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PROPOSAL

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
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To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
Subject:	COMMISSION STAFF WORKING DOCUMENT EXECUTIVE SUMMARY OF THE EVALUATION Ex-ante evaluation Accompanying the document Proposal for a Council Regulation establishing the research and training programme of the European Atomic Energy Community for the period 2028-2032, complementing Horizon Europe, the Framework Programme for Research and Innovation, and providing for the Community's contribution to the ITER project, and repealing Regulation (Euratom) 2025/1304

Delegations will find attached document SWD(2025) 595 final.

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COMMISSION STAFF WORKING DOCUMENT

EXECUTIVE SUMMARY OF THE EVALUATION

Ex-ante evaluation

Accompanying the document

Proposal for a Council Regulation

establishing the research and training programme of the European Atomic Energy Community for the period 2028-2032, complementing Horizon Europe, the Framework Programme for Research and Innovation, and providing for the Community's contribution to the ITER project, and repealing Regulation (Euratom) 2025/1304

{COM(2025) 594 final} - {SWD(2025) 594 final}

EXECUTIVE SUMMARY

This ex-ante evaluation accompanies the Commission proposal for the Council regulation establishing the new Euratom programme for 2028-2032 (The 'Programme'). It provides funding for actions in nuclear fission and fusion, as well as for the Euratom contribution to the ITER project. The proposal for the Euratom programme is part of the package of Commission proposals for the next multi-annual financial framework ('MFF') covering 2028-2034. The MFF package aims at enhancing the competitiveness of the European Union as a critical priority.

The EU faces today several challenges, including energy independence, the urgent need for decarbonisation, and the imperative to maintain technological leadership in a rapidly evolving global energy market and continuous geopolitical instability. Nuclear energy generates electricity in 12 of the 27 EU Member States and provided 22.8% of Europe's electricity and half of the EU's low carbon electricity in 2023. The current role and potential of nuclear energy to meet the EU's climate goals, with co-benefits for air quality, and increasing electricity demand, as well as the promise of fusion energy and new nuclear technologies, including Small Modular Reactors and Advanced Modular Reactors, place these technologies high on the EU's policy agenda. This is reflected in the Commission's strategic document and actions, such as the communication on Europe's 2040 climate target, which underlines the importance of all zero and low-carbon energy solutions, including nuclear, to decarbonize the energy system. The 2024 report on "The future of European competitiveness" further recognises that nuclear technology plays an enduring role in a competitive energy mix across the EU. It also considers nuclear fusion as 'a disruptive technology that holds the potential to revolutionise the energy landscape in the second half of this century'.

The ex ante evaluation concluded that to address the new competitiveness and energy security challenges facing the EU, and in view of meeting decarbonisation targets, the Euratom programme must be reinforced in terms of budget and measures to enhance innovation and skills in the field of nuclear science and technology for both power and non-power applications.

Euratom's actions for the development of fusion energy will be guided by the forthcoming EU strategy for fusion energy and supported through a public-private partnership aimed at accelerating its rapid and economically viable commercialisation. This partnership will focus on creating a stable and predictable ecosystem for industrial innovation, building on the strengths and achievements of EUROfusion and leveraging the ITER project, while ensuring a clear and structured technology development roadmap. Integral to these actions will be the bottom-up support for the emergence and growth of innovative European fusion start-ups and the broadening of opportunities for EU research in inertial confinement fusion.

ITER will remain a cornerstone for the development of fusion energy in Europe and must be fully integrated into a broader EU strategy for this purpose. The Euratom programme will aim to complete construction for the first phase of experiments on time and within budget. This will be achieved in particular by delivery of European components for ITER in line with the project baseline, by active participation in ITER governance, by supervising the Joint Undertaking 'Fusion for Energy' in performance of its tasks, while ensuring that technical and scientific lessons learned from ITER benefit the Union.

The new Euratom Programme should clearly define one of its objectives in supporting the development of safe and secure innovative fission technologies for a prosperous and sustainable EU. Technologies such as small modular reactors can support EU decarbonisation goals, complementing other low-carbon energy solutions, and strengthening strategic autonomy. Their safe deployment

requires a harmonised European approach to safety and independent validation. For the longer term, Euratom research will focus on safety and safeguards aspects of advanced nuclear technologies, including Advanced Modular Reactors, innovative fuels and materials.

In parallel, Euratom research must support lifetime extensions of EU nuclear installations to ensure safe operation and a reliable low-carbon energy supply. This requires continuous improvement of safety standards and addressing issues such as ageing management and structural integrity.

An integrated and robust radioactive waste management system is a prerequisite to all nuclear activities and the Euratom programme will develop solutions for new technologies (SMRs, AMRs and fusion) and for waste streams without mature processing methods, as well as continue research on optimising safety margins of disposal technologies, while ensuring reliable knowledge management and transfer to successive generations. The Programme would enable more substantial support for Member States with smaller nuclear inventories or those in early stages of waste management development.

An enhanced Euratom Programme should advance non-electric applications of nuclear technologies, including space exploration, marine propulsion, hydrogen production, district heating, and industrial uses. It must also expand nuclear medicine research to combat serious diseases, optimise patient radiation doses, and strengthen preparedness for radiological emergencies. Further, the Programme should explore innovative ionising radiation applications to support the EU's strategic autonomy in critical materials, the circular economy, and environmental monitoring.

For enhancing innovation and skills in the field of nuclear science and technology, the programme will benefit from the new Horizon Europe Framework Programme's rules for participation and dissemination, designed to simplify access further, enhance openness, and maximise the impact of funding. There are areas, such as industrial competitiveness and public health, where joint actions between the Euratom Programme and Union programmes can be of greater benefit to Union citizens than having actions under the Programme alone. For this reason, the Programme should seek synergies with Horizon Europe and other Union programmes. Streamlined governance should allow the Commission to discuss all aspects of fission and fusion research, including the ITER project, with Member States and key stakeholders to provide strategic overview and to improve coordination between Euratom and national actions, while recognising that for Fusion for Energy, the governance with the Member States is covered by the Fusion for Energy Governing Board.