

## Blue Energy: perspective analysis and case study

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Blue Energy is deemed as one of the most promising Renewable Energy sources due to its great potential and reduced impact with no soil consumption. Blue Energy, also known as Marine Energy comprises wave, wind, tides, currents and salinity/temperature gradients. It is equally distributed in the world and typically it possesses high power density with excellent predictability.

Unfortunately several barriers are still preventing an effective commercial exploitation of such potential, such as the extreme weather conditions typical of the Oceans, far stronger than the operative conditions, and the high maintenance cost of offshore equipment.

However, at global level, in the last three decades there have been huge efforts to devise, build and test full scale prototypes, giving several advancements in the field. Offshore Wind and Tidal Energy are focus of considerable industry and public investments, with several full scale pilot sites around Europe. Wave Energy in comparison is still a bit immature and trying to catch up with Wind and Tides, especially in terms of financial return and reliability.

The Mediterranean Sea is a quitter Sea with respect to the Ocean, carrying less potential but also milder extreme conditions, thus being an ideal cradle for developing the Ocean devices. A case study on this will be explored, regarding the Island of Pantelleria, where there is great marine resource and also a higher cost of the electricity, a combination favorable to the installation of wave energy plants. This nice conditions is made even more interesting since the Italian Government is investing to ease penetration of Renewables in Minor Islands in the next 2-5 years.