agreements, and created distrust, led Lintilä to assert that it would be "absolutely impossible to issue a licence in such a situation." These quotes of Lintilä demonstrate Finland's broad disapproval of Russia's political actions, and further indicate that the energy sector is no exception. Consequently, given its political concerns, Finland is seeking collaboration with new nuclear energy partners.

Final Points

Indeed, in wake of the war, the Finnish state-owned energy company [Fortum has announced](#) its plans to start buying nuclear fuel from the U.S.-based Westinghouse Electric Corporation, in an attempt to replace Russian fuel, which it has been using since 2008. Furthermore, in March, [Fortum announced](#) that it has stopped all new investment projects in Russia, put its Russian assets up for sale, and has ceased to provide any new financing to its Russian subsidiaries. This clearly acts as a case showing the adverse impact of the war in Ukraine on Russia's nuclear energy sector.

In regards to building new nuclear reactors, future cooperation partners are also likely to include Washington, given Finland's [interest in small modular reactors](#) (SMRs), a technology in which the U.S. is a leading supplier. [Two major Finnish energy firms](#), Fortum and Helen, are currently looking into the possibility of nuclear power generation using SMRs. As such,



we see a clear trend of Finland shifting to collaboration with the West, mainly due to its history with Russia, EU membership, and [aspirations to become a NATO member](#).



France

Albert John Welirang

Franco-Russian Relations & the Nuclear Industry

As the [second largest economy in the EU](#), France faces the twofold struggle of balancing its own domestic policies alongside its foreign policy goals. Franco-Russian relations on the war in Ukraine have been clear. France unequivocally condemns the war and supported the Ukrainian people as early as 2014 upon Russia's annexation of Crimea. France also actively plays a political role in the conflict, openly condemning Vladimir Putin's illegal annexation of four Ukrainian regions. Emmanuel [Macron also maintains sustained diplomatic efforts](#) with Putin to foster some form of open dialogue despite widespread criticism, whereas other nations have opted to shun Russia completely instead. Militarily, France has [pledged further support for Ukraine](#) with new air defense systems to protect Ukrainian cities against Russian drone strikes. In addition, aside from imposing stringent sanctions on Russia, France has also [allocated some €100 million in humanitarian equipment, healthcare and agricultural support](#) for the Ukrainian people.

The West's resolve to oppose the war in Ukraine on its face appears robust, comprehensive and unified. Western sanctions against Russia have had some impact but the provision of military aid to Ukrainian armed forces has momentarily turned the tide of the war. Despite overwhelming Western opposition to Russia's invasion there are two realities to be drawn from the war in Ukraine.

Firstly, many Western nations are intimately tied with Russian supply of energy. In a traditional sense the Nord Stream 1 and 2 pipelines have proven critical to Europe's access to natural gas. Yet an often-ignored energy commodity is nuclear power and Russia's influence over this field. A key example being France which, despite its condemnation of Russia's war in Ukraine, holds close relations with Russian state-owned nuclear energy giant - Rosatom. In seeking to build its presence in Western Europe, Rosatom set up a regional subsidiary – [Rosatom France – in 2014](#) with the objective to 'set up mutually beneficial partnerships with European businesses to gain new opportunities'.

Secondly, EU policies to meet net-zero emissions by 2050 as part of the ongoing 'climate catastrophe' are seeing a natural, fundamental shift away from fossil fuels to renewables like nuclear energy. The reality is that Russia is a big player in the energy industry and potentially useful partner in helping the EU reach its green policy goals. In the nuclear energy sector, Russia owns some [40% of total uranium conversion infrastructure in the world, and 46% of the total uranium enrichment capacity](#), a factor that has led Europe to having benefitted significantly from renewable Russian energy imports. In saying this, Russia continues to play



a prominent role in France's new green initiatives by providing the necessary technology for nuclear power plants.

The conclusion drawn from these two realities is that while Ukraine remains a centrepiece to the wider geopolitical struggle between NATO and Russia, Russian nuclear energy serves as a critical tool in Russian foreign policy and its sphere of influence. Therefore, France faces a critical dilemma. Whilst it morally condemns the war and financially supports Ukraine's struggle for self-determination, the country remains to some extent a benefactor of Russian nuclear energy.

The Future of Nuclear Energy

French domestic policies have relied heavily on nuclear energy and is one of the biggest producers in Europe. Historically France was not a big producer of renewable energy but during the post-war period in 1945 France underwent dramatic socio-economic development. By 1973, France found itself reliant upon coal and hydropower at a time when [75% of France's national consumption for energy were imports](#). In a renewed shift to become more *energy independent*, France significantly developed its nuclear power industry within a 40-year period. This shift has been economically successful and highly profitable. The nuclear industry today in France is a *key* economic sector [representing 6.7% of the job market for 2,600 companies, with an annual turnover of €50 billion](#). Domestically France has [56 nuclear power reactors in operation, one of the largest in the world generating 70% of French electricity](#). This huge leap to become energy independent could not be achieved without a long-standing and deep relationship with Russian energy giant Rosatom.

The paradox is that France's push for energy independence has made it uniquely reliant on Rosatom. France's state-owned energy companies [EDF and Framatome are some of the most innovative nuclear energy companies in the world](#). Both companies produce components for nuclear engineering and also construct and maintain nuclear power plants. However, both companies also work closely with Rosatom at ['all levels from the production chain, to the exploitation of uranium and treatment of waste, to the construction of power plants and their operation'](#). This long-standing relationship means that France's key and innovative nuclear energy companies are deeply intertwined with Russia's as well. This reliance has not simply produced a close affair with both industries but it has also made them both *highly profitable*. Rosatom is a big client for France's nuclear energy industry. For example, it has been a longstanding [customer of EDF components and the biggest buyer of French-made Arabelle steam turbines](#) which are found in both French and Russian nuclear power plants. Furthermore, [Henri Proglio, the former CEO of EDF, sits on the international advisory board of Rosatom](#) which signals a deepening of ties between the two nuclear industries.



The trajectory of France's future nuclear power can only continue to grow and expand. France's energy policy currently places a high emphasis on [developing energy efficient initiatives](#). These new initiatives undoubtedly include Rosatom. In December 2021, [Framatome and Rosatom both signed a Strategic Cooperation Agreement](#) 'to develop fuel fabrication and instrumentation and control technologies' and 'hasten collective effort to achieving global decarbonization goals'. When Russia invaded Ukraine in February 2022 this agreement was put under scrutiny but continues to remain in place. The true insight to be drawn is that France's nuclear energy industry is simply *too big* to cut ties completely with Rosatom. Furthermore it would also be economically imprudent, adding to the list of problems are the cost of living crisis and high inflation of energy prices for consumers. France cannot afford to scuttle the production of its nuclear energy industry. In fact its future appears bright, [Macron announced this year plans to construct six more nuclear reactors by 2050](#) with a possibility of a further eight. As Macron pushes for a nuclear renaissance and further expansion of French nuclear power it places him in an uncomfortable position. One where France seems morally culpable in financing the war in Ukraine.

The Bigger Picture – Energy as a Geopolitical Struggle

Understanding how deeply embedded France's nuclear energy industry is with Russia's unveils how the war in Ukraine may be a cause of concern for the EU's green policies. The West in many ways finds itself entangled within Russian influence. [In a report from Greenpeace](#), Russian energy giants Gazprom, Lukoil and Rosatom lobbied the EU Commission at least 18 times to influence the inclusion of nuclear energy in the EU taxonomy of sustainable investments. The effects are significant; it would suggest Russia could potentially remain one of the main beneficiaries in green investments within Europe, [opening up some €500 billion of potential investments](#) with green investments available. It is no surprise that Russia's nuclear energy industry has remained virtually untouched by Western sanctions whilst other industries like oil and gas have been impacted more heavily. Russia maintains deep pockets and influence at all levels of bureaucracy. Energy has now become a flashpoint for promoting Russian interests. Previously, this status was afforded to the Nord Stream 2 pipeline (now destroyed) which seemingly could be turned on and off in a bid to pressure Western nations in their resolve against Russia. Whilst the [destruction of the Nord Stream 2 pipeline](#) has sliced a potential exit strategy for Russia in the war. It rules out any potential concessions to be made if a peace-settlement is to be found. But nuclear energy is quickly becoming a new playing field (as seen in France) where Russia can exert its geopolitical influence without the use of oil and gas.

This is why Russia's nuclear energy influence *should* matter to the West. Energy in many forms has been utilised by Russia as an extension of its own foreign policy. In Ukraine, Russia has used energy as *a weapon* inflicted on Ukrainian civilians by [targeting key infrastructure](#), cutting off electricity, water and heating as winter approaches. Energy is also being [reutilised to Russia's benefit](#) such as the capture and use of Zaporizhzhia power plant to power Russia's



grid system. [Rosatom now directly oversees](#) the maintenance and supply of the power plant in Ukraine. Finally, energy can also be utilised as a form of provocation. Putin recently had hinted at the use of tactical nuclear weapons as a last resort. [Rosatom plays a significant role in this affair](#) as it not only maintains Russia's nuclear power but also its tactical nuclear arsenal as well. Russia's nuclear diplomacy therefore unveils the growing importance for Western nations [to adapt and diversify sources of supply](#) and secure alternative sources of uranium within Europe or with the EU's global partners.



Germany

Azaria Kidane

Russo-German Relations

Russia and Germany have seen a tumultuous relationship in recent history. Since the late 1800s, Germany and Russia have been on opposite ends of nearly every political and ideological battle that has taken place within Europe. The genocidal conflict on the Eastern Front in World War 2 led to the Soviet Union occupying and turning Eastern Germany into a puppet state for nearly 50 years, before it reunified with the West in 1990. This in turn led to all of Germany becoming a NATO member (instead of just West Germany) and played an integral role in the founding of the EU in 1993.

Despite being allied to Russia's main political rival that is NATO, the economies of Germany and Russia are deeply linked. Even after the invasion of Crimea, they remained key trade partners with [Russian exports to Germany in 2018](#) amounting to \$22.1 billion and imports to \$16.9 billion. Of course, this has posed problems with balancing Germany's foreign policy obligations and its own economic prosperity. However, even with these links, the brazenness of Russia's invasion of Ukraine has led Germany to sever these links by placing sanctions on Russia and helping in the armament of Ukraine. Germany's spending of [€1.6 billion](#) in armaments, drones, and other supplies for Ukraine has led to serious repercussions for them.

Nuclear Energy in Germany

Russia has halted gas imports through Nord Stream 1, which has led to [scarcity and price volatility for not only Germany, but also many other European nations](#) which were particularly reliant on Russia for natural gas. This has led to the revival of the debate surrounding Germany's use of nuclear energy of which was due to be totally phased out by the end of this year. There has been a strong anti-nuclear movement in Germany since the 1970s and it only grew following the affects the Chernobyl disaster had on the nation. Despite apprehension by German politicians, including Chancellor Angela Merkel, that Europe was too dependent on Russia for energy, public opinion has consistently stood against the use of nuclear energy, a key example being [Germany's anti-nuclear movement](#) that has gone on since the 1970s. Because of its unpopularity, politicians would only go as far as to argue that nuclear energy was only a "[transitional technology](#)" for a climate-friendly Germany. In 2011, following the Fukushima disaster, in a U-turn on the aforementioned policy, Chancellor Merkel announced that all plants would be [shut down by 2022](#) and nuclear energy would be replaced by solar and wind energy. This line of policy has remained the narrative even in the wake of the ongoing energy crisis. In August of this year, the [Minister of Economic Affairs and Climate Action](#),



[Robert Habeck](#), [stated](#) that any extension of the nuclear power plants would be “the wrong decision given the little [Germany] would save.” However, this position does not stand without some opposition. While Habeck has sought a maximum of a 4-month life extension for nuclear power plants, [Finance Minister Christian Lindner has argued](#) with Habeck for an extension up until 2024 [rather than opting for German coal](#).

Russian Influence in Germany

Germany has the same reliance on Russia for nuclear energy as it does for natural gas, with Russia maintaining direct and indirect influence on the sector. In 2009, [NUKEM Technologies GmbH was acquired by Rosatom](#), making it a Germany-based subsidiary, with the responsibility of “decommissioning nuclear facilities, decontamination, waste processing and radiation protection.” While having a Russian state-owned nuclear energy firm in charge of the movement of nuclear waste is worrying for Germany, the sector remains highly competitive, with other foreign firms like Westinghouse Electric Company and Orano being big competitors for NUKEM.

Supply of Uranium

Another critical point relates to the Emsland power plant. In September this year, cargo shipments of Russian uranium were [reportedly seen being unloaded at the port of Dunkirk, France](#) and then transported to the Emsland power plant in Lingen, Germany. Although Germany is not listed as a client of Framatome’s facility, most of the uranium used in Germany’s 3 remaining plants do in fact originate from [Russia or Kazakhstan](#). Therefore, even if it is not a Russian firm directly selling the fuel to Germany, the country still heavily relies on fuel being mined from Russia. Moreover, as France imports [20%](#) of its Uranium from Kazakh mines which are owned by Rosatom, Germany is a benefactor of French nuclear power due to power cable connectors interconnecting their national grids.

In the long-term, given the political opposition against the reliance on nuclear energy, Russia’s influence over Germany’s nuclear power industry appears to have an expiration date that we will see in due time once the government agrees upon legislation. However, in the short-term, Russia maintains an indirect influence over the supply of uranium fuel for German power plants such as the Emsland power plant operated by Framatome.

Final Points

With the current timeline, Russia’s influence in the German nuclear industry should end by April 2023, when the deal to extend the lifetime of Germany’s remaining plants ends. With the only political party of note supporting nuclear power being the AfD and anti-nuclear sentiment being deeply embedded in German domestic policy, it is highly unlikely that we will see an



extension of this deadline, let alone the development of any new plants. Over the next couple of years, Rosatom's influence will diminish significantly as it will only be connected to Germany through the sale of French nuclear energy which supplies energy to neighbouring countries' energy grids. Its subsidiary, AtomStroyExport, will help deliver the final blow to Russian influence in Germany's nuclear energy industry by helping decommission the three remaining plants, but even this responsibility will be shared by rival firms. While Germany will still be left reeling from the shutting of Nord Stream 1 and must find alternative sources quickly before the closing of its last nuclear power plants, it is safe to say that Russia's influence in their nuclear energy industry will be over as of next year.



Hungary

Kris Sokas

Historical Relations with Russia

Looking at recent history, there is no doubt that Prime Minister Viktor Orban is the most important figure in Hungarian politics. His party, Fidesz, has been ruling the country between 1998 until 2002, and re-gained power in 2010. At first, Orban was quite a liberal and western-minded leader. During Orban's first term, Hungary joined Nato in 1999. However, after the 2010 re-election, his views changed, developing a more conservative viewpoint in his leadership style. The views Orban maintains, even after the Russian invasion of Ukraine, remain very similar to those of President Vladimir Putin.

[Since 2010](#), Orban has been increasing cooperation with Russia, specifically in the energy sector. Around 60% of the country's oil and 85% of natural gas derive from Russia. Hungary was one of the most reluctant countries to implement sanctions on Russia which is exemplified in its actions to either delay, block or withdraw from the European Union's (EU) sanction packages. In line with this, in [2014](#) Orban's government decided not to pursue the open tender to expand their Paks Nuclear Power plant (NPP), and instead signed a cooperation deal with Rosatom, a Russian owned corporation, this move backtracked on an agreement already signed with South Korea in 2013. [Orban also argued](#) that the German-Russian energy axis is the only way to stop Eastern Europe from becoming "dependent on Americans" for energy and military protection.

At present, Hungary operates [4 Nuclear reactors at Paks NPP](#). This NPP accounts for 46% of Hungary's energy generation. Paks NPP was originally constructed by the "Atomenergoexport" company, first founded as an engineering company in the Soviet Union in 1973. Currently the NPP is run by MVM (*Magyar Villamos Művek*) Paks Nuclear Power Plant Ltd. a subsidiary of MVM Hungarian Electricity Ltd. The nuclear reactor units in the NPP have been progressively updated between 1990-2000s by "AtomStroyExport", a subsidiary company of Rosatom. In 2015, "Turboatom", a Ukrainian state-owned company based in Kharkiv, performed upgrades to low- and high-pressure turbines. General Electric (GE) had a contract to refurbish eight generators between 2013-2021. In 1996-97, Paks NPP proposed an expansion plan to further build two new reactors. Westinghouse AP600, AECL Candu-6 and AtomStroyExport /Siemens VVER-640 have been considered. However, the projects have been rejected by MVM as they did not fit the government's policy.



Political Analysis

Current Deals

In 2021, Hungary's Foreign Minister, Peter Szijjártó, announced that they came to an agreement with Rosatom to build the Paks NPP extension (PAKS-2), which involves the construction of two new nuclear reactors. The total price to construct the nuclear reactors is 12 billion EUR. However, 10 billion will be provided as a loan by the Russian Federation, of which constitutes 80% of the total price of the project.

Key Figures

On the 21 November 2022, Péter Szijjártó, Hungary's Minister of Foreign Affairs and Trade, delivered a speech at the Russian-run "Atomexpo2022" Forum which took place in Sochi at a Russian resort city near the Black Sea. In his speech, Szijjártó said that Hungary "is building a pragmatic and well-thought-out energy strategy that will not only allow it to develop its nuclear industry and gain more autonomy with regard to energy prices, but also reduce its carbon footprint." Prior to the expo, Szijjártó posted on Facebook that he had met with the CEO of Rosatom, Alexey Likhachev, noting they discussed construction of PAKS-2.

The expansion of the Paks nuclear power plant is in Hungary's national strategic and national security interests. It is no coincidence that only a week has passed and today we are back at the negotiating table with Alexei Likhachev and the management of Rosatom. Last Monday in Samarkand, we reviewed in detail the necessary steps in the short and long term to ensure that we can count on two new Paks units by the end of the decade. (21 November, 2022)

From the narrative of Szijjártó, it can be seen that Hungary has no intention to back down on their cooperation with Russia and Russian companies such as Rosatom and their subsidiaries. Moreover, Hungary will likely continue to prevent sanctions being placed on Russian nuclear energy. The Prime Minister, back in March 2022, made a statement in an interview to the state news channel M1, that the PAKS-2 expansion project 'should not fall victim' to the sanctions imposed on Russia. This was at the beginning of Russia's invasion of Ukraine.

Recently, the 9th sanction package has been in the making by the European Commission (EC). Lithuanian President Gitanas Nausėda said on 25 November 2022 in the press conference with Latvian, Polish and Romanian leaders that Rosatom has to be included in the sanctions. However, he did not specify whether this should be done in the upcoming 9th sanction package. If Rosatom is sanctioned, we would see Hungary's aspirations to pursue the PAKS-2 project in collaboration with Russia severely impacted.



Presence of Russia in Country Sectors

Supply chains

Initially, Russia was aiming for Hungary to sign a deal to [buy the fuel from TVEL](#), a Rosatom subsidiary company. The deal would have lasted for 20 years and come into effect after the PAKS-2 extension was completed. This proposed agreement has since been [challenged by the Euratom Supply Agency](#) (ESA) with backing from the EC. The main argument of ESA was that there is a lack of alternative fuels in case of supply chain disruption, due to particular fuel design offered by TVEL. Eventually, Hungary agreed to cut the duration of the contract to 10 years. After this period, alternative fuel suppliers will be able to bid for the supply of fuel to Paks power plant. Currently all nuclear fuel comes from Rosatom's subsidiary, TVEL.

In the past, Hungary operated its own Uranium mines in the Mescsek region (South West Hungary). The mine there was operating 1958-1997 until it was depleted and decommissioned. There were some [unsuccessful proposals](#) to re-examine the area for any potential new opportunities to mine the Uranium once again.

New Power Plant Development

In 2014, the Hungarian government did not pursue an open tender for the Paks project and backtracked on the agreement it had already made with South Korea. Instead, the Orban-led government chose Russia's proposal. In doing so, Hungary was slated to receive a 10 billion EUR loan from the Russian state as mentioned previously (totalling 80% of the project). Financing of the project received parliament's approval with 256 found in favour and only 29 against. The loan would have to be repaid within 21 years of the plant's operation, which was planned to start in 2026. The [interest rate](#) would be set below 4% for 11 years then 4.5% then 4.95%. In 2017, Vladimir Putin made a statement that they were willing to fully finance the project if needed.

[Later in 2018](#), as stated by the Minister of the Economy at the time, Mihály Varga, made an early repayment due to good performance of the country's economy. The amount repaid to the Russian state was 78.2 million EUR. [In May 2019](#), the plan was adjusted, and it was agreed that Hungary will start the repayment of the loan only when the reactors are connected to the grid. Later the plans were adjusted further and the Finance ministry has agreed to start the payments in 2031.

Initial construction date was set to Q4 of 2021 however the Hungarian Atomic Energy Agency (HAEA) did not approve the licence due to the need for further assessment of issues involving the construction licence. HAEA did not provide further comments as to why they needed an extension. As of the 25th August 2022, the Atomic Energy Authority (OAH) of Hungary authorised the PAKS2 expansion project.



Financial Incentives

The most prominent Russian dependency of Hungary is the energy market. Hungary obtains most of its oil and gas (85% and 60% respectively) from Russia. Orban's government agreed to pay in Rubles to Russia for the oil and Gas deliveries if need be and [Orban himself commented](#) that this does not violate any sanctions and at the same time ensures safe gas supply to Hungary.

Recently, during the EU foreign minister summit in Brussels, Szijjártó has been fighting fiercely to oppose the Russian oil and Natural gas cap, writing in a [post](#) on his facebook page. From this we can see that Hungary is not only heavily reliant on Russian energy, but is also reluctant to change that.

It is important to note that if the PAKS-2 project proceeds, the Hungarian state would obtain a loan of 10 billion EUR from Russia. This would only increase their already highly dependent energy sector on the Russian state.

Final Points

Hungary's energy sector is highly dependent on Russia. Nuclear energy does not have to be as dependent on Russia as it is and as it is planned to be. Notwithstanding, Orban's Government seems to be pushing the country for even further dependency on Russia. PAKS-2 could have been Hungary's golden ticket to greater independence from Russian energy. If the deal that was initially signed with South Korea would have been pursued, taking into account that 46% of all energy consumed in the country is produced by the current reactors, PAKS-2 project would have been a major step in liberating Hungary from the Russian nuclear industry. Right now, all of Hungary's nuclear fuel comes from the Russian owned TVEL company, the PAKS-2 extension project is being pushed to be developed by Rosatom, future nuclear fuel deliveries are also agreed to be made by TVEL for at least the next 10 years. Westinghouse, Atomic Energy of Canada Limited (AECL) and Korean Hydro and Nuclear Power (KHNP) proposals have all been rejected.

If Hungary's landlocked geography is factored in, which does not allow an easy shift from the Russian oil and gas, it is possible to understand why Hungary is pushing against the sanctions on Russia and why they do not want the price caps. But a government which is motivated to end any kind of dependency on one country, objectively, should not take a large loan, and tie itself in long term agreements with the country they are already highly dependent on in that sector. Especially when they have the option to use this nuclear energy project to decrease this dependency.



Serbia

Aidan Cross

Russo-Serbian Relations

Since the collapse of the former Yugoslavia, Russian-Serbian relations have remained rather close in comparison to Russia's relations with other European countries. From [backing](#) Serbia's position on the situation with Kosovo (which neither Serbia nor Russia recognise), to Serbia's unwillingness to impose sanctions against Russia, in spite of what has been described as the "most difficult [EU] [pressures](#)", following the launch of the 'SMO' in Ukraine, we see Serbia take an international line very much opposed to most others in Europe. Russo-Serbian relations have seen some strain following the Russian-Ukrainian Conflict, though Serbia's condemnation have been more or less symbolic, with voting in favour of the UN resolution condemning the [SMO](#) and the [annexations](#), ultimately having little impact on Russia and thus allowing Serbia to maintain relations.

Consequently, Serbia is the only nation in Europe to not impose sanctions against Russia, however such a policy has led to further disagreements with the EU. Ursula von der Leyen reportedly stated, alongside other EU officials, that this could [jeopardise](#) any future membership of Serbia within the EU. Serbia's President, Aleksandar Vučić, has indeed expressed support for the territorial [integrity](#) of Ukraine, but has often paired such declarations with underlying criticism of what he terms as 'respect for Serbia's territorial integrity,' referencing the EU's position on Kosovo. As a result, Russo-Serbian relations to this day remain relatively strong but are short of Serbia siding with Russia outright. Rather, it appears Serbia's relations are the consequence of seeking those who can support the country's position on key political matters, primarily that of Kosovo.

Energy and the Nuclear Industry in Serbia

At present, Serbia possesses no nuclear power plants (NPP) and has a ban in place against the use of nuclear power. Nonetheless, Serbia has [recently](#) looked into the development of nuclear energy in order to [pursue](#) a 'diversification of energy,' a result of major disruptions to the world's, and especially Europe's, energy supplies. Currently, a core part of Serbia's energy comes from Russia; around $\frac{1}{4}$ of oil is imported from Russia, and in May of this year it had [secured](#) a three-year gas deal with Russia.

Still, there remains an absence of any significant presence of a nuclear industry, and it will likely take time before one is developed. Yet, overall, there remains an increased willingness to pursue the establishment of such an industry, which can reasonably be attributed to the vast disruptions caused by Russia's SMO.



State of Russo-Serbian Cooperation

Current Deals

Regarding deals with Russia/Rosatom, an agreement had been reached in [December 2021](#) which saw Rosatom commit to constructing a ‘Centre for Nuclear Science and Technology’ in Serbia, a project that was originally planned to start at the end of 2022, though the current status of this project following the launch of the SMO is not yet known. Alongside this agreement, there is also a planned construction of a ‘Nuclear Medicine Centre’ which would include a ‘cyclotron complex’ and ‘radiopharmaceuticals production facilities’ that are to be built within the next three years. The centre is also expected to possess a ‘research reactor facility’, but this is all short of the construction of an actual NPP.

In 2021, Serbia had also been considering the [potential construction of a NPP](#), which is very much a recent development in terms of official conversation regarding nuclear energy in Serbia. Further on from this, when it was originally mulled back in November of 2021, Serbian President Vučić had stated that the major blocker was the serious financing such an undertaking would require - and subsequently it was proposed that a potential deal be made with Russia’s Rosatom to help the financing and construction of what would be Serbia’s first NPP. However, like with most of these pre-February 2022 discussions, the current position now is unclear.

Key Stakeholders

Within Serbia, it can be correctly acknowledged that there are many who greatly support closer cooperation with Russia and its state sectors/companies. Perhaps the most notable individual in this current case would be that of Nenad Popović, who currently serves as Serbian Minister (without portfolio) of Innovation and Tech Development, as well as being the president of the Intergovernmental Committee for Cooperation with Russia. As will be explained, Popović is often identified whenever an important deal is being made with Russia, and was in fact the one who signed the previously cited deal between Serbia and Rosatom, and thus is an individual of great interest in this area.

[Popović had been very much engaged](#) with Russia before entering politics, having gained a Masters and Doctoral at Moscow State University as well as teaching as a professor at Lomonosov University’s Economics Faculty and at the Moscow State Mining University. Alongside this, he would go on to found ABS Electro, a company which engaged in the “production of electrical-technical equipment, creating advanced engineering solutions for a variety of industries” like that of oil, gas, metal and mining, with many of the [clients](#) being based in Russia along with its operations being headquartered in Moscow.

In Serbian politics, he has continued to have a frequent and strong engagement with Russia. As Vice President of the National Assembly, he was head of international observer for the Crimean referendum following the 2014 annexation by Russia, and since 2017 has served as Minister without portfolio, tasked with furthering innovation and tech development. Throughout his political



career he has opposed the goal of Serbia joining the EU, and as head of the Intergovernmental Committee for Cooperation with Russia he has continuously pushed for the continued advancement of Russo-Serbian relations.

Such actions have subsequently led to him receiving a variety of awards and honours from Russia, including the Order of Friendship, the Medal of Holy Sergey Radoniesky, and the Medal of Holy Daniel of Moscow.

Consequently, Popović remains a very much present influence with regards to Russo-Serbian relations as well as the development of any potential nuclear cooperation between the two nations.

Nuclear Policies

Outside of Serbian-Rosatom engagements, Serbia has been looking elsewhere in order to procure a stable supply of energy via nuclear means. Specifically, Serbia has recently expressed an interest in becoming a minority shareholder of [Hungary's Paks NPP](#), proposing that Serbia would obtain a 10-15% stake in the plant which would be provided compensation via Hungary being given a stake in Serbia's own national power companies. This is once again perceived as part of Serbia's move to diversify its energy suppliers, as well as potentially strengthen relations with other states in Europe who are also not completely onboard with the stand taken by the EU.

However, a caveat to this pursuit which could see further Russian influence is that of the Paks NPP which [depend on Russia](#) for nuclear fuel in order to power its operations. The importance of this fuel can be very much identified by the fact that [Hungary has stated](#) that it will not support any sanctions against Russia's nuclear industry. Therefore, Serbia's nuclear policy, whether directly or indirectly, will be heavily influenced by Russia and its nuclear industry. Consequently, we will see Serbia continue to maintain strong relations with Russia in order to secure the development of a nuclear industry.

Final Points

Serbia remains the most likely candidate for Rosatom/Russian projects as well as serving as a key influence within Europe. As Serbia's interest in developing its own nuclear energy capabilities continues, current relations with Russia may see that it is ROSATOM who is asked to help support such endeavours in Serbia. Furthermore, with tensions between Serbia and Kosovo ongoing, having seen [recent](#) concerns of potential conflict this year, it is very much expected that Russia will continue to hold much influence within the Serbian government due to their support for Serbia's position against Kosovo statehood, especially if the EU fails to bring the two sides to a compromise.



Slovakia

Carlo Da Cas

General Overview

Historically, Slovakia has entertained close diplomatic relations with Russia, as throughout the Cold War the now dissolved state of Czechoslovakia found itself firmly aligned with the Warsaw Pact and the Soviet Union. Political and economic collaboration between these two nations was commonplace, especially in the nuclear sector as the Soviet Union sought to export its technology throughout its European buffer zone. During the Cold War, the Soviet Union built Slovakia's two nuclear power plants (NPP), which still stand today, located at [Mochovce and Bohunice](#). Each plant is equipped with two [VVER V-213](#) Soviet type nuclear reactors, which currently generate [55% of Slovakia's electricity use](#). Russia and Slovakia's nuclear collaboration has continued into the 21st century, as Russian nuclear giant Rosatom has helped with the expansion of the Mochovce NPP. Recently, Slovakia has distanced itself from Russia [politically and economically](#) even though some nuclear collaboration still remains in place due to necessity. The catalyst for this action is the current conflict in Ukraine, which has forced Slovakia as a member of the EU to impose economic sanctions on Russia.

Political Analysis

Since Slovakia's independence in 1993, its government has always maintained a favourable national policy towards the civilian use of nuclear power. The [World Nuclear Association](#) describes Slovakia's policy commitment to the future of nuclear energy as strong due the country's willingness to expand its nuclear power production capacity. Government policy regarding nuclear energy has also revolved around increasing Slovakia's [self-sufficiency](#) when it comes to nuclear fuel disposal and the decommissioning of old-soviet era nuclear reactors. Local companies like the state-owned JAVYS, founded in 2005, have played an important role in [reducing the presence of foreign firms](#) in Slovakia's nuclear sector by carrying out the tasks mentioned above. Slovakia's persistent pursuit of a self-sufficiency policy may be also observed through the [failed attempts made in 2006 and 2013](#) to commence uranium ore mining on Slovakian soil. Pushback from the public has ultimately ensured the [failure of these initiatives](#), which currently force Slovakia to import nuclear fuel to operate its NPP's.

Contractually speaking, Slovakia holds various agreements with Rosatom and its subsidiaries, which highlight Slovakia's dependence on Russia's nuclear fuel. Currently, TVEL, a Rosatom subsidiary, is the [exclusive supplier](#) of the nuclear fuel that is required to run the Mochovce and Bohunice NPP's. The [contract in question](#) was signed in late 2019 between the Slovak utility company Slovenske Elektrarne (SE) and TVEL and is set to expire in 2026, with a



possibility of extension up to 2030. The expansion of Mochovce NPP has also seen close collaboration between SE and the Rosatom subsidiary AtomStroyExport (ASE), which was [awarded in 2009 a contract](#) to assist with the construction of new reactors number 3 and 4. Progress on the construction of these reactors has been slow, but with the recent [completion of reactor 3](#) and the programmed opening of [reactor 4 in 2023](#), it is safe to assume that ASE will be relieved from its duties in the near future.

Slovakia's foreign policy seems to indicate that in the short-term current contracts with Rosatom and its subsidiaries will be respected, up until other viable alternatives are found. The American firm Westinghouse has been touted as a [possible replacement for TVEL](#), since in a recent press conference Slovak Prime Minister Eduard Heger stated that his government wants to [abandon its dependency on Russian fuel](#). For the time being though, Slovakian officials are in no rush to push for Russian nuclear fuel sanctions due to the [stranglehold](#) that Moscow has over the functioning of Slovakia's NPP's. Due to this, the current Slovakian nuclear policy stance relies on buying as much time as possible to allow the government to find a solution regarding its Russian fuel dependency. Some of the key politicians and figures that will be instrumental in overseeing and brokering any new nuclear deals include: Slovakia's State Secretary of the Ministry of Economy: Karol Galek, Economy Minister Karel Hirman and Nicola Cotugno the chairman and CEO of SE.

Presence of Russia in Nuclear Sectors

Financially, Russia has provided ample capital to Slovakia in the past for the development of its Mochovce NPP. In 2014 Russian bank, Sberbank financed [870 Million Euros](#) for the construction of two new nuclear reactors, thus automatically becoming SE's largest creditor. The significant debts amassed by SE have made Slovakia's nuclear sector susceptible to manipulation from foreign creditors. This problem was exposed during the outbreak of the conflict in Ukraine, as sanctions put Sberbank on the [verge of bankruptcy](#). Thankfully, the Slovakian government has been able to strike an [agreement](#) with Italian Bank UniCredit, which has agreed to take on the loan originally financed by Sberbank. Currently, Russia has lost its financial leverage over Slovakia since sanctions have isolated Russian banks and restricted monetary flows from Russia. When looking at the future, there do not seem to be any new major NPP developments on the horizon for Slovakia. Plans [announced in 2008](#) to build a new reactor at Bohunice NPP are currently stalled and do not seem to be progressing due to bureaucracy and lack of finances. Rosatom in the past has been in talks to possibly join forces with JAVYS to help with the expansion of Bohunice NPP, but that possibility [vanished in 2015 after some disagreements](#) over the profitability of the project.



Final Points

Having examined Slovakia's past and present linkages with Rosatom throughout the last decade, it may be concluded that Rosatom's influence on this small central European nation is on the decline. In the short-term, Rosatom still wields a significant amount of influence over Slovakia due to the country's overall dependency on Russia for nuclear fuel imports. Despite this, Rosatom's days as Slovakia's exclusive nuclear fuel supplier are numbered, given the [diplomatic pressure](#) that is mounting on the abandonment of Bratislava's partnership with TVEL. If we compound this with the efforts made by the Slovakian government to increase its [self-sufficiency](#) in the nuclear sector, it is safe to assume that any future partnerships with Rosatom are highly unlikely. Rosatom's decreasing influence over Slovakia's nuclear sector has also attracted the attention of firms such as [Westinghouse and Framatome who have expressed interest](#) in becoming Slovakia's new nuclear fuel suppliers. With the neighbouring Czech Republic also having recently cut ties with TVEL and employing the services of [both Westinghouse and Framatome](#), it is possible that Slovakia will do the same in the near future. Slovakia's natural uranium ore reserves also present an opportunity for this country to, in the long-term, hopefully solve its foreign nuclear fuel dependency, which currently acts as Slovakia's Achilles heel.



Turkey

Sharif Fatourehchi

General Overview

Turkey and Russia have a complex and dynamic relationship. They are actively engaged on opposite sides of conflicts in Syria, Libya, and Nagorno-Karabakh. Turkey is also a member of NATO - a political and military alliance born with the principal purpose of protecting countries from Russian aggression. However, Russia and Turkey have both a cooperative economic and political relationship. Leaders from both countries often host each other in their capitals as well as participate in trilateral meetings with Iranian leaders - their common ally in the region. Although Turkey has had the aim of joining the EU, its position within the developing East-West divide seems to gravitate towards the East.

In order to increase its energy generation capacity and meet the increasing domestic demand, Turkey has had [plans](#) to develop a nuclear energy program since 1970. There were many attempts to build a nuclear power plant (NPP) from 1970 to 2008 but they were all either cancelled or postponed, none reaching fruition. These failed attempts at building an NPP [involved](#) the Swedish ASEA-ATOM and STAL-LAVAL, the German Kraftwerk Union AG, the American General Electric, and the Canadian Atomic Energy of Canada Limited. However, in 2010, Russia's ROSATOM signed an [agreement](#) based on a build-own-operate (BOO) model that would have a subsidiary of the company begin construction on four 1,200 MWe VVER1200 units at Akkuyu, Mersin.

Political Analysis

In 2010, [AKKUYU NUCLEAR](#), a subsidiary of the Russian nuclear giant ROSATOM, was created to begin works on the \$20 billion Akkuyu Nuclear Power Plant. The NPP will have the capacity to generate [10%](#) of Turkey's electricity once fully active and connected to the grid with fuel provided by ROSATOM. Construction has been ongoing on the four-unit NPP since [2018](#), however with minor bumps in the road. Issues that the project faced were primarily political, including the diplomatic crisis following the downing of [Russian fighter jets](#) by Turkish forces when it strayed into its airspace. However, those problems were resolved and construction is currently ongoing. The most recent development in the project was ROSATOM's [termination](#) of the contract they had with the Turkish IC Ictas over alleged contract violations. The contract was thereafter [awarded](#) to TSM Enerji, a Mersin-based [company](#) that is owned by three Russian companies, to have the project continue on schedule. The operation of the first unit is due to begin in [2023](#) before the next general election in Turkey. It is important for the AKP to have the success of the NPP behind them when running for the



seat of the executive in June 2023 as Erdogan [believes](#) that nuclear energy will be one of the contributors to Turkish economic and energy independence. The rest of the units are said to be operational by 2026. The NPP will have an [estimated](#) service life of 60 years and room for a 20-year extension. According to the agreement, ROSATOM is to set up a [fuel fabrication](#) plant in Turkey and contribute to the waste management costs at a rate of \$0.15 per kWh of electricity generated.

According to Turkish President Recep Tayyip Erdoğan, Turkey is also looking towards an expansion of its [potential](#) nuclear power generation capacity with a second and third power plant following the Akkuyu NPP. The Turkish leader has also [announced](#) that following meetings with Russian President Vladimir Putin, the contracts for the second and third plants would likely be awarded to Russia with Russia showing interest in working on the project. If the two other potential NPPs end up being the same size as the Akkuyu plant, Turkey would have [27%](#) of its electricity generated from nuclear power, increasing the need for fuel, i.e. uranium, as well as waste management facilities.

Final Points

ROSATOM's activities and role in Turkey constitute all of Turkey's NPPs and nuclear power generation capacity. They are financially invested in the country and have their subsidiary, AKKUYA NUCLEAR, registered in Turkey. The plant will be built, owned, and operated by ROSATOM and will be active in the country for the next 60 years with the possibility of an additional 20 years. The transfer of construction contracts to the Russian-owned TSM Enerji serves as a potential indicator of greater Russian involvement in the projects to come. With the possibility of a second and third NPP to be built in Turkey, ROSATOM's involvement in Turkey's nuclear industry will likely increase, both financially and operationally. The NPPs will require fuel to operate as well as expertise in waste management, both services that will likely be provided by ROSATOM or their subsidiaries. Regional political dynamics tilting towards a greater rift between the East and the West will see Turkey continue to play the mediator role it has aimed to in the present, however, improved relations with Russia through its nuclear program may force it to favour the East over the West.



INDIRECT INFLUENCERS



Lithuania

Kanishka Bhukya

Ignalina Nuclear Power Plant previously [housed](#) the two largest Russian RBMK reactors, similar to those at Chernobyl in Ukraine, and supplied 70% of Lithuania's electricity as well as exporting energy to other parts of the Soviet Union. Following the breakup of the Soviet Union, the European Union [obliged](#) Lithuania to commit to nuclear decommissioning in Visaginas before it could join. Ignalina's last plant shuttered in 2009, and the country imports 73% of its energy, primarily from Norway and the United States, as of December 2019.

The three Baltic states (Lithuania, Latvia, and Estonia) and Poland [agreed](#) in February 2007 to build a new nuclear facility in Visaginas. However, a non-binding referendum held in connection with a national election in October 2012 cast doubt on the Visaginas project's chances. Following Russia's annexation of Crimea in March 2014, Lithuania [underlined its aim to strengthen cooperation with strategic allies](#) - the Baltic and Nordic nations, the EU, and the United States – as a primary foreign policy goal. It identified energy dependence as one of the most serious threats to national security and stated that its top priority is to integrate as soon as possible into the EU's internal energy market and to implement major energy projects such as the LNG terminal, the Visaginas Nuclear Power Plant, and power interconnections with Sweden and Poland. However, the project was wound down at the end of 2015, and in November 2016, the government released a National Energy Strategy, stating that the 3400 MWe project would be delayed until it either became cost effective under market conditions or was required for energy security, and the Visaginas Nuclear Power Plant proposal has been [virtually "dead"](#) since then.

While Visaginas negotiations were ongoing, Russia began construction on the Baltic nuclear power station in Kaliningrad. Russia's RAO UES (57% controlled by Rosatom) has struck an agreement with its Lithuanian affiliate RAO Lietuva to export 1000 MWe of power to Lithuania beginning in 2017. However, Lithuania [objected to the Baltic plant's placement](#) because it is only 10 kilometres from the border and 200 kilometres from Vilnius, and it claimed that the environmental evaluation did not meet the provisions of the Espoo Convention. As a result, the government was hesitant to purchase electricity from it.

Many Western politicians and analysts are concerned that Russian-built nuclear power reactors will increase Moscow's political influence in European cities. They claim that by offering attractive loan terms, Moscow can form allegiances based on more than just financial debt. Hungary, with its right-wing government led by Viktor Orban, is one such frightening example. Therefore, it is this kind of energy imperialism that Lithuania presumably fears. If Moscow can perpetuate anti-democratic administrations through nuclear reliance, the small and vulnerable ex-Soviet republic may face an existential catastrophe. Finally, as part of this campaign,



Lithuania is desperately looking for alternative energy sources. Lithuania's energy market is [increasingly connected with the Baltic and Nordic electricity markets](#) as a result of governance reforms in the electricity sector and investments in major new interconnectors with Poland and Sweden. Lithuania, along with neighbouring Estonia and Latvia, [suspended imports from Belarus](#) in November 2020, in response to the inauguration of the Astravets nuclear power station in neighbouring Belarus, thus becoming completely non-reliant on Russia.

Poland

Nathan Alan-Lee

Poland, unlike many of its neighbours, has no nuclear industry and did not inherit a legacy of Soviet nuclear infrastructure as was common in Central and Eastern Europe. Plans to build an initial reactor, at Żarnowiec on the baltic sea, were scrapped in 1989 in the wake of the Chernobyl disaster and as Soviet power began to disintegrate. The country, which has long been a major producer and consumer of coal, only began pursuing nuclear development as recently as 2014 with the first iteration of their “[Polish Nuclear Power Program](#).” Poland’s deep-seated distrust of Russia and desire for energy independence all but precluded the participation of Rosatom in the tender for Poland’s nuclear development, in contrast to neighbouring countries. In place of Roastom, South Korea’s KHNP, France’s EDF and the US’s Westinghouse have all entered the competition for building Poland’s first reactor.

As recently as 2022, the results of this competition have been announced with the US’s Westinghouse winning its bid to construct Poland’s [first nuclear power plant](#). Despite this initial result, Poland did not rule out future cooperation with the other two bidders, even going so far as to announce the planning of a [new project](#) with KHNP to supplement Westinghouse. While Rosatom clearly plays no part in Poland’s plan to develop nuclear energy, this is an exceptional case in Central and East Europe and has opened the regional market to new competitors. Rosatom’s dominant position in the region is primarily due to Soviet legacy infrastructure and long standing relationships. Poland’s move to cooperate with and bring in Rosatom’s competitors, sets a new precedent for future regional nuclear development.



Slovenia

Kanishka Bhukya

Slovenia has had one commercial nuclear power station in operation since 1983, the Krško nuclear power plant (NPP). Construction began in 1975, and it was connected to the grid in 1981, with commercial operations beginning in 1983. The Krško NPP is a 696 MW(e) pressurised water reactor plant delivered and [built by Westinghouse and jointly owned by the Republic of Croatia](#). Krško NPP has a solid operational and safety record and meets all international standards and the greatest safety criteria.

Slovenia is currently exploring [adding a second unit](#) to the Krško nuclear power station in light of the current energy crisis and the EU's re-evaluation of nuclear power as a clean energy source. Rosatom had been mentioned as a possible bidder to sell nuclear reactors to Slovenia, but the situation in Ukraine, as well as [stiff competition](#) from Westinghouse and EDF, have dashed any prospects of Rosatom securing this public contract.

Due to the almost non-existent collaboration between both countries in this sphere, Russia has little to no effect over Slovenia's nuclear sector. Slovenia's only nuclear power station, located in Krško, uses a reactor manufactured by the American company Westinghouse. Slovenia has no apparent ties to Russia's principal nuclear fuel supplier, TVEL Fuel. Furthermore, Slovenia is completely [self-sufficient](#) in terms of nuclear waste management and disposal.

It is worth noting, however, that Slovenia has previously expressed interest in obtaining Russian-made reactors. As an example, in 2020, the Nuclear Society of Slovenia hosted Anton Moskvina, the vice-president of Rosatom, during an [important nuclear energy conference](#). It has also been left with little choice but to acquire other types of electricity producing components such as natural gas and petroleum from Russia to fulfil its energy needs, although nuclear collaboration appears to be unfeasible at this time.

United Kingdom

Nathan Alan-Lee

The United Kingdom does not have a strong history of reliance or cooperation with Rosatom, however, as a force in the European nuclear market, the UK's approach to nuclear energy significantly influences Rosatom's position in Europe. Over the past decade, the UK has shifted further away from partnership with Rosatom. The potential for cooperation peaked in 2013 with the signing of a [“memorandum of understanding,”](#) designed to facilitate the construction



of new NPPs, however this move was quickly reversed in 2014, following Russia's annexation of Crimea. Since the beginning of Russia's renewed invasion of Ukraine in 2022, the UK has reaffirmed its distancing from Rosatom, a key recent example being the move to [replace](#) Uranium based nuclear fuel sourced from Russia linked vendors.

The UK, which relies on 9 nuclear reactors to produce [15%](#) of its electricity, is already a significant producer in Europe's nuclear sphere. Based on the UK's [energy security strategy](#) the nuclear energy industry is slated to see a sizable expansion in the coming years with a target of 25% electricity generation by 2050. At the same time, from the perspective of innovation and technological development, the UK's [Rolls-Royce](#) is emerging as a leading European player in the development of small modular reactors (SMRs). SMRs present a new vector of competition in the nuclear industry as they become increasingly relevant in Europe's green transition. This combination of factors, being an expanding market and an emerging competitor, makes the UK an important actor in the field, able to both favour Rosatom's competitors in Europe and rival their development of new SMRs.



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