Special Issue

Application of Energy Storage in Electrical Systems

Message from the Guest Editor

Societies worldwide are facing tremendous challenges in advocating for a deep transformation of the energy sector towards a decarbonized model. This means that more and more electricity consumption would depend on wind and sun availability. This adds complexity, as does the fact that such renewable generation is not to be centralized, perfectly monitored, and dispatched as are the large fuel, carbon or gas power plants conventionally dominating the vertical structure of the power network, mostly in the past and continuing today. Instead, generation will be distributed throughout the territory (e.g., because of domestic or community photovoltaic self-consumption), and this poses new challenges in regards to network operation and stability, suggesting grid reinforcements. The aspects above require the development of new hardware and software tools providing flexibility. Energy storage systems are providers of flexibility. However, a definitive adoption of energy storage for the decarbonization of electrical systems requires them to be cost effective and reliable, sustainable, and smartly operated.

Guest Editor

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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