



Environmental Sustainability, Technical Feasibility, and Economic Viability of Repurposing and Repowering Coal-Fired Power Plants

Guest Editors:

Dr. Atanda Kamoru Raji

Department of Electrical,
Electronic and Computer
Engineering, Faculty of
Engineering and the Built
Environment, Cape Peninsula
University of Technology, Cape
Town 7535, South Africa

Dr. Marco Adonis

Department of Electrical,
Electronic and Computer
Engineering, Cape Peninsula
University of Technology, Cape
Town 7535, South Africa

Deadline for manuscript
submissions:

30 April 2025

Message from the Guest Editors

This Special Issue of *Energies* intends to explore the environmental sustainability, technical feasibility, and economic viability of repurposing and repowering coal-fired power plants. By repurposing these plants, they can be transformed into facilities that utilize alternative energy sources such as solar, wind, or biomass, reducing their carbon footprint and utilizing existing infrastructure. These power plants can also be repowered using different but environmentally friendly primary energy resources such as green hydrogen, biomass, and natural gas to replace coal. The modelling of power plants and the analysis of existing grids with replaced resources are vital in order to determine the system voltage stability and mitigation strategies. Efforts must be made to ensure that the communities in which coal-fired power plants are repurposed or repowered are considered by key stakeholders who take their concerns seriously, particularly regarding jobs and economic activities for the community's sustenance.





energies



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and
Aerospace Engineering,
University of Roma Sapienza, Via
Eudossiana 18, 00184 Roma, Italy

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank: CiteScore - Q1 (Control and Optimization)

Contact Us

Energies Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/energies
energies@mdpi.com
[X@energies_mdpi](https://twitter.com/energies_mdpi)