

Special Issue

Recent Technological Advancements Driving Sustainable Development in Flexible and Resilient Power and Energy Systems

Message from the Guest Editors

The global energy sector is transforming profoundly and rapidly, presenting unprecedented challenges and opportunities. Meeting the increasing electricity demand sustainably poses multifaceted complexities and the transition towards a cleaner and more sustainable energy model encourages the restructuring of the global energy system, driven by key factors such as decarbonization, decentralization, and digitalization. This revolution is supported by technological innovation, including the integration of large-scale and new small-scale renewable energy technologies (solar energy, wind power, hydropower, geothermal energy, biomass, and wave and tidal power), power electronics systems, energy storage, electric vehicles, and electricity demand management. This Special Issue covers these promising and dynamic research areas, aiming to gather high-quality contributions highlighting the challenges, recent advancements, and innovative solutions for flexible and resilient renewable energy-based power and energy systems.

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