Special Issue

Vertical Axis Wind Turbines: Current Technologies and Future Trends

Message from the Guest Editors

Wind power has now become a major power source. The majority of it is produced via the large horizontal-axis wind turbine (HAWT), the size of which continues to increase. However, the difficulty of increasing its size has become apparent, and reducing the impact on the environment has also become an issue. In order to achieve carbon neutrality, it is necessary to pursue every possibility, and there are great expectations for the widespread use of vertical-axis wind turbines (VAWTs) and the resolution of these problems. Wind farms using small, low-cost VAWTs is considered to be one such promising technique. The purpose of this Special Issue is to collate original papers and review papers on various topics related to vertical-axis wind turbines, and to investigate new possibilities of vertical-axis wind turbines. Keywords:

- vertical-axis wind turbine (VAWT)
- aerodynamics related to VAWT
- computational fluid dynamics of VAWT
- blade element momentum theory of VAWT
- reduction in costs of VAWT
- control of VAWT
- wake analysis of VAWT
- wind farm of VAWT
- closely spaced arrangements of VAWTs
- interaction between VAWTs

Guest Editors

Prof. Dr. Yutaka Hara

Faculty of Engineering, Tottori University, 4-101 Koyama-Minami, Tottori 680-8552, Japan

Prof. Dr. Yoshifumi Jodai

Department of Mechanical Engineering, National Institute of Technology (KOSEN), Kagawa College, 355 Chokushi, Takamatsu 761-8058, Japan

Deadline for manuscript submissions

31 October 2025

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/192801

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

mdpi.com/journal/energies

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/journal/energies

About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)