Special Issue

Life Cycle Assessment for Decarbonization in Energy Systems

Message from the Guest Editors

This Special Issue aims to present recent advances in methodological developments and practical applications of Life Cycle Assessment in the context of energy system decarbonization. In particular, we welcome high-quality contributions that provide critical, quantitative, and methodologically robust modelling and applications, addressing the environmental performance of energy technologies and system-level solutions. Topics of interest include but are not limited to the following:

- LCA-based assessment of renewable energy technologies
- Complete life cycle analysis of photovoltaic systems (PV)
- Environmental footprint of wind turbines
- Life cycle impacts of hydropower and geothermal systems
- Sustainability dilemmas of biomass and biogas systems
- LCA of energy storage and flexibility solutions
- Hydrogen-based energy systems and e-fuels
- Integrated energy systems and sector coupling
- Critical raw materials and resource efficiency
- Methodological developments in the field of LCA
- Emerging technologies and future energy systems

Guest Editors

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Deadline for manuscript submissions

closed (25 May 2026)

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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.

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