Call for Papers

Chinese Journal of Electrical Engineering

Special Issue on Emerging Technology and Advanced Application of Energy Storage in Low-carbon Power Systems

Scheduled Publication Time: June 2023

With the increasing concern about climate change, environmental pollution, and sustainable development, the energy system is evolving towards a low-carbon form powered by a large share of renewable energy. Renewable generation from the wind and solar is intermittent and volatile, posing great challenges to the secure and economical operation of power systems which requires simultaneous balance between power demand and supply. In this regard, various energy storage, including battery, pumped storage, compressed-air storage, flywheel, supper-capacitor, etc., are recognized as indispensable technologies to deal with the intermittency from renewables and facilitate the low-carbon transformation of power systems. Energy storage can be implemented in different parts of the power supply chain from generation-side to grid-side and demand-side, and can benefit the power system operation in multiple time-scales from seasonal energy balance to near-real-time stability control.

This special issue seeks to inspire ideas related to emerging energy storage techniques and their application to power systems, with a broad spectrum of research topics including modeling, control, and design regarding single storage station, as well as planning, operation, the market mechanism for the system-level integration of vast and diversified storages. Both reviews and technical articles are accepted to this special issue. Topics of interest include, but are not limited to:

- Techno-economic analysis of emerging storage techniques for power system application
- Modeling, state estimation, health prognostic, and charge control for battery storage systems
- Data science, AI, machine learning, and digital twin for energy storage modeling and control
- Design and control of efficient power converters for energy storage integration
- Seasonal energy storage systems for long-term balance
- Portable energy storage in the smart distribution network
- Stability support from inverter-based energy storage
- Optimal dispatch of energy storage in power systems with a high share of renewable generation
- Planning and configuration of energy storage in low-carbon power systems
- Market design and pricing mechanism for the integration of energy storages
- Energy sharing and transactive energy for demand-side energy storages
- Aggregation and control of generalized energy storage from flexible loads and multi-energy systems

All manuscripts must be submitted through Manuscript Central at https://mc03.manuscriptcentral.com/cjee. When uploading your paper, please select your manuscript type "**Special Issue on Emerging Technology and Advanced Application of Energy Storage in Low-carbon Power Systems**". The information about manuscript preparation and requirements is provided on http://www.cjeecmp.com/EN/column/column334.shtml. Manuscripts submitted for the special issue will be reviewed separately and will be handled by the guest editorial board noted below.

Deadline for Submission of Manuscript: January 31, 2023

Guest Editors: Haiwang Zhong, Tsinghua University, China (zhonghw@tsinghua.edu.cn)
Fei Teng, Imperial College London, UK (f.teng@imperial.ac.uk)
Mònica Aragüés Peñalba, Polytechnic University of Catalonia, Spain (monica.argues@upc.edu)

Guest Associate Editors:

- Luis Badesa, Technical University of Madrid, Spain luis.badesa@upm.es
- Xuning Feng, Tsinghua University, China fxn17@tsinghua.edu.cn
- Guangchun Ruan, The University of Hong Kong, China rgcthu@163.com
- Yalun Li, Tsinghua University, China lyl17@mails.tsinghua.edu.cn
- Zhenfei Tan, Shanghai Jiao Tong University, China zftan@outlook.com
- Xuan Wang, Tsinghua University, China x_wang2020@126.com

Proposed Timeline:

- January 31, 2023 – Manuscripts Submission Deadline
- April 30, 2023 – Final Acceptance Notification
- May 31, 2023 – Manuscripts Forwarded to CJEE for Publication
- June 30, 2023 – Special Issue Appears in CJEE