

MATCH

Markets, actors, technologies: A comparative study of smart grid solutions

” Ensuring the transition to a smart and sustainable energy system requires knowledge about all actors and elements involved in the system

MATCH provides knowledge on how to develop solutions for small consumers that work in practice

The MATCH project expands our understanding of how to design and implement comprehensive smart grid solutions that take into account the complexity of factors influencing the effectiveness and success of smart grid initiatives targeted at small consumers.

Detailed case studies in three countries

Based on detailed case studies and comparative analysis in three countries (Austria, Norway and Denmark), key factors related to technology, market and the involvement of actors in developing integrated and “workable” smart grid solutions are identified. The project studies existing demo projects and pilots and unfolds the complexities related to how the technical solutions are used and how their “successfulness” depend on contextual factors such as market structures, existing user practices, the technical design of the solutions, actors involved etc.

In addition to the detailed case studies, system implications of the findings are explored through energy system analyses. The results from the project will inform designers, system planners and policy makers about how to develop better smart grid solutions for small consumers like households and SMEs.



Project Duration

01.02.2016 - 31.07.2018

Project Budget

Total Budget: € 1,353,019.-

Funding: € 1,143,355.-

Project Coordinator

Danish Building Research Institute,
Aalborg University (Denmark)

Project Partners

- Eniig (Denmark)
- Samsø Energy Academy (Denmark)
- ProjectZero (Denmark)
- Norwegian University of Science and Technology (Norway)
- Smart Innovation Østfold (SMARTIO) (Norway)
- Institute of Technology Assessment (ITA), Austrian Academy of Sciences (Austria)

Project Website

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Main Objectives

- Provide knowledge about how technology design, stakeholder involvement and market solutions influence the success of smart grid demonstration projects.
- Explore the potentials and limits for the active involvement of small consumers (prosumers) in electricity generation and balancing the grid (supply and demand).
- Develop recommendations for designers, energy system planners and policy makers on how to develop solutions that integrate technology, market and stakeholders.
- Develop energy system analyses on basis of findings from specific case studies in order to explore implications of different solutions on an aggregated system level.
- Support transition to a renewable energy system through disseminate findings to the wider European smart grid community.


Main Results

The project focuses on the following three types of smart grid solutions targeted at small consumers:

- Demand-side management / demand response (grid balancing and energy saving)
- Micro generation (prosumers)
- Integration of local storage capacity (grid balancing)

In each country, three demonstration projects that cover these three types of solutions have been chosen. Several of the cases involve more than one type of solution, which makes it possible to also study the interaction, synergies and possible contradictions between different solutions. The focus on specific types of solutions supports the cross-country case comparison and helps to identify country-specific factors influencing how solutions work in practice.

Examples of studied cases are ProjectZero (Denmark), Köstendorf (Austria) and Smart Energy Hvaler (Norway). The case studies are primarily based on qualitative methods (interviews, focus groups, observations etc.), but also involve collection of quantitative data for the later evaluation of the energy system implications.



From Local Trials towards a
European Knowledge Community

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ProjectZero

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This project is part of the 1st Joint Call for transnational RDD projects of the ERA-Net Smart Grids Plus initiative. More than EUR 31 million of funding have been made available to 21 projects from 19 regions/countries.

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