

## **EMPOWERING EUROPE'S ENERGY TRANSITION: STRATEGIC MANAGEMENT AND ENVIRONMENTAL RESPONSIBILITY IN MSR IMPLEMENTATION**

WILLIAM RICARDO VARGAS ACERO\*, GENÍS GUILLEM MIMÓ, KHAOULA KHARAZ CHIHAB, SERGIO MARTÍN PERAL, JOSÉ MANUEL VERA VALVERDE AND ALEX DUMONT

*Polytechnic University of Catalonia, Av. Diagonal 647, 08028, Barcelona, Spain*

*\*Corresponding author email: [william.ricardo.vargas@estudiantat.upc.edu](mailto:william.ricardo.vargas@estudiantat.upc.edu)*

Europe's energy sector is facing increasing demands for secure, sustainable and low-carbon power solutions. These needs drive the need for advances in nuclear technologies. Among these, molten salt reactors (MSRs) offer a promising pathway to provide a reliable energy source as part of the energy grid. This work focuses on the strategic planning and project management aspects of MSR deployment across Europe, aiming to provide a structured approach to integrating this technology into the continent's evolving energy landscape. Effective MSR implementation requires setting up clear regulatory guidelines and a strong management framework that includes developing agile project management practices, skilled workforce and ensuring efficient resource allocation. The need of regulatory standards in accordance with MSR-specific safety requirements should be addressed by conducting thorough risk assessments and implementing adaptive management strategies that respond to evolving technical challenges by engaging highly skilled workforce. The involvement of stakeholders, including policymakers, industry leaders, investors, and the public is crucial for building broad-based support and fostering a collaborative environment leading to project success. Additionally, while the primary focus is on management, the present study acknowledges the importance of integrating environmental responsibility into strategic planning. By addressing these critical management and environmental dimensions, the project aims to outline a base roadmap for the near-term deployment of MSRs in Europe, contributing to a resilient, low-carbon energy future while supporting investment opportunities and policy development.

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