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Publication date 2015/5/1

Source Bioresource technology

Volume 184

Pages 202-214

Publisher Elsevier

Description Growing energy demand and water consumption have increased concerns about energy security and efficient wastewater treatment and reuse. Wastewater treatment high rate algal ponds (WWT HRAPs) are a promising technology that could help solve these challenges concurrently where climate is favorable. WWT HRAPs have great potential for biofuel production as a by-product of WWT, since the costs of algal cultivation and harvest for biofuel production are covered by the wastewater treatment function. Generally, 800–1400 GJ/ha/year energy (average biomass energy content: 20 GJ/ton; HRAP biomass productivity: 40–70 tons/ha/year) can be produced in the form of harvestable biomass from WWT HRAP which can be used to provide community-level energy supply. In this paper the benefits of WWT HRAPs are compared with conventional mass algal culture systems. Moreover, parameters to effectively ...

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