

Assessing the economic potential of decentralized energy sources in Central Europe area

The aim of the project:

The main goal of the project is to develop and test the methodology for assessing the economic potential of DES and its management on the micro-regional level.

Project introduction:

It is currently a great challenge to include intermittent and not so predictable decentralized energy sources into the widespread network of centralized energy sources such as nuclear power plants or coal plant. A decentralized energy system is characterized by locating of energy production facilities closer to the site of energy consumption; it allows for more optimal use of renewable energy as well as combine heat and power, reduces fossil fuel use and increases eco-efficiency. DES seeks to put power sources closer to the end users.

The project will create 2 tools for the transition to the decentralised energy system. The first one is a **suggestion of the methodology for distribution system operators** that will facilitate the transition from centrally operated energy system (CES) to decentralised energy system (DES). The second tool is a **financial plan** of individual solutions of decentralised energy system, e. g. solar energy, wind energy, geothermal energy etc. The aim of the project is to address the distribution system operators as well as the **policy makers**: in this perspective, a platform will be developed and it will suggest the best transition strategy to adopt. It will also suggest what mix of renewable energies adopt given the morphology and the characteristics of the territory. The final outcome will be a cost value import that will constitute the threshold for decisions at the policy makers level.

The proposed project will be integrated in a comprehensive and user-friendly suite supporting planning and operating activities of distribution system operators and policy makers, associated with their new roles in the decentralised energy markets with high penetration of renewable energy sources and decentralised generation.

The activities:

- To train and sensitize policy makers, distribution system operators and citizens about the pros and contras to a CES to DES transition;
- To analyse the physical and economic conditions of particular micro-regions and to determine their potential for a transition from the CES to the DES;
- To assess and evaluate this transition in a complex way (from economic as well as social point of view);
- To design and develop new tools and methodologies for complex energy management system for autonomous units;
- To test and validate developed methodologies and tools on a real scenario.

Programme: INTERREG Central Europe

Priority 2 Cooperating on low - carbon strategies in CENTRAL EUROPE, strategic objective 2.2 To improve territorially based low-carbon energy planning strategies and policies supporting climate change mitigation.

Partners present in the consortium

Cleopa GmbH, Berlin, Germany

Cleopa is an innovative SME located in Hennigsdorf (near Berlin). The main focus of activities is on energy in companies, eco-innovation and smart-related research.

Moravian University College, Olomouc, the Czech Republic

Business school oriented on economics, management and applied ICT. MUCO has expertise in using the conventional and non-conventional methods for developing agent-based models. The research is focused on low carbon economy, reduction of GHG emissions and behavior of economic entities.

Potential partners: Distribution system operators, regions, cities from the programme countries. The experience in the field of Smart Cities will be appreciated.

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