Special Issue

Managing Sustainable Energy Systems: Challenges, Models and Opportunities for the Long-Term Energy Transition

Message from the Guest Editors

This Special Issue aims to gather state-of-the-art research, methodologies, decision–support tools, and case studies that address the challenges and opportunities related to the long-term energy transition. We particularly encourage contributions that combine innovative approaches and strategies with a systemic view of sustainability, taking into account the interrelations among technoeconomic, environmental, and social factors. Potential topics of interest include, but are not limited to, the following:

- Energy system modeling and scenario analysis;
- Long-term and short-term energy planning;
- Power systems' optimization under uncertainty;
- Integrated planning of multienergy systems;
- Renewable energy integration and grid stability;
- Distributed generation and energy communities;
- Sector coupling and energy flexibility strategies;
- Smart grids and demand-side management;
- Lifecycle assessment and sustainability metrics for energy systems;
- Planning under environmental and policy constraints;
- Data-driven and AI-based approaches for energy modeling;
- Energy system resilience and reliability;
- Industrial decarbonization and energy efficiency.

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Message from the Editor-in-Chief

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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