SNETP
Sustainable Nuclear Energy Technology Platform

SNETPFORWARD

Nuclear research landscape in the EU

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The European Council has acknowledged the need to ensure energy security while respecting Member States' right to choose their energy mix and to choose the most appropriate technologies to achieve the decarbonization targets. The EU needs all sectors and possible solutions to enable a transformational change to its economy and make Europe the first climate-neutral continent in the world. In the EU's long term strategy[1], the European Commission confirmed that nuclear will form the backbone of a carbon-free European power system, together with renewables

EU technological sovereignty will require joint efforts in education, training, research, and innovation areas. In the nuclear sector, this is crucial for ensuring high-level of safety and radiation protection in Europe, to properly manage radioactive waste and spent fuel, and to develop future technologies including intrinsically safe reactors and closing the nuclear fuel cycle.

Research, development, and innovation with sufficient skilled and trained Human Resources (HR) are important components for ensuring safe, efficient, and competitive usage of nuclear as low-carbon energy source. Indeed, nuclear technologies for both power and non-power applications are part of the EU's leadership[i].

The European Union requires nuclear expertise and well-qualified workforce for present and future nuclear applications[ii]. Most of the EU-nuclear assets (including NPPs, MTRs, Hot cells, specialised facilities, and labs) have been built in the 1970's and 1980's or even before, and many of them have been shut down or should in the near term. In addition, half of the EU's workforce involved in the construction and operation of nuclear facilities will soon reach retirement age[iii]. It is therefore a matter of urgency that the know-how and competences are preserved and transferred to the next generation of scientists, engineers, and technicians[iv].

The objective of SNETP is to develop a strategic research and innovation agenda addressing the scientific and technical gaps and needs to ensure that the nuclear sector can play its role in the decarbonization strategy of the union, highlighting the importance of R&D&I facilities and the human resource and skills gaps in the EU nuclear sector.

This study aims at assessing the quality and the quantity of the EU workforce active in the R&D&I activities being within industry, universities, research centers or technical safety organisations being member of SNETP or not that active in all the fields/topics related to the nuclear sector as described in the SRIA of SNETP.

The study shall focus on mapping the landscape of the nuclear R&D&I on the EU by identifying and providing information about:

- The EU R&D&I organizations (who is doing what and where?)
- What & how is being done concerning knowledge preservation and transfer in the EU?
- Available R&D&I workforce (how much and where) and assessment of the needs in the upcoming decade
- National public budgets dedicated to R&D&I in the nuclear sector (how much and for what?)
- Public information of the private investment in the R&D&I across European industry (how much and or what)

[i] https://snetp.eu/wp-content/uploads/2021/09/SRIA-SNETP-1.pdf
[ii] https://www.nuclearеurope.eu/downloads/nuclear-energy-powering-the-economy-full-study/?wpdmdl=42758&refresh=5cc15b9cd1ec31556175772
[iii] Report from the French Presidency of the Council, 'For a European dynamic in nuclear skills', Doc. 9799/22 RECH 326 ATO 38, June 2022.

[1] A Clean Planet for all - A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy

[iv] https://op.europa.eu/o/opportal-service/download-handler?identifier=aeb54033-2255-11ea-af81-01aa75ed71a1&format=pdf&language=en&productionSystem=cellar&part=