

Project Fact Sheet

Project Title	SmartArea – Actor-centred approach to spatial optimisation and modelling of regional transformations of the energy system
Keywords	Energy transition, energy systems, optimisation, acceptance, modelling energy systems

Project Details

Project Start	2023	Duration	3 Years
Grant Scheme	7th Energy Research Programme		
Funding Authority	Federal Ministry for Economic Affairs and Climate Action	Project ID	03EI1057A
Project Budget	425,625 €		
Project Leader	Prof. Dr.-Ing. Uwe Holzhammer		
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Project Partners	Universität Augsburg		

Description

For a sustainable energy transition, concepts are needed that can map the techno-economic and socio-ecological complexity of regional location decisions for renewable energies. In this regard, it is noteworthy that so far there are hardly any findings on how to design a computer-based methodological approach that precisely analyses and reflects the individual positions of the regional actors of the energy transition and visualises them in relation to the specificity of the actor-related land use for renewable energy plants. The SmartArea research project therefore aims to analyse the complex interactions between the diverse competing land claims based on particular actor constellations. The central thesis is that the constructive determination of areas for the expansion of RE, in addition to taking into account important techno-economic and socio-ecological parameters, must in particular address the communication processes between the individual positions of the actors in the energy transition. Therefore, the research project aims to capture the specific perspectives of certain stakeholders on the expansion of renewable energies. In doing so, we want to visualise the results by means of geographical information systems (GIS) in such a way that they can be understood by every stakeholder and subsequently allow a constructive exchange on the value of certain areas for the expansion of RE between all stakeholders. This will make it possible to show the actors the effects of their own position on the entire energy system and, in addition, to make the positions of the other actors more comprehensible to them. In this way, not only can destructive social conflicts in RE project development be prevented from the outset, but at the same time constructive synergy effects for a sustainable regional expansion of renewable energies with a high level of acceptance can be realised.