Special Issue

Recent Advances toward Carbon-Neutral Power System

Message from the Guest Editor

The integration of renewable energy sources (RES) and storage system to power systems plays a significant role in the carbon-neutral society. On the other hand, most RES are uncertain and variable sources. The integration of a high share of RES requires smart grids, which are intelligent and digitized power systems optimally distributing electricity among prosumers. In this regard, the future smart grids must be secure, reliable, resilient, cost-efficient and market-based while integrating different energy sectors through one market and engaging the customer as central actors. Topics welcome to this Special Issue include but are not restricted to the following:

- Power system assessment in the presence of variability and uncertainty
- Modeling and analysis of power system performance with a high share of RES
- advances in RES technologies in power system
- Electricity market design in the presence of a high share of RES
- Energy community and local electricity market
- Power system digitalization
- smart power grid environment
- power system operation and design, and stability
- Case studies on recent advances in smart grid and integration of RES

Guest Editor

Dr. Poria Astero

Department of Electrical Engineering and Automation, School of Electrical Engineering, Aalto University, FI-00076 Espoo, Finland

Deadline for manuscript submissions

closed (31 August 2023)

Electricity

an Open Access Journal by MDPI

Impact Factor 1.8
CiteScore 5.1

mdpi.com/si/60590

Electricity
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
electricity@mdpi.com

mdpi.com/journal/electricity

Electricity

an Open Access Journal by MDPI

Impact Factor 1.8
CiteScore 5.1

mdpi.com/journal/electricity

MDPI

About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Andreas Sumper
CITCEA-UPC, Department of Electrical Engineering, Universitat Politecnica de Catalunya, 08028 Barcelona, Spain

Author Benefits

High Visibility:

indexed within ESCI (Web of Science), Scopus, EBSCO and other databases.

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 26 days after submission; acceptance to publication is undertaken in 5.5 days (median values for papers published in this journal in the first half of 2025).

Journal Rank:

CiteScore - Q2 (Electrical and Electronic Engineering)