

Editorial

# Special Issue on Recent Advanced Technologies on Renewable Energy (AFORE2021)

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One of the most important strategies for achieving the goal of a sustainable environment, according to the international climate action initiatives, is to increase the proportion of renewable energy in energy use. Renewable energy resources, however, have the characteristics of intermittence and fluctuation, and there are several technical and economical issues for which we need to find solutions.

This Special Issue aims to collect all recent advanced research to discuss the practical methods and advanced technologies in renewable energy, and it covered whole topics related to renewable energy technologies, including photovoltaics, wind energy, hydrogen and fuel cells, bioenergy, geothermal energy, marine energy, and electrical energy system application.

A total of six papers, all of which are research papers, in various fields of energy systems are presented in this Special Issue. Ryu et al. [1] proposed an analysis method to provide a basis for determining which method, REWS (rotor equivalent wind speed) or HHWS (hub height wind speed), can more accurately calculate the expected power output and effectively derive the economic feasibility of the project by identifying the characteristics of regional wind stability. Yoon et al. [2] proposed a method to keep the temperature of the upper surface of the spa cap relatively constant compared to the existing method, which was presented by using heat transfer numerical analysis. Kim et al. [3] performed an ultimate load analysis under aerodynamic imbalance on a NREL-5MW offshore wind turbine, proposing a procedure for the allowable pitch angle (APA) region that the relative pitch angle deviation must comply with. Balakrishnan et al. [4] reported the results of examining a real offshore wind farm in South Korea and compared the production output using two wind-farm-control methods, namely WRC (wake redirection control) and AIC (axial induction control), using WFSim (wind farm simulator), and found that WRC operation can improve the overall power output. Kim et al. [5] proposed a model of optimized neural networks for the state estimation of hybrid AC/DC distribution systems after applying a scheduled weight pruning, and they reported that the neural networks provided satisfactory state estimation results over the conventional weighted least-square (WLS) method. Routray et al. [6] proposed an optimized predictive control method for the mitigation of potential leakage current, and they reported that the proposed method can improve the lifespans of photovoltaic modules.

Although submissions for this Special Issue have been closed, more in-depth research in the field of energy system technologies continues to overcome the challenges we are faced with.

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