



Safety Assessment of non-electric uses of nuclear (SANE)

Webinar: SMR Risks, Risk Perceptions and Risk Communication
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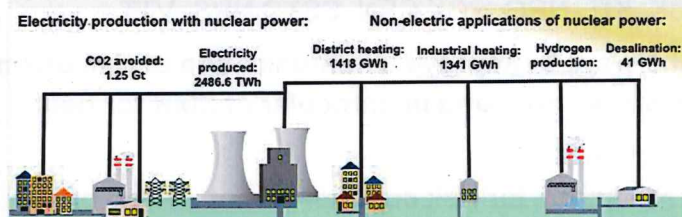
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Non-electric applications exist but are rare



SANE aims to facilitate path towards their potential

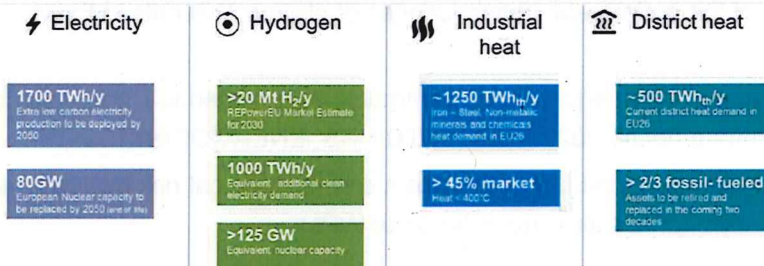


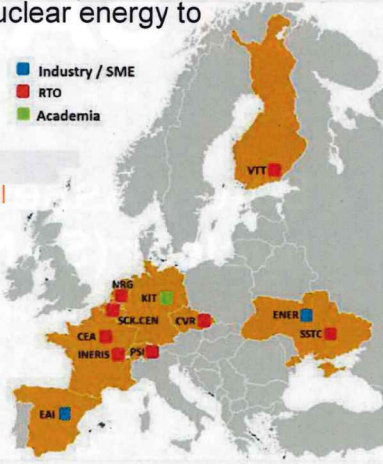
Figure from European SMR pre-Partnership – Workstream 1 – Market Analysis report

SANE project

The main objective of SANE is to investigate the potential of nuclear energy to supply services other than electricity.

- *What are possible non-electric applications?* E.g. Process industry, District heating & heat for agriculture, Hydrogen & e-fuel production, etc.
- *What safety questions should be considered?* Differences from conventional nuclear power plants.
- *How can they be used?* Feasibility and performance of the coupling between a nuclear power plant and its non-electric use.
- *How can we discuss them?* Improve communication of risk arising from the for non-electric use of nuclear reactors and in particular of SMR for heat production.

■ Industry / SME
■ RTO
■ Academia



Project duration: Sep. 2024 – Aug. 2027; 11 participating organizations from 9 European countries; EU contribution approx. 3.5 M€

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SANE WP4: Risk Communication (RISCOM)

- Partners: CVR, ENERGORISK, KIT, NRG, SCK CEN, SSTC NRS, VTT
- **Exploring and identifying the ways to improve communication of risk arising from the non-electric use of nuclear reactors and in particular of SMR for heat production**
- **Developing strategies and roadmaps for risk communication based on:**
 - public and other stakeholders' views regarding new nuclear technologies and their deployment (VTT, CVR, KIT, NRG, SCK CEN)
 - comparative analyses of the radiological consequences of abnormal events in these systems (NRG, CVR, KIT, VTT)
 - lessons learned from crisis and emergency risk communication related to Chornobyl Exclusion Zone in Ukraine and abroad during 2022-2023 (SSTC NRS, ENERGORISK)
 - outcomes of the safety studies on the LDR-lite system and radiological risk evaluations of SMRs, ZNPP, and non-nuclear facilities (from the other WPs)

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SANE WP4: Overall Methodology

- Building a **database (relevant technical, social, and ethical information)** to be **converted into a proper risk communication strategy** to the stakeholders and the public
 - review of the existing procedures and arrangements among the EU Member States and of the current public communication practices in the E&P stages
 - estimations of the radiological consequences of accidents in different nuclear technologies
 - feedback of the stakeholders when novel nuclear applications are deployed
 - the Ukrainian case study

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SANE WP4: Overall Methodology

- Social and ethical aspects of the development and use of non-electric applications of nuclear energy in the risk communication strategy
- **Goal: providing a deeper understanding of the social and ethical dimensions of such novel technologies and contributing to more informed decision-making**
 - Literature review, interviews and workshops with stakeholder groups (i.e., researchers, policy makers, industry, potential users, host communities, NGOs)
 - *How the different stakeholders imagine the implementation of such applications in terms of their impact on various social, political, and economics dimensions?*
 - Comparison nuclear industry risk vs. other risks from other industries

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Agenda

- *SMRs and radiological risks, basic principles* (Paul Breijder and Gilliam van Oudenaren, NRG Pallas, Netherlands)
- *How is the public perceiving SMRs?* (Catrinel Turcanu and Robbe Geysmans, SCK CEN, Belgium)
- *Perceptions and information needs of authorities related to deployment of SMRs for district heating* (Merja Airola, VTT, Finland)
- *Evidence-based communication of SMR: what can we learn from social studies?* (Tanja Perko, SCK CEN, Belgium)

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Thank you

Follow SANE project: <https://www.sane-euratom.eu/>

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