

Special Issue on
Solar Energy in Local Energy Communities: Transition to a Sustainable Energy System

CALL FOR PAPERS

Facing global climate change, the world must transfer to sustainable energy systems, which can be difficult but is definitely feasible. Renewable energy sources have a central role in the transition to a sustainable future. They can help reduce pollution and dependence on petroleum products. In particular, solar energy does not create dangerous waste products and is natural, safe, and freely available. The growth of distributed solar energy systems will however face technical problems concerning energy management due to the time shift between solar energy production and consumption. Local energy communities may offer a solution to facilitate the integration of distributed solar energy systems with new environmentally friendly and smart enabling technologies, such as nanogrids, smart meters, blockchain, and IoT technologies, storage facilities, and electric vehicles. They represent technical and economic solutions to support local energy sources and local demand-response. The integration of these new technologies into the electricity system facilitates the development of a more decentralized electricity system with new actors, where traditional utilities may lose relevance and peer-to-peer (P2P) electricity transactions can become a reality.

The objective of this special issue is to bring together state-of-the-art research contributions that explore models, methods, approaches, technological innovations, market development, energy policies, and the role of new actors for an efficient solar energy management at the local level. We welcome any original research and review articles not currently under review by any other journal.

Potential topics include but are not limited to the following:

- ▶ Solar energy in local energy communities or energy districts
- ▶ Models and methods for the management and control of distributed solar energy systems at the local level
- ▶ Smart enabling technologies: microgrid and nanogrid, smart meter, storage energy system, electric vehicle, blockchain, and IoT and ICT technologies, demand-response
- ▶ Market strategies and energy policies to incentivize the integration of distributed solar energy systems
- ▶ Experimental application of local solar energy communities

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijp/selec/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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