A critical review of biochemical conversion, sustainability and life cycle assessment of algal biofuels

The increasing global demand of biofuels for energy security and reduction in climate change effects generate the opportunity to explore new biomass sources. Algae is a very promising source of biomass in this context as it sequester a significant quantity of carbon from atmosphere and industrial gases and is also very efficient in utilizing the nutrients from industrial effluents and municipal wastewater. Therefore cultivation of algal biomass provide dual benefit, it provides biomass for the production of biofuels and also save our environment from air and water pollution. The life cycle assessment (LCA) of algal biofuels suggests them to be environmentally better than the fossil fuels but economically it is not yet so attractive.

General information
Publication status: Published
Organisations: Quantitative Sustainability Assessment, Department of Management Engineering
Contributors: Singh, A., Olsen, S. I.
Pages: 3548-3555
Publication date: 2011
Peer-reviewed: Yes

Publication Information
Journal: Applied Energy
Volume: 88
Issue number: 10
ISSN (Print): 0306-2619
Ratings:
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 5.5 SJR 2.416 SNIP 2.827
Web of Science (2011): Impact factor 5.106
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
Original language: English
Keywords: Algal biofuels, Life cycle assessment, Biodiesel, Sustainability, Bioethanol, Biogas
DOIs:
10.1016/j.apenergy.2010.12.012
URLs:
http://www.sciencedirect.com
Source: orbit
Source-ID: 273727
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review