Special Issue

Modern Energy Storage Technologies towards Decarbonized Power Systems

Message from the Guest Editors

Recently, countries have been moving towards the massive integration of renewable energy sources (RES) due to their environmental-based role in carbon-free electricity supply. However, the high penetration of these sources and the intermittency and uncertainty associated with the output power of such energy sources have brought new operational and technical challenges to electrical power systems. As a result, the importance of modern energy storage technologies (EST), as promising solutions for achieving the power system's required performance, has become critical. Modern ESTs are defined as practical and effective approaches for stabilizing the power supply to overcome such challenges and minimize energy peak demands. Moreover, they can mitigate power fluctuations due to the intermittent nature of RES. Further, EST effectively reduces system imbalances, adopts load shifting and reserves, and decreases operation costs in the system. This Special Issue focuses on the application of modern energy storage technologies in forthcoming power systems.

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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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