

Ensuring offshore renewable energy sectors develop sustainably and equitably

Background

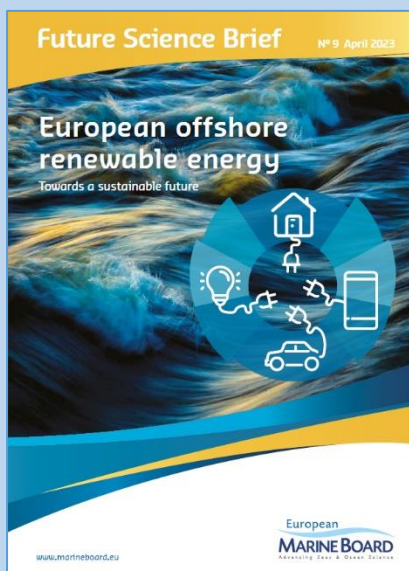
While offshore renewable energy resource extraction is less mature than that on land, it is an attractive area for growth. To achieve the EU Green Deal vision, European offshore renewable energy capacity must increase 30-fold. It is imperative that the development of the European offshore renewable energy sector is conducted in a responsible, equitable and sustainable manner, and in collaboration with relevant parties.

The term offshore renewable energy refers to all sources of renewable energy that can be extracted from the Ocean, including wind, wave, tidal, Ocean/marine current, thermal and salinity gradient, floating solar and algae-based biofuels. This document discusses:

- Why we need a source of clean energy;
- The current status of offshore renewable energy resources and extraction technologies;
- The European policy framework as related to the offshore renewable energy sector;
- The status of offshore renewable energy implementation in Europe;
- The positive and adverse environmental impacts of offshore renewable energy devices on marine species and ecosystems;
- The positive and adverse socioeconomic impacts of the sector on communities;
- The knowledge and capacity gaps that remain in relation to the development of offshore renewable energy.

Recommendations

The offshore renewable energy sector is crucial to Europe's decarbonization and energy security plans, however the sector has to be developed appropriately. The overarching recommendations of this Future Science Brief are therefore to:



- Address misalignment in policy, and the approaches and practices used in different EU Member States that hinder efficient and sustainable ORE development and deployment;
- Support measures to increase the availability of open and high-resolution data, to understand ORE resource availability, environmental impact, and the impact of climate change;
- Further develop the research capability to holistically investigate the ecological and socioeconomic benefits and impacts of ORE;
- Conduct further research into the technical, environmental and socioeconomic aspects of ORE devices and their full lifetime from design to operation through to decommissioning, to improve sustainability and viability;
- Ensure that offers for training and skills development match industry requirements.

More information in the EMB Future Science Brief 9 "European offshore renewable energy: Towards a sustainable future", free to download at:

<http://www.marineboard.eu/science-strategy-publications>

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