

# THE 8TH IEEE CONFERENCE ON ENERGY INTERNET AND ENERGY SYSTEM INTEGRATION

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## Special Session 08

### Fundamental Theory and Methodology of Energy Management of Large Scale Integrated Energy Systems

#### INTRODUCTION AND TOPICS

This special session focuses on the latest advancements in fundamental theory, methodology, and technologies pertaining to energy management in large-scale integrated energy systems. The green and low-carbon transformation of the energy system is a major issue in the world. Integrated energy systems can effectively enhance energy efficiency, reduce the renewable energy curtailment, ensure the security of energy systems. Exploiting the flexibility of integrated energy systems can contribute to achieving the goal of carbon neutrality. With the construction of infrastructure such as pipeline networks, provincial and city-level large-scale integrated energy systems have emerged. Large-scale integrated energy systems confront the challenge of the "curse of dimensionality," which significantly complicates their analysis and optimization. Moreover, their temporal scales span from milliseconds to hours, making numerical simulations prone to instability. Additionally, the prevalent barriers among the multiple agents severely constrain the integration of renewable energy and lead to frequent cross-energy flow safety incidents, posing significant risks to the security and efficient operation of the integrated energy systems. Therefore, it is urgent to conduct research on the energy management of large-scale integrated energy systems, supporting the secure and efficient operation of energy systems during the pursuit of carbon neutrality.

#### SPECIAL SESSION CHAIRS



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#### PUBLICATION & SUBMISSION

Submissions will be reviewed by the conference technical committees, and accepted papers will be published in IEEE EI² 2024 International Conference Proceedings, which will be submitted for inclusion in the **IEEE Xplore Digital Library**, and submitted for indexing by **EI compendex** and **Scopus**.



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Submission Deadline: 15 October, 2024

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