



ICCEP 2025 - 9th International Conference on Clean Electrical Power

“Renewable Energy Resources Impact”

Villasimius, Sardinia – Italy - 24-26 June 2025

Special Session proposal:

“Solutions for Offshore Renewables in the Mediterranean Sea and Electric System Integration”

Short description:

The technological and structural improvement of offshore wind turbines, along with other forms of offshore energy like wave and tidal, is raising the possibility of their diffusion in the Mediterranean Sea. However, different challenges for the development of these electric power generation facilities and for their operation and management, along with the impact on network development and energy market framework, are still under investigation.

In particular, critical aspects targeted to be examined by the works in this special session could be individuated in (but not limited to):

- Theoretical, numerical, or experimental study to develop innovative floating wind turbine and wave/tidal energy converter concepts;
- Innovative and highly efficient power converters, electric drives, monitoring devices for offshore installations;
- Applications of energy storage systems and of multi-carrier energy systems in order to provide coordinated and cost-affordable energy services for the users and the grid;
- Design and control solutions for offshore electric system in order to attain grid connection requirements along with market integration;
- Technical and regulatory impact of offshore renewables in the development of the electric power systems;
- Digital twin framework for modeling and predictive fault detection in offshore applications.

Contributions are welcome from academia, industry, operators, regulators, in order to collect and put together different viewpoints in a collaborative framework to encourage fruitful exchange of innovative aspects.

The special session starts from the Project “Network 4 Energy Sustainable Transition – NEST” – Spoke 2 “Energy Harvesting & Off-Shore Renewable” under the Italian National Recovery and Resilience Plan (PNRR) funded by the European Union – NextGenerationEU, Project code PE0000021, and it is open to further contributors as well.

Coherence with ICCEP 2025 Call for Papers:

The proposed topics can find compatibility with the following technical areas:

- A – Renewable Energy Sources;
- D – Systems
- E – Components
- F – Regulatory and economic aspects

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