BESLUT

Datum för beslut:
2026-01-20

Diarienummer:
HS-2025-2433

Beslut om remissvar på EU-kommissionens förslag till förordning om Euratoms forsknings- och utbildningsprogram COM(2025) 594, U2025/02003

Beslutet

Rektor beslutar att Kungl. Tekniska högskolan lämnar remissvar på EU-kommissionens förslag till förordning om Euratoms forsknings- och utbildningsprogram COM(2025) 594, U2025/02003 enligt bilaga 1.

Ärendet

Kungl. Tekniska högskolan har av Utbildningsdepartementet beretts möjlighet att lämna synpunkter på EU-kommissionens förslag till förordning om Euratoms forsknings- och utbildningsprogram COM(2025) 594, U2025/02003.

Remissvaret har utarbetats av professor Pär Olsson med kollegor, institutionen för fysik vid skolan för teknikvetenskap.

Detta beslut har fattats i rektors ställe av prorektor Mikael Lindström efter föredragning av utredare Åsa Gustafson. Närvarande vid beslutet var biträdande universitetsdirektör Fredrik Oldsjö, ordförande för Tekniska högskolans studentkår Lydia Boij och mötets sekreterare Annette Grahn.

Denna handling har hanterats digitalt och är därför inte undertecknad.

Bilaga 1: Kungl. Tekniska högskolans synpunkter på på EU-kommissionens förslag till förordning om Euratoms forsknings- och utbildningsprogram COM(2025) 594, U2025/02003.

Sändlista

Regeringskansliet (Utbildningsdepartementet)

Expeditionsdatum:

2026-01-20

Bilaga 1: Response from KTH Royal Institute of Technology to the national request for comments on the proposal for a Council Regulation establishing the Euratom Research and Training Programme 2028–2032 (COM(2025) 594)

KTH Royal Institute of Technology welcomes the opportunity to provide comments on the European Commission's proposal for the Euratom Research and Training Programme for the period 2028–2032. KTH is the largest technical university in Sweden with long-standing leading expertise in fusion and plasma physics, nuclear engineering, reactor physics, radiation protection, nuclear materials, waste management, and nuclear safeguards and security, as well as education and doctoral training in these fields. KTH hosts the only Master's program in Nuclear Engineering in Sweden.

KTH is broadly supportive of the Programme's overall objectives to strengthen European competitiveness and decarbonisation while protecting people and the environment through high standards of nuclear safety, security, safeguards and radiation protection. The Programme's comprehensive coverage of nuclear science and technology, including research infrastructures, skills development and international cooperation, is appropriate and timely.

However, the continued exclusion of nuclear energy research from consideration by the European Research Council (ERC) should be addressed, to enable opportunities for brilliant young researchers to obtain individual grants in these fields. The continued discrimination of nuclear energy research as the only inadmissible subject field is unfortunate and clearly limits research and innovation excellence. Euratom should work with the EU commission and the ERC to rectify this issue.

As an overall assessment, KTH considers that the proposal establishes a strong and forward-looking framework for fusion research, but that fission-related research and innovation are comparatively underrepresented and too narrowly framed.

While fusion is treated as a strategic long-term technology with a clear innovation and industrial development trajectory, fission research is largely confined to safety, safeguards, radiation protection and waste management. This imbalance risks undermining Europe's long-term innovation resilience and technological sovereignty in the nuclear domain.

Fusion research: well designed and strongly supported

KTH welcomes the strong support proposed to fusion research and innovation in the proposed Programme. The continued commitment to ITER, combined with clearer orientation towards technology development, industrial involvement and skills, represents a major strength of the proposal.

In particular, KTH supports:

- the integration of ITER within a broader European fusion strategy, ensuring that scientific and technical lessons learned benefit the Union;
- the focus on closing key technology gaps on the pathway towards fusion pilot power plants;
- measures to strengthen the European fusion industrial ecosystem, including support for start-ups and private investment;

- the explicit recognition of the need for dedicated education, training and competence-building in fusion energy.

From a university perspective, the fusion pillar demonstrates a coherent link between frontier research, large-scale infrastructure, industry engagement and doctoral training. KTH considers this approach well aligned with European competitiveness and long-term energy innovation objectives.

Fission research: underfunded and overly restricted

By contrast, KTH notes with concern that fission-related activities in the proposal are limited in scope, with only 10% of the total budget, and almost exclusively focused on safety, safeguards, radiation protection and waste management, while research and innovation aimed at the development of new fission technologies is largely absent or addressed only indirectly.

While KTH fully supports the central role of safety and risk mitigation, a programme that treats fission primarily as a legacy technology to be managed rather than a knowledge domain to be developed, risks eroding Europe's scientific, technological and industrial capacity, in particular in light of the climate goals and agreements. Long-term nuclear safety, sustainability and cost-effectiveness depend on continuous innovation in areas such as:

- advanced reactor concepts and system designs;
- fuels and fuel cycles;
- structural and functional materials;
- digital tools, modelling and system integration, including the responsible use of artificial intelligence;
- qualification and validation methods that underpin licensing and standardisation;
- development and support for critical research infrastructures.

Fission development and European innovation resilience

KTH recalls the conclusions of the Draghi report on European competitiveness, which underline the importance of maintaining innovation capacity in critical technologies, avoiding structural dependencies and strengthening Europe's technological sovereignty.

From this perspective, the current imbalance between fusion and fission in the Programme is problematic. Fission energy remains a strategic component of Europe's low-carbon energy system and a key source of expertise in complex engineering, materials science, digitalisation and regulatory competence. Sustained research and innovation in fission technologies are necessary to:

- maintain and renew European expertise and skills;
- support long-term operation and safety improvements of existing reactors;
- enable the development and assessment of small modular reactors (SMRs) and future fission systems;

- strengthen European supply chains and reduce reliance on non-EU technologies and intellectual property.

Restricting fission research primarily to safety assessment risks weakening the upstream innovation base that is required to deliver these objectives and is inconsistent with the Programme's stated aims on competitiveness, resilience and strategic autonomy.

Responsible and optimised use of artificial intelligence

KTH welcomes the Programme's increasing attention to modelling, simulation and advanced computational tools, including artificial intelligence (AI). AI has significant potential to improve nuclear safety, safeguards, waste management and fusion research through enhanced data analysis, predictive modelling and system optimisation. Given the safety-critical nature of nuclear applications, KTH emphasises that AI must be developed and deployed in a responsible, transparent and validated manner, with clear human oversight, explainability and robust data governance. The Programme should explicitly support research on the integration of AI with physics-based models and experimental evidence, ensuring that the innovation strengthens safety and public trust.

Recommendations

KTH therefore recommends that:

- the Euratom Programme and its work programmes rebalance support between fusion and fission, by strengthening fission-related research and innovation alongside the strong fusion pillar;

- Euratom and ERC find ways to collaborate to enable individual excellence grants also in nuclear energy research;

- fission innovation be addressed explicitly and visibly, and not only as a secondary outcome of safety or waste-related research;

- universities and research organisations be enabled to contribute to early- and mid-TRL fission research, providing the scientific foundations for future licensing, standardisation and industrial deployment;

- responsible and validated use of AI be encouraged across both fission and fusion activities, in line with European values and regulatory frameworks.

A more balanced approach, combining a strong fusion programme with a credible fission innovation pillar, would, in KTH's view, enhance nuclear safety in the long term, support skills and knowledge continuity, strengthen Europe's innovation resilience and competitiveness and provide important steps along the path to climate neutrality.

KTH remains at the disposal of national authorities for further dialogue and clarification on these issues.

The remittance response has been written by professor Pär Olsson with assistance of colleagues at the Department of Physics at the School of Engineering Sciences, KTH Royal Institute of Technology.