

Special Issue on **Dynamics, Control, and Management of Renewable Energy Systems**

CALL FOR PAPERS

The increase in energy consumption in recent years has generated problems for power systems and the environment. Power systems face a growing demand, and this entails problems in energy storage, renewable energies, electric vehicles, nanogenerators among others. In many cases, the need to preserve system reliability and stability is a bottleneck, which practically prevents the use of such sources, despite their positive environmental impact and low cost. In addition, power systems with a high penetration level of renewable energy sources will have different topologies, control methods, and management strategies.

The increasing penetration of stochastic and uncertain inverter-based distributed energy resources (DERs), such as wind and solar photovoltaic (PV), has a considerable influence on power system dynamics, causing reliability and resilience concerns. This requires innovations in power system modelling, operation, and control to deal with these emerging challenges. In addition, coordinated control among different devices typically relies on communication systems. Communication-control coupled systems bring both opportunities and challenges to the future development of DER-rich power systems.

This Special Issue will focus on the dynamics, control, and management of renewable energy systems (wind, solar, and fuel cells). We invite papers on innovative technical developments, case studies, and theoretical papers from different disciplines, which are relevant to renewable energy systems. Original research and review articles are both welcome.

Potential topics include but are not limited to the following:

- ▶ Energy storage technologies and systems
- ▶ Plug-in hybrid electric vehicle (PHEV) systems, Compressed natural gas (CNG) vehicles, clean Energy
- ▶ Power electronic converters and drives
- ▶ Demand monitoring and energy efficient systems
- ▶ Sensors, communications, and networks
- ▶ Modelling of communication-control coupled systems
- ▶ Frequency regulation in low inertia systems with high wind penetration
- ▶ Grid modelling, simulation, and data management
- ▶ Energy efficiency, conservation, and savings
- ▶ Grid protection, reliability, energy / power quality, and maintenance
- ▶ Smart metering, measurement, instrumentation, and control
- ▶ Renewable energy, wind, solar, fuel cells, and distributed generation within microgrids
- ▶ Computational intelligence and optimization
- ▶ Life cycle assessment, pricing, policies, and energy planning

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=804214>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Kai Wang, Qingdao University,
Qingdao, China
wkwj888@163.com

Guest Editors

Xiufeng Liu, Technical University of
Denmark, Lyngby, Denmark
xiuli@dtu.dk

Licheng Wang, Zhejiang University of
Technology, Zhejiang, China
wanglicheng@zjut.edu.cn

Yaping Fu, Qingdao University,
Qingdao, China
fuyaping@qdu.edu.cn

Huajun Dong, Dalian Jiaotong
University, Dalian, China
huaajundong4025@163.com

Jinyan Song, Dalian Ocean University,
Dalian, China
songjinyan@dloou.edu.cn

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