

Special Issue on
**Smart Planning of Large-Scale Wind Farms for Power Systems
with High Share of Wind Power**

CALL FOR PAPERS

Wind energy is one of the most promising candidates to remove the carbon footprint of the world in the upcoming decades. Over the years, technological advancement has increased the importance of wind power many folds. Flexible power electronic converter-based type-3 and type-4 wind turbines (WTs) have made it possible to set up multi-megawatt wind power plants that are being integrated into the power grid.

In recent years, driven by the fact that land is a premium commodity, large-scale offshore wind power plants have become more popular due to their higher efficiency. There are many challenges associated with onshore/ offshore wind power, ranging from planning and reliable operation to the stability of the grid. The initial investment for a wind power plant is very high; hence, optimal utilization of resources is a prerequisite for any wind farm project. On the other hand, the intermittent nature of wind imposes operational issues in the power system having a large penetration of wind power. Each of these issues needs to be dealt with smartly for optimal and reliable operation of power systems as the wind power penetration increases and we move towards net zero emission.

Driven by the aforementioned facts, this Special Issue aims to present and disseminate the most recent advancement related to planning and operation issues in large-scale onshore/offshore wind power integrated power systems. The authors are encouraged to submit original high-quality original research or review articles.

Potential topics include but are not limited to the following:

- ▶ Intelligent planning of onshore/ offshore wind farms, including optimal layout design and repowering.
- ▶ Optimal cabling of offshore wind power plants.
- ▶ Fatigue and life cycle analysis of wind turbines in large-scale wind farms.
- ▶ AC/DC collection system design for optimal operation of offshore wind farms.
- ▶ Techno-economic feasibility analysis of onshore/offshore wind farms.
- ▶ Planning and operation of HVDC-connected offshore wind farms.
- ▶ Reliability assessment of large-scale grid-connected onshore/offshore wind power plants.
- ▶ Coordinated operation of multiple onshore/offshore wind plants.
- ▶ Participation of wind plants in the inertial response, primary frequency regulation, and other ancillary services.
- ▶ Application of energy storage for large-scale wind farms.
- ▶ Compliance with the grid code of large-scale wind plants, such as LVRT and HVRT applications.

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=474367>.

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

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