Challenges of seaweed biorefining for high value applications.

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Algae, both microalgae and seaweeds, have recently been considered a promising source of biomass with multiple applications, whilst providing a number of useful services such as carbon sequestration and nutrient absorption, amongst others. Applications of algal biomass range from using low-value bulk products, to high value products such neutraceutical, pharmaceutical and cosmeceuticals. However, several challenges remain, in particular concerning sustainability of biomass supply, quality and stability of biomass, processing impacts, as well as cost-effectiveness. Additionally, algal biomass, derived either from natural or cultivated sources, is potentially highly variable due to its natural plasticity creating possible obstacles, but also benefits, for industry. This presentation reviews some of the recent advances and remaining challenges when applying a biorefinery concept to algal biomass.