



Renewable Diesel from Algal Lipids: An Integrated Baseline for Cost, Emissions, and Resource Potential from a Harmonized Model (Paperback)

By National Renewable Energy Laboratory (NREL)

Bibliogov, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.The U.S. Department of Energy's Biomass Program has begun an initiative to obtain consistent quantitative metrics for algal biofuel production to establish an integrated baseline by harmonizing and combining the Program's national resource assessment (RA), techno-economic analysis (TEA), and life-cycle analysis (LCA) models. The baseline attempts to represent a plausible near-term production scenario with freshwater microalgae growth, extraction of lipids, and conversion via hydroprocessing to produce a renewable diesel (RD) blendstock. Differences in the prior TEA and LCA models were reconciled (harmonized) and the RA model was used to prioritize and select the most favorable consortium of sites that supports production of 5 billion gallons per year of RD. Aligning the TEA and LCA models produced slightly higher costs and emissions compared to the pre-harmonized results. However, after then applying the productivities predicted by the RA model (13 g/m²/d on annual average vs. 25 g/m²/d in the original models), the integrated baseline resulted in markedly higher costs and emissions. The relationship between performance (cost and emissions) and either productivity or lipid fraction was found to be...



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