

Special Issue

Advances in Optimal Operation of Modern Power Systems for Flexibility Enhancement

Message from the Guest Editors

The increasing penetration of intermittent renewable energy sources and uncertainties in multiple loads have intensified flexibility requirements in the modern power system, characterized by integrated electricity, gas, heating, cooling, and hydrogen networks. A wide array of flexibility resources is currently available, including multi-energy storage systems, demand response, and energy conversion technologies. However, developing refined modeling approaches for these flexible resources and effective collaborative scheduling and control strategies still poses challenges. Consequently, fully exploiting multi-energy flexibility to optimize both system operational efficiency and reliability remains a key research focus that demands global attention.

Suitable topics for this Special Issue include, but are not limited to, the following:

- Multi-scale forecasting model of renewable energy and multi-energy load.
- Modeling method of flexible resources in the modern power system.
- Flexibility quantification and assessment methodology.
- Data-driven scheduling strategy for flexibility enhancement.
- Intelligent control method of distributed flexible resources.
- Market mechanism for flexible service.

Guest Editors

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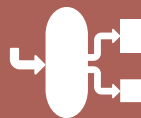
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Deadline for manuscript submissions

31 December 2026



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