

Editorial

Offshore Wind Farms

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In 2018, we were approached by the editorial team of the Journal of Marine Science and Engineering (MDPI editorial) to act as guest editors of a Special Issue related to offshore wind energy. This invitation was welcomed with great enthusiasm by the Guest Editorial Team. As soon as possible we started working on the project, with the great support of the Main Editor who has guided us to achieve a Special Issue that has exceeded our initial expectations. This Special Issue is entitled "Offshore Wind Farms". It is focused on the 7th Sustainable Development Goal (SDG), which is to ensure access to affordable, reliable, sustainable and modern energy for all.

Offshore wind energy is currently one of the most important sources of renewable energy around the world, and it is expected to increase very fast in installed power in the short term. In fact, offshore wind energy is part of the energy mix of some countries. The first offshore wind facility came into operation in the early 90s; the first commercial farms were built at the beginning of this century; currently only Europe exceeds 20 GW of offshore wind power installed. It can be stated that the offshore wind industry has lived a great technological evolution, where the challenges have been frequent, and the great professionals working in both the private and public sectors have allowed the great advances in innovation, making the sustainable development of this technology possible.

The aim of this Special Issue was to put together papers that reflect the current state-of-the-art of the offshore wind industry, covering all the aspects that need to be taken into account for the planning, design, construction, operation and maintenance, and dismantling of the facilities, etc. The Special Issue invited contributions that deal with all the previously mentioned aspects (but is not limited to them), including the following topics: Legislation, environment, wind resources, foundations and support structures, wind turbine generators, electrical connection, etc.

This Special Issue achieved 13 published papers, with 4 feature papers. The papers are of very good quality, and deal with numerous topics related to offshore wind energy. They cover issues such as marine renewable energies on the Spanish coast [1], relevant factors for optimal locations for wind facilities [2], wind energy potential analysis on the Lebanese coast [3], the trailing-edge flap in large scale offshore wind farms [4], monopile foundations dimensional analysis [5], scour protection in monopile foundations [6], frequency response model tests in monopiles [7], gravity-based foundations [8], effect of the ice force in the support structures [9], dynamic response for submerged floating structures with different mooring configurations [10], tension leg platform wind turbines with non-rotating blades [11], the integration of offshore wind farms in future power systems [12], and transient overvoltage considering different electrical characteristics of vacuum circuit breaker [13].

It is a pleasure for the Guest Editorial Team to have put all these interesting manuscripts together. We thank the authors of the articles that have allowed this Special Issue to have such a high level.

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Guest Editors of “Offshore Wind Farms”

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