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Further Reading: The full report is available to download here: http://mosesproject.eu/ban/wp-content/uploads/2021/03/ONIA_RenewableEnergy_v1.pdf

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Blue Growth Pathway for Offshore Renewable Energies in the Atlantic Area

The offshore renewable energy (ORE) sector is becoming a significant aspect of sustainable energy supply in the EU and elsewhere. The development of OREs contributes to global warming mitigation but raises specific sustainability issues. This policy brief outlines research conducted regarding the sector as it is developing in the EU, in the Atlantic Area and Brittany (France). In Brittany the ORE sector is currently at a start-up phase but is supported by regional authorities' strong willingness to move forward. Hence, in order to recommend a Blue Growth pathway for the sector, possible growth strategies for OREs and different technology options were examined while focusing on the identification of the main drivers for the sustainable growth of ORE as well as the risks associated to such strategies.

Research Findings

The outline of a sustainable growth pathway for OREs in Brittany is constrained by France's Multiannual Energy Programme, which provides guidance for the national energy sector, and can be modified only at the margin. Such outline requires identifying sustainability conditions based on the information available on Brittany's current ORE projects, namely fixed foundation wind farms, floating farms and a submarine current turbine prototype. In the short term, Brittany will develop a fixed-foundation wind farm off the north coast, a floating pilot project off the south coast, and will continue to test current submarine turbines on the west coast, if funding is available, and acceptance is secured. In the long term, a sustainable ORE growth option is not the cheapest one. Fixed foundation wind farms will remain a key priority. But it would be feasible to further develop and give more room to floating wind farms, as they can be installed far from the coast, although the technology is constraining for other activities, especially fisheries. In addition, despite the high cost of submarine current turbines, it would be feasible to install around 1,500 devices in the west Brittany zone to generate an overall 2GW power.

Policy implications

Key actions that would facilitate the sustainable blue growth of ORE in Brittany but also in other Atlantic Area countries include: research and monitoring of the state of the world market for the basic commodities consumed by generators, especially metals, as tensions exist in markets of certain battery-critical metals, used for electric cars and wind generators; monitoring the development of hydrogen technology as an alternative to electric cables for long-distance connections of farms to the shore; assessment of conflicts with other sea and coastal uses, and; consideration of both positive and negative environmental externalities of ORE projects.