



Weekly Briefing

**Serbia external relations briefing:
Serbia and Nuclear Energy Summit
Ivona Ladjevac**


China-CEE Institute

Kiadó: Kína-KKE Intézet Nonprofit Kft.

Szerkesztésért felelős személy: Ju Weiwei

Kiadásért felelős személy: Feng Zhongping

 1052 Budapest Petőfi Sándor utca 11.

 +36 1 5858 690

 office@china-cee.eu

 china-cee.eu

Serbia and Nuclear Energy Summit

Summary

The first global summit on nuclear energy, organized by the International Atomic Energy Agency (IAEA) and the Kingdom of Belgium was held in Brussels on March 20 and 21, 2024. The summit was co-chaired by the IAEA Director General Rafael Mariano Grossi and Belgian Prime Minister Alexander De Croo. Summit which gathered representatives of about thirty countries is so far the highest meeting exclusively focused on the subject of nuclear energy. At the same time its organization indicates renewed momentum for nuclear energy and also provided a high-level forum to present solutions to some of the issues facing the sector in order to realize its full potential, including from an industrial perspective. The Republic of Serbia was represented by its President, Aleksandar Vučić, and the Minister of Mining and Energy Ms. Dubravka Đedović. They attended the adoption of the joint Declaration, addressed the gathered participants during the first session of the Summit, scheduled for speeches by national leaders, and had a series of bilateral meetings with European and world officials. After the Summit ends, there is open question if and when Serbia will be ready to follow this trend.

Introduction

Decision to organize the first ever summit on nuclear energy was brought following the International Atomic Energy Agency's Atoms4NetZero initiative which is an initiative "that supports efforts by Member States to harness the power of nuclear energy in the transition to net zero. The initiative provides Member States and stakeholders including industry, financial institutions, and international organizations with technical expertise and scientific evidence on the potential of nuclear energy to decarbonize electricity production as well as hard-to-abate sectors such as industry and transport".¹

¹Atoms4NetZero Harnessing the Power of Nuclear for a Clean Energy Future, International Atomic Energy Agency, Vienna, Austria, <https://www.iaea.org/atoms4netzero>, accessed on: 01/04/2024.

The IAEA published on its website on October 10, 2023 that the Summit will jointly be hosted by the IAEA and Belgium² and that it will take place on 21-22 March 2024 in Brussels.³ Popularly called an “Atomic Summit”, March summit was announced as first summit at the highest level which will be exclusively focused to nuclear energy.

It is noteworthy to say that the summit comes after the historic inclusion of nuclear power in the Global Review, agreed at the UN Climate Change Conference (COP28), which was held in Dubai, United Arab Emirates, December 2023.

Director of the International Atomic Energy Agency (IAEA) Rafael Mariano Grossi said before the opening of the Summit, that everything necessary must be done to increase the participation of nuclear energy in the energy transition and the decarbonization process. It was also announced that separate debate will be led about the obstacles hindering the early deployment of new nuclear technologies and the solutions and opportunities identified worldwide to overcome them. Additionally, the examining of different challenges such as security of supply and the safe decommissioning of nuclear power reactors.

Nuclear energy in Serbia – reality or fantasy

Despite its benefits, nuclear energy also raises concerns about safety, waste disposal, and the potential for nuclear proliferation. Public opinion on nuclear energy varies, with some advocating for its expansion as a low-carbon energy source, while others emphasize the need for stringent safety regulations and investment in alternative renewable energy sources. Among the experts there is no dilemma that nuclear energy is t the present and the future of humanity and that people should not worry, because the International Atomic Energy Agency takes care of it. Still, based on previous accidents, some countries are very cautious about it. For example, in Serbia, since the accident in Chernobyl⁴, the Law on the Prohibition of the Construction of

² This is interesting because Belgium after the disaster in Fukushima decided to shut down its nuclear power plants.

³ First-Ever Nuclear Energy Summit to be Held in Brussels in March 2024, International Atomic Energy Agency, October 10, 2023, Vienna, Austria, <https://www.iaea.org/newscenter/pressreleases/first-ever-nuclear-energy-summit-to-be-held-in-brussels-in-march-2024>, accessed on: 01/04/2024.

⁴ The April 1986 disaster at the Chernobyl nuclear power plant in Ukraine. The accident destroyed the Chernobyl 4 reactor, killing 30 operators and firemen within three months and several further deaths later. One person was killed immediately and a second died in hospital soon after as a result of injuries received. Another person is reported to have died at the time from a coronary thrombosis. Acute radiation syndrome (ARS) was originally diagnosed in 237 people onsite and involved with the clean-up and it was later confirmed in 134 cases. Of these, 28 people died as a result of ARS within a few weeks of the accident. Nineteen more workers subsequently died between 1987 and 2004, but their deaths cannot necessarily be attributed to radiation exposure. Nobody offsite suffered from acute radiation effects although a significant, but uncertain, fraction of the thyroid cancers diagnosed since the accident in patients who were children at the time are likely to be due to intake of radioactive

Nuclear Power Plants⁵, which is known as the Moratorium, has been in force and due to which country is completely non-nuclear. Although the Law prevents the construction of a nuclear power plant in Serbia, but there are seven nuclear power plants in its vicinity, up to 300 kilometers from borders. For those who all the time were opted for the use of nuclear energy, this was possibility to considering co-ownership, i.e. co-financing of one facility in the neighborhood.

But, taken into account statements given by Serbian President during the Brussels Summit, Serbia soon may be faced with one big change. Vučić announced that Serbia is interested in small modular nuclear power plants, more precisely “at least four small modular reactors to replace 1,200 megawatts”, although he did not know how it would be financed since, as according to him, 7.5 billion euros were needed.⁶ Further explaining his stance over the nuclear plants an nuclear energy, in his addressing at popularly scalled Nuclear Summit, Serbian President said that “the increasing laziness regarding coal mining and the necessity to renounce fossil fuels will put Serbia in a position where it will have to change legal norms and habits”⁷. In order to explain how necessary these changes are, he even added that it is important to understand how far behind other countries Serbia is and that the decision were made in the previous 35 and 40 years were wrong decisions!

Not neglecting the fact that world already is suffering from the lack of certain sources of energy, the decision brought after the Chernobyl disaster cannot be labeled as wrong. Price paid with human rights was too expensive and any risk to repeat it must be avoided. One may remember that one another nuclear accident also warn the world of all dangerousness that it carries within. That was the Fukushima nuclear disaster⁸ after which Belgium banned the

iodine fallout. Furthermore, large areas of Belarus, Ukraine, Russia, and beyond were contaminated in varying degrees. See more at: <https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/chernobyl-accident.aspx>, accessed on: 01/04/2024.

⁵ *Zakon o zabrani izgradnje nuklearnih elektrana u Saveznoj Republici Jugoslaviji*, "Sl. list SRJ", br. 12/95 i "Sl. glasnik RS", br. 85/2005.

⁶ Nuklearke u Srbiji na 'dugom štapu', 28. mart/ožujak, 2024. Ljudmila Cvetković, <https://www.slobodnaevropa.org/a/nuklearke-srbija-moratorij/32881686.html>, accessed on: 01/04/2024.

⁷ Predsednik Vučić učestvovao na prvom globalnom Samitu o nuklearnoj energiji, March 21, 2024, <https://www.predsednik.rs/lat/pres-centar/vesti/predsednik-vucic-ucestvovao-na-prvom-globalnom-samitu-o-nuklearnoj-energiji>, accessed on: 01/04/2024.

⁸ Fukushima Daiichi Accident happened on March 11, 2011 when, following a major earthquake, a 15-metre tsunami disabled the power supply and cooling of three Fukushima Daiichi reactors, causing a nuclear accident. All three cores largely melted in the first three days. There have been no deaths or cases of radiation sickness from the nuclear accident, but over 100,000 people were evacuated from their homes as a preventative measure. Government nervousness has delayed the return of many. Official figures show that there have been 2313 disaster-related deaths among evacuees from Fukushima prefecture. Disaster-related deaths are in addition to the about 19,500 that were killed by the earthquake or tsunami. See more at: <https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-daiichi-accident.aspx>, accessed on: 01/04/2024.

opening of new power plants after and set the target to close all the existing by 2025.⁹ Although the government was forced to postpone realization of that plan due to the current energy crisis, no one is saying that previously brought decision was wrong. No matter how nuclear energy can be useful, no one can deny its harmful potential. Due to that fact, question of developing nuclear plants should be examined carefully.

At the moment, in the region and beyond, only Serbia and Italy do not have their own nuclear program. Nuclear safety in Serbia is handled by SRBATOM, more precisely, the Directorate for Radiation and Nuclear Safety and Security of Serbia¹⁰. There are some estimations that, in case of possessing only one nuclear plant, Serbia could easily replace the megawatts of electricity it lacks. Namely, as early as 2021, there was talk of building one with partners from Russia. At that time, it was established that there is no regulatory and administrative framework in Serbia that would regulate the construction and operation of nuclear power plants, and in addition, it was established that there is no scientific and professional staff that could participate in this project. This remark was even included within the Energy Development Strategy of the Republic of Serbia until 2025 with projections until 2030¹¹.

Given to the fact that both the economy and society of the Republic of Serbia are in a very deep general development crisis, country is faced with the challenge of charting a long-term desirable path for the development of energy and defining the strategic determinations on which that development will be based. Particularly the strategic review and positioning of the national energy sector should allow the current crisis to come out with lower costs for energy and the country's economy, but also to take a better starting position for future more dynamic and high-quality growth of the economy and sustainable economic development.¹² Given to that, Republic of Serbia should follow the needs of its economy and explore even the introduction of new technologies.

According to the official data of the Republic Institute of Statistics, in the period 2017-2021 coal exploitation is stagnating, crude oil and natural gas exploitation is continuously

⁹ Due to the energy crises caused by the military conflict between Russia and Ukraine, this decision had to be postponed. "Belgium / Government Confirms Decision to Postpone Nuclear Phaseout by 10 Years", David Dalton, 21 March 2022, NUCNET. See more at: <https://www.nucnet.org/news/government-confirms-decision-to-postpone-nuclear-phaseout-by-10-years-3-1-2022>, accessed on: 01/04/2024.

¹⁰ See more at: <https://www.srbatom.gov.rs/srbatommm/?lang=bs>

¹¹ „Стратегија развоја енергетике Републике Србије до 2025. године са пројекцијама до 2030. године, "Службени гласник РС", број 101 од 8. децембра 2015, <https://pravno-informacioni-sistem.rs/SIGlasnikPortal/eli/rep/sgrs/skupstina/ostalo/2015/101/1/reg>, accessed on: 01/04/2024.

¹² Ibidem.

decreasing, the item other mining varies, while the exploitation of metal ores has increased significantly. In primary energy production, the latest data were published for 2020: the share of coal was 65.11 percent; firewood 14.83; crude oil and natural gas liquids 8.38; hydro power plant 7.16 percent... In the electricity balance, one third more electricity is imported than exported.¹³

Serbia is very rich in coal, but due to climate change and pollution, it cannot rely on coal and its current thermal potential forever. Serbia also has significant hydro potential, but if country wants to preserve watercourses and the environment, a dam mustn't be built on every river. There is enough sun and wind in Serbia, the construction of plants that use these sources is becoming more and more massive, but that is an unstable source, which do not provide electricity when it is needed but when the wind blows, so the technological solutions for energy storage available in the world today do not enable this capacity to cover all energy needs.

Does all facts given above prove that developing of nuclear energy facilities in Serbia is realistic?

Expert opinion on the possible implementation of a project of building nuclear plant is that it is. In this sense, the ongoing energy crisis easily can have its impact on making such decision. First precondition would be repealing the Law on ban of the building nuclear facilities which is in force since 1989. However, opposition to nuclear energy is widespread and so far, no consensus has been reached, not even a decision to repeal this law. Certainly, if that path is ever taken, the first step towards nuclear energy in Serbia will be the abolition of the Moratorium, and all current initiatives should be understood only as an attempt to open a 'forbidden topic' in new circumstances. When this topic is opened and when the Moratorium is lifted, if it ever really happens, there is no doubt that more concrete issues will be opened then, from finances to the type of reactor. If this legal precondition once become fulfilled, second question will be where to build such facility. The location of any nuclear facility, especially when it comes to a nuclear power plant, should always be the subject of a long and detailed analysis. In order to determine a favorable location, an expert study should be done beforehand. It should take into account the geographical characteristics of the terrain, seismic circumstances, the proximity of large watercourses, the distance from large cities and also the presence of other infrastructure.

¹³ Koliko je realna izgradnja nuklearne elektrane u Srbiji?, Aljazeera, 2. april 2024, <https://balkans.aljazeera.net teme/2024/4/2/koliko-je-realna-izgradnja-nuklearne-elektrane-u-srbiji>, accessed on:03/04/2024.

The question of the location is delicate for a number of reasons - for its selection it is not enough to have an expert assessment, but it is often necessary to gather significant support among citizens, experts and finally, in the industry itself. It is in the start-up of nuclear plants, one big job that has to be done, along with finding financing, training experts and legal regulation. As the Law on the Prohibition of the Construction of Nuclear Facilities is in force in Serbia, it is still too early to talk about the decision to build a potential nuclear power plant and on which location.

Regarding the latent threat carried by nuclear energy and/or facility, according to the experts, there are “examples that confirm that such an accident can occur, with major consequences precisely because of which, there is mistrust towards nuclear technology, which in itself is not bad, but the question is whether the state has the capacity to treat it in the right way”.¹⁴ Serbia does not have its own experts for the undertaking of building, monitoring and managing a nuclear power plant. Under the circumstances where for the use of any technology, even nuclear, you must first of all prepare the prerequisites in order to get the most out of it, but also to use energy safely, this tends to be serious problem. Dušan Vasiljević, international consultant in the field of environmental protection, said for things that “we do not know the experience of managing such systems of strategic importance and that this is the only criterion”.¹⁵ Serbia doesn't possess this type of the experience. Public was even worried about the problems in the existing energy system which almost collapsed due to several tons of mud and one can easily understand what they think on the issue of a nuclear power plant management.

From the other hand, public should not be worried as the International Atomic Energy Agency has clearly established rules on who can manage and work in nuclear power plants, as well as on how nuclear waste is disposed of and stored as this is also an important question. The rules are such that all countries that exploit nuclear fuel must also store it safely, each for their own reasons, and this is for trivial reasons, so that the nuclear waste does not get into the hands of someone who would use it to make weapons.

If Serbia decides to change necessary legal framework, if people on referendum vote in favor of it, as this is the matter of national interest, one problem remains - the problem of personnel for construction. Serbia doesn't even have operators to manage it, so we can't look at

¹⁴ Stručnjaci: Vlast laički govori o izgradnji nuklearke, njome ne bi mogao da upravlja „neki Grčić“, *Novi magazin*, 12. april 2024, <https://novimagazin.rs/vesti/320910-strucnjaci-vlast-laicki-govori-o-izgradnji-nuklearke-njome-ne-bi-mogao-da-upravlja-neki-grcic>, accessed on: 14/04/2024.

¹⁵ Op.cit.

everything about the nuclear power plant only through the prism of energy. However, the personnel problem can be solved in two years, so that the people who work in the power plants could go to training, because the training itself lasts two years. In order to overcome this challenge, young people should be educated. There is a special department at the Faculty of Electrical Engineering in Niš, and there are enough students who can be recruited to go abroad for practice. That process could be easily facilitated and can be carried on parallel with the process of building a nuclear power plant.

Conclusion

Like any other country, the Republic of Serbia can certainly face the challenge of building a nuclear facility. But before anything else, it is a matter of decision. Ever since Chernobyl, the Law on the Prohibition of the Construction of Nuclear Facilities, which is known as the Moratorium, has been in force in Serbia, making Serbia a completely non-nuclear country. Considering the problem with climate change and the discussions about shutting down thermal power plants by the middle of the 21st century in Europe, the question of the justification of the Moratorium has been raised several times during the last two decades. Nuclear energy is ecologically clean because there is no combustion and release of CO₂, today it is much safer than in the past, but if an incident does happen, it can turn into a big problem. Unless it's lobbying for one option or another, there really isn't one solution that can be said to be right. Speaking of finances and timeframe, four small modular reactors, which were mentioned by the Serbian president, would, according to estimates, cost Serbia 7.5 billion euros and would generate 1,200 megawatt hours. Serbia's Minister of Mining and Energy, Dubravka Đedović Handanović, during a tour of the “Nikola Tesla A” thermal power plant, stated that “if they started working on it now, they would eventually have a nuclear power plant in 2039 or 2040.”