



Sustainability

an Open Access Journal by MDPI

CiteScore: 7.7

Impact Factor: 3.3

Special Issue Reprint

Emerging Technologies towards Energy Cooperation between Smart Grid and Microgrids

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The growing propagation of microgrids and their remarkable effects on the operation of the smart grid is leading to the development of a sustained environment which is moving away from traditional frameworks. Therefore, tending to microgrid systems to increase their range of benefits can play a significant role in outlining an effective negotiation framework for the microgrids that are connected to the smart grid.

In recent years, numerous research and development projects have been carried out to design energy transactions and economic models and implement local control platforms for manufacturers, consumers, and microgrids. Furthermore, the attention paid to peer-to-peer constructions for energy exchanges and management has grown significantly.

This Reprint highlights and discusses the appropriate negotiation structures to maximize the benefits of microgrids that are connected to the smart grid and contributes to the derivation of sustainable future energy systems. In addition to modern techniques for managing uncertainty parameters regarding the microgrid and smart grid, this Reprint also examines multilateral economic distribution frameworks that need to be implemented easily and efficiently without the need for a central agent, with a limited exchange of information comprising the amount and price of the energy exchange.

