

Special Issue

Marine Biomass for Biofuels and Biochemicals Production

Message from the Guest Editors

Marine biomass has tremendous potential for tapping the immense solar energy into resources including human foods, cosmetics, fertilizers, fuels and chemicals. Selective separation of high-value products and fuels is a major challenge. Thermochemical and biochemical conversion methods have been well tested for biomass systems and include: 1) reports on laboratory-scale pyrolysis, gasification, torrefaction, and combustion of algae and lignocellulosic feedstocks; 2) demonstration of commercial-scale anaerobic digestion and fermentation mature technologies; 3) recent study of hydrothermal conversion of wet, whole biomass as an alternative method; and 4) emergence of microwave technologies and other ways of extraction of proteins and high-value products. While a single method may not be effective, a combination of technologies and their integration will be the way forward to using marine biomass. The present issue aims to include the recent innovations in marine biomass application and will focus on topics including biomass harvesting, fractionation/extraction, and upgrading (conversion) into fuels and coproducts, and systems analyses such as life cycle and technoeconomic.

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Deadline for manuscript submissions

closed (1 December 2021)



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



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