

4-7 June 2019
Pitesti, Romania

radioactive waste disposal research nuclear safety innovation energy research innovation research nuclear safety

FISA 2019 • EURADWASTE '19
9th European Commission Conferences on EURATOM Research and Training in
Safety of Reactor Systems Radioactive Waste Management

Euratom Scientific and Technical Committee

Legacy messages from the 2013-2018 Mandate

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What is the STC

- ***The Euratom Scientific and Technical Committee (STC) is an advisory body established by the Euratom Treaty. The members of the STC are appointed in a personal capacity by the Council of the European Union. The role of the STC is laid out in the provisions of the Euratom Treaty and includes the delivery of opinions on relevant scientific and technical issues, in particular in relation to the Euratom research and training programme.***



How long have we existed

- The Euratom Scientific and Technical Committee (STC) is the only scientific and technical advisory body formally enshrined in the Euratom Treaty (Article 134) and active since 1957.
- For over 60 years, the STC has provided independent, authoritative advice and opinion on all aspects of nuclear technology. Its members are appointed from all Member States, for a five-year renewable term, as independent experts in nuclear medicine and radiation protection, in nuclear fission reactor systems and fuel cycles, waste management and thermonuclear fusion. The STC is also responsible for nominating the experts advising the Commission on the basic standards for radiation protection (the Article 31 Expert Group) and on the assessment of the health impact of radioactive release from nuclear facilities (the Article 37 Expert Group).



Our Work 2013 - 2018

- The 2013-2018 STC provided a detailed, multifaceted Opinion covering Future Fission Systems and Fuel Cycles, Radiological Protection, Infrastructure, Waste Management and Decommissioning and a separate stand-alone Opinion on the Fusion Roadmap.
- Recognises nuclear energy in a number of Member States is and will be a component of low carbon electricity supply
- Makes the point that all EU Member States, even those without nuclear power plants, have an interest in ensuring nuclear safety throughout the EU;



Why do we need research

- Maintain Capability – Intelligent Client role if not Leadership
- Nuclear safety security and environmental impacts cross national and international boundaries
- Need to influence and ensure high standards of safety
- Climate Change – non fossil fuelled generation – enable mixed energy economy
- Safe decommissioning and disposal of current and future wastes
- Sustainability and inter generational equity
- Future provision of medical radio-isotopes



Research Priorities

- Fusion
- Fission
- Nuclear Materials
- Medical and Industrial uses of radiation/radio isotopes
- Maintain Skills
- Develop Capability
- Enable Leadership



Future Opportunities : Limited Future Funding

- Climate Change 4, 3,2, or 1.5 degree increase in temperature
- Nuclear Power as part of the roadmap to zero carbon
- Sustainable use and supply of radio-isotopes for industrial and medical uses
- Leadership in Generation III and IV reactor Systems
- Small Modular Reactors
- Fusion
- Decommissioning



Looking forward

- Socio economic research
- Safety and Operation of Nuclear Reactors: technology, safety culture and human factors
- Fusion Roadmap Assessment
- The Joint Research Centre (JRC) Direct and Indirect actions
- A balanced view : Research in support of radiological protection, notably regarding medical and industrial applications of radiation and radioactive material



Opening up other research fields for Euratom research

- The outgoing STC has indicated for a number of years that the budget for fission research within the Euratom Framework Programme is insufficient to enable the most important topics to adequately progress. It has sought to encourage and recommend that synergy is sought from cross-cutting initiatives in other EU research fields, *inter alia* materials and medicine and from the basic research programme as well from the fusion programme.
- The Opinion also highlighted the need and appetite for funding for activities that can and should be pursued in parallel to ITER and are of critical importance at the DEMO and reactor stage for fusion energy.



