

Special Issue

Advanced Control for Sustainable Renewable Energy and Power Systems

Message from the Guest Editor

This Special Issue, titled “Advanced Control for Sustainable Renewable Energy and Power Systems”, aims to address the critical role of advanced control technologies in enhancing the sustainability, reliability, and efficiency of power systems with high penetration of renewable energy. Its scope includes component-level control, cluster coordination, system-wide optimization, and digital twin applications, with a focus on bridging theoretical innovations with practical implementations. This issue’s purpose is to showcase cutting-edge strategies—such as model predictive control, AI-driven methods, and distributed control—that directly contribute to sustainability by improving grid stability, maximizing renewable integration, and extending equipment lifespan. This issue will supplement the existing literature by explicitly quantifying the socio-economic and environmental impacts of advanced control techniques, moving beyond traditional technical metrics to evaluate sustainability in terms of carbon reduction, resource efficiency, and policy alignment.

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.

Editor-in-Chief

Prof. Dr. Steve W. Lyon

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