Special Issue

Renewable Energy Communities (REC)

Message from the Guest Editor

With increased penetration of photovoltaic renewables sources in residential buildings, and new blockchain-based schemes for secure transactions between trade partners, promising models of local energy communities (also called community microgrids) have emerged. Smart metering is required for collecting two-way flow data, and regulation is needed for defining the network costs to be paid to the DSO by the users. The proposed goals of building a community vary from achieving a better match between aggregated demand and supply, maximizing the welfare of the community, and minimizing (operating or total) energy costs to climate-change-related goals such as maximizing the community (PV) self-consumption. We aim in this Special Issue to advance the state-of-the-art on the different levels of a community ICT system: planning and overall architecture, forecasting demand and supply data, customer energy management, trading mechanisms, and storage control and performance evaluation with respect to the chosen system objectives.

Guest Editor

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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