SERENE

SUSTAINABLE AND INTEGRATED ENERGY SYSTEMS IN LOCAL COMMUNITIES

Are you interested to learn about a H2020 project, which focuses on the establishment of community-driven, low carbon, multi-carrier energy systems for smaller cities and villages?

The aim of **SERENE** is to **develop and demonstrate sustainable, integrated, cost-effective and customer centric energy solutions for local communities.** The idea is to integrate different energy system carriers with new renewable generation units in local communities. Thereby enabling them to sustain their current social and technical status, whilst also looking ahead to meet their energy needs of tomorrow.

The involvement of **local users** will be at the center of any changes to the energy system. They will be informed about different technical opportunities and business cases to help them fully participate and make informed choices. **Depending on the local community, the new energy system will consist of:** different storage technologies (battery energy storage, heat storage, water storage-systems), demand response systems to enhance flexibility (for instance smart activation of electric vehicle charging stations and heat demand supplies), electric transportation systems, heating system improvements using heat-pumps and the integration of new renewable generation sources mainly in the form of solar photo-voltaics.

PROJECT PARTNERS

AALBORG UNIVERSITET

Skanderborg Kommune

AURA energi

NEOGRID TECHNOLOGIES

Bjerregaard Consulting

UNIVERSITY OF TWENTE.

SAXION UNIVERSITY OF APPLIED SCIENCES

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Energa operator

STAY·ON STORAGE ENGINEERING

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The goal is to establish **locally integrated 'energy islands'** in the different villages of **Skanderborg (Denmark), Olst (the Netherlands)** and **Przywidz (Poland)**. Such 'energy islands' will contribute to the decarbonisation of local energy systems via the optimal integration of multi-energy carriers through smart control and the balancing of systems and grids at the local level. This approach will also increase the levels of renewable energy use, thereby enhancing the environmental, social and economic conditions of the citizens and establishing more business and trade.

The experiences gained at the demonstration sites will be analysed and evaluated for replicability across Europe. Technical benchmark models and solutions will be established alongside business models and evaluated against the different challenges identified by the countries involved. The levels of user involvement and their interest to participate will be evaluated from the geographical, social, environmental and economic conditions.

Budget: € 5,1m of EU contribution
Duration: May 2021 - April 2025
Project Coordinator: prof. Birgitte Bak-Jensen
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SERENE H2020 project
#H2020SERENE

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Skanderborg (Denmark)


Olst (the Netherlands)


Przywidz (Poland)

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