Special Issue

Sustainability, AI and the Evolution of Energy Infrastructure: Understanding the Intersection of Economics, Environment, and Society

Message from the Guest Editors

In the age of artificial intelligence (AI), energy infrastructure is undergoing significant transformation since AI technologies hold great promise in terms of optimizing energy systems, enhancing efficiency, and integrating renewable energy sources more effectively. However, these technological advancements bring with them a complex set of economic, environmental, and social impacts. Understanding how AI influences energy infrastructure—both in terms of operational performance and broader societal implications—is crucial. While AI can drive economic growth, reduce environmental footprints, and improve energy accessibility, it also poses challenges, including potential job displacement, issues of equity, and the digital divide. The aim of this Special Issue is to explore the economic, environmental, and social impacts of AI on energy infrastructure. It will examine how AI technologies can optimize energy systems, improve efficiency, and enable renewable energy integration, while addressing challenges such as equity and social inclusion.

Guest Editors

Dr. Tao Ding
School of Economics, Hefei University of Technology, Hefei, China

Prof. Dr. Ruipeng Tan
School of Economics, Hefei University of Technology, Hefei 230601, China

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Sustainability
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sustainability@mdpi.com

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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. *Sustainability* publishes original research articles, review 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. Marc A. Rosen
Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, Oshawa, ON L1G 0C5, Canada

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