

IEA Bioenergy

WEBINAR SERIES

Algae Bioenergy State of Technology Review

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Lieve M.L. Laurens Ph.D.
Senior Scientist,
National Bioenergy Center
National Renewable Energy Laboratory



James D. McMillan, Ph.D.
Chief Engineer,
National Bioenergy Center
National Renewable Energy Laboratory
Task Leader, IEA Bioenergy Task 39

Presentation Summary:

This webinar will highlight findings of a new comprehensive IEA Bioenergy report providing an international update on the status and prospects for using microalgae and macroalgae as feedstocks for biofuels and bioenergy. The objective of this report is to update and expand on a previous report that exclusively focused on microalgae for liquid biofuels. The scope of the new report is broadened to include international activities advancing algae-derived bioenergy applications, bioenergy from macroalgae (both cast and cultivated seaweeds), distinct biochemical and thermochemical conversion pathways, biorefineries and non-energy bio-products from algae, and process economics and sustainability issues. This new report, which will be made available on the IEA Bioenergy web site just after the webinar, represents a collaboration between five IEA Bioenergy Tasks, and was completed under the leadership of IEA Bioenergy Task 39, with Dr. Lieve Laurens (NREL) as coordinating author.

Even though algae remain an attractive target for bioenergy applications over the longer term because of their high photosynthetic efficiency, the near-term prospects for primary algae-based energy/fuels production are poor due to the relatively high cost of cultivating and harvesting algae. The past 6 years have nonetheless seen substantial progress in research, development and demonstration of algae-based bioenergy and bio-products. With low fossil fuel prices, the algae-based industry is increasingly focusing on manufacturing higher value (non-fuel/energy) products that can be profitable today. Algal biomass-based co-products can provide the critically needed revenue to reduce the net cost of producing algal-based biofuels. As such, a biorefinery approach appears essential to realize the full value of algal biomass. Progress in minimizing/reducing the energy, water, nutrients and land use footprints of integrated algal-based operations needs to be a primary objective of future larger scale demonstrations.

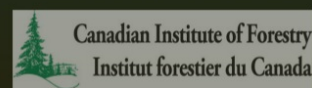
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Tel: +1-705-744-1715 ext. 585 Fax: +1-705-744-1716

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