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The TANDEM Euratom project to study the integration of SMRs into low-carbon hybrid energy systems: mid-term progress

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The TANDEM project (2022-2025) is a European Commission initiative funded under the Euratom program. The main goals of TANDEM are to:
- Develop an integrated vision of energy systems through the implementation of Hybrid Energy Systems (HESs) incorporating Small Modular Reactors (SMRs) to produce heat, electricity and hydrogen,
- Develop tools and methodologies to study these HESs,
- Show the role/benefits of multipurpose SMRs integrated into these HESs for the energy transition.
Considering SMR near-term deployment in Europe, the project mainly focuses on light-water technologies. The project started 18 months ago. The goal of the paper is to present the mid-term progress of the project. The first activities carried out highlighted the stakes associated with the SMR deployment in Europe, directly linked with European energy policies as well as energy markets and their evolution. Thus the project provided the generic configurations of two HES to be studied, a District Heating configuration and an Energy Hub configuration, within two timeframes 2035 and 2050. These configurations constitute the input data necessary to start the safety and techno-economics studies in the project. They are studied in the light of three different European local contexts, in Finland and in Czech Republic for the first HES, and in France for the second HES.

Country OR International Organization

France

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