

## **Biohydrogen production using algae : Potentiality, economics and challenges**

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### **ABSTRACT**

The biohydrogen production from algal biomass could ensure hydrogen's sustainability as a fuel option at the industrial level. However, some bottlenecks still need to be overcome to achieve the process's economic feasibility. This review article highlights the potential of algal biomasses for producing hydrogen with a detailed explanation of various mechanisms and enzymes involved in the production processes. Further, it discusses the impact of various experimental parameters on biohydrogen production. This article also analyses the significant challenges confronted during the overall biohydrogen production process and comprehends the recent strategies adopted to enhance hydrogen productivity. Furthermore, it gives a perception of the economic sustenance of the process. Moreover, this review elucidates the future scope of this technology and delineates the approaches to ensure the viability of hydrogen production.

### **KEYWORDS**

Algae; Bio-photolysis; Biohydrogen; Fermentation; Influencing factors; Pre-treatment

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