



Report

**EU-PACIFIC TALKS:**

**BE SMALL AND BEAUTIFUL  
- FUTURE OF NUCLEAR  
ENERGY?**

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## About EUROPEUM

EUROPEUM Institute for European Policy is a non-profit, non-partisan, and independent think-tank focusing on European integration and cohesion. EUROPEUM contributes to democracy, security, stability, freedom, and solidarity across Europe as well as to active engagement of the Czech Republic in the European Union. EUROPEUM undertakes original research, organizes public events and educational activities, and formulates new ideas and recommendations to improve European and Czech policy making.



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This year's third debate in a series of expert discussions on the EU's relations with the Pacific occurred online on Tuesday, 28 March 2023. The guests offered their views on nuclear energy trends, outlook, and small modular reactors' role in energy and industry sectors.

The topic of nuclear energy is a subject of great debate and discussion, with its potential benefits, such as providing a reliable source of baseload power without significant greenhouse gas emissions, being a key focus point. However, addressing the challenges associated with nuclear energy, such as safety concerns and radioactive waste management, is equally important. Moreover, it is crucial to consider the need for robust regulatory frameworks to ensure that nuclear power is developed and used responsibly and safely. Despite these challenges, experts believe atomic energy can be critical in achieving climate neutrality by reducing greenhouse gas emissions and supporting energy security. Furthermore, nuclear power can be utilised beyond electricity production, such as industrial heat and hydrogen production. Small modular reactors are a promising development in nuclear technology. They are designed to be built in smaller sizes and to meet the energy demand while addressing carbon reduction concerns.

Related to this is the fact that Alike van Heek from the International Atomic Energy Agency noted that SMRs offer several potential benefits over traditional nuclear reactors, as they are designed to be built in smaller sizes and can be installed in locations where large atomic plants would not be feasible. This could open up new opportunities for nuclear energy in countries where it has not been previously used. The SMRs also have the potential to better match the demand for energy products beyond electricity, such as industrial heat, hydrogen, heat, and power cogeneration. However, some challenges, such as cost, are associated with the development and deployment of SMRs, as they require a significant amount of upfront investment to develop and manufacture.

Radek Škoda from the Czech Technical University in Prague draws attention to the development of small modular reactors, where the challenge arises in obtaining the necessary licensing, particularly the fuel. Moreover, if countries aim to build numerous nuclear power plants, they must have sufficient human capital to construct, operate, and regulate such facilities. Planning for the future workforce must commence many years in advance, or they may need to import the labour force overseas.

Koji Okamoto from the University of Tokyo explains that the Japanese government has altered its approach to increasing global energy consumption. Nuclear energy is now considered a viable option for achieving a zero-carbon society, making it a focal point of Japan's energy policy. Nevertheless, atomic energy presents challenges, notably the potential for accidents. Therefore, the Japanese government has established new policy objectives, the 3E goals, prioritising energy security, economic efficiency, and environmental protection while ensuring safety. As a result, nuclear energy is a crucial component in achieving the 3E goals while being one of the most significant energy sources.

According to Ewa Lazarczyk Carlson from Reykjavik University, in today's reality, nuclear energy is a vital source of providing a bulk of relatively cheap electricity at a steady supply, which is extremely important. Regarding energy dependence, Ewa argues that despite having some possibilities of cutting the dependency, the dependency on Russia still needs to be solved as the Russian nuclear industry has managed to stay out of the sanctions. In this context, Ewa raised the possibility of a race for technology leadership, as more countries will try to diversify fuel supplies and create new technological solutions connected to the goal of net zero by 2050.

Finally, the speakers also emphasized the importance of the nuclear industry's responsible handling of its waste, as it does not disperse it elsewhere. In contrast

to other industries, the nuclear sector manages its waste throughout the entire process. In the case of Japan, it is crucial to focus on the practical and socially acceptable implementation of the final disposal process by understanding the public's priorities.