

Project Fact Sheet

Project Title International Innovation Network for the Development of Cost- and Environmentally Efficient Seasonal Thermal Energy Storages (INTERSTORES)

Keywords Decarbonization, Seasonal Thermal Energy Storage (sTES), Renovated Low-Cost Ground-Based sTES (Reno-sTES), Rock Cavern Thermal Energy Storage (Giga-CTES), Feasibility, Sustainability

Project Details

Project Start	January 2024	Duration	4 Years
Grant Scheme	Horizon Europe		
Funding Authority	European Commission	Project ID	HORIZON-CL5-2023-D3-01-14
Project Budget	1.035.245 €		
Project Leader	Prof. Dr.-Ing. Tobias Schrag		
Contact Person	David Schmitt		

Project Partners Martin Luther University of Halle-Wittenberg (Germany), AIT Austrian Institute of Technology (Austria), Energiesprong (Netherlands), GreenFlex (France), Geological Survey of Finland GTK (Finland), Lucerne University of Applied Sciences and Arts (Switzerland), IN-Campus GmbH INC (Germany), InoSens (Serbia), Planungsgruppe M+M AG (Germany), Vantaan Energia Oy (Finland), VTT Technical Research Centre of Finland (Finland), WIZ Research (Romania)

Description

The INTERSTORES project aims to accelerate the decarbonization of the EU's energy sector through advanced seasonal thermal energy storage (sTES) technologies. The project is anchored on two key strategies: the re-use of existing infrastructure to create renovated, low-cost ground-based sTES facilities, and utilizing natural environments, especially rock formations, as storage caverns for new sTES. The goal is to overcome existing challenges like high investment costs, lack of practical storage tools, environmental risks, and significant land use in sTES development. Through two real-world demonstrations at sites in Finland and Germany, INTERSTORES will evaluate the feasibility, operating conditions, cost, and environmental impact of both strategies. The objective is the wide-scale adoption and replication of these technologies for a more sustainable energy future. As part of the project, the work packages of THI are mainly in the system integration of sTES. This includes the development of simulation tools to examine and evaluate the impacts on system level. The demonstration of the research outcomes at the demonstration site in Germany is scientifically supported by THI.