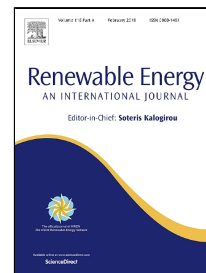


Accepted Manuscript

Computational and experimental studies of high depth algal raceway pond photo-bioreactor



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PII: S0960-1481(17)31116-3
DOI: 10.1016/j.renene.2017.11.015
Reference: RENE 9417
To appear in: *Renewable Energy*
Received Date: 01 July 2017
Revised Date: 27 September 2017
Accepted Date: 06 November 2017

Please cite this article as: S.S. Sawant, H.P. Khadamkar, C.S. Mathpati, Reena Pandit, A.M. Lali, Computational and experimental studies of high depth algal raceway pond photo-bioreactor, *Renewable Energy* (2017), doi: 10.1016/j.renene.2017.11.015

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Highlights:

- Novel raceway pond design with 1 m liquid depth with side entry hydrofoil
- Modified design of RWP gave lower energy consumption per unit biomass production
- Improved algal productivity (92%) compared to conventional raceway ponds for same incident light surface area
- Experimental validation of CFD prediction of velocity field in 4.5 m³ reactor
- Mass transfer coefficient at top gas-liquid interface was in the range of 9 - 20 × 10⁻⁵ m/s

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