

Special Issue

Advancing Renewable and Low-Carbon Energy Systems for Long-Term Energy Sustainability

Message from the Guest Editor

The need to cut emissions, improve efficiency, and secure energy supply drives the growth of renewable and low-carbon technologies. Rising demand challenges researchers and policymakers to integrate renewables, enhance modeling, and optimize performance. Transitioning to sustainable systems is both a technological challenge and a key step toward climate goals and global development. This Special Issue focuses on advances in renewable systems, low-carbon technologies, and efficiency solutions, with emphasis on modeling, optimization, and implementation. In line with *Sustainability*, it invites contributions addressing technical, environmental, and economic aspects of the transition. By uniting expertise in modeling, integration, and innovation, the issue highlights pathways toward resilient and sustainable energy futures. Original research, reviews, and case studies are welcome. Topics include: renewable integration; solar applications; computational modeling; heat transfer; efficiency and demand-side management; hybrid and low-carbon systems; advanced simulation; and policy, economic, and environmental assessments.

Guest Editor

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Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in Sustainability, an international open access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

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Prof. Dr. Steve W. Lyon

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