

## Special Issue

# Energy Data Spaces: Architectures, Concepts and Applications

### Message from the Guest Editor

As the energy landscape evolves towards a more sustainable, decentralized model, the integration of renewable resources and distributed energy systems presents unprecedented challenges to traditional operational frameworks. This transition demands a re-evaluation of the existing physical models, which struggle to accurately monitor and plan within this dynamic environment. To address these complexities, the development of an integrated ecosystem of data value chains becomes essential. This ecosystem will empower stakeholders in the energy sector with data-driven insights for optimization and coordination. This Special Issue focusses on advancements in this field, with a spotlight on federated architecture. Specifically, we delve into topics such as reference architectures for energy data spaces, innovative business models, intelligent applications, and the emergence of data-driven digital twins. By exploring these themes, we aim to foster a deeper understanding of the transformative potential of energy data spaces and their role in shaping the future of the energy sector.

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## Energies

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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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