

BIOMASS NETWORKING IN EUROPE



DANISH
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INSTITUTE



Energy Production from Marine Biomass (*Ulva lactuca*)

The global demand for energy is expected to double within the next two decades and the amount of bioenergy is also expected to increase in the future. Algae are a largely unexploited biomass resource, however, in recent years the research and the development concerning the utilization of algae for energy purposes have increased significantly.

Danish Technological Institute is project manager of the project “Energy Production from Marine Biomass (*Ulva lactuca*)” which runs from 2008 to 2011. So far, it is the largest Danish project regarding algae for energy purposes and has a number of specific goals:

- To estimate the growth potential of sea lettuce (*Ulva lactuca*) in land-based basins
- To design land-based production basins and harvest methods for macro algae
- To give recommendations regarding how to transfer CO₂ from flue gas to aquatic biomass
- To analyze the content and the chemical composition of the sea lettuce biomass



- To evaluate if sea lettuce is suitable for combustion, gasification, bioethanol production and biogas production

Leading Danish institutes and companies are involved in the project:

- Danish Technological Institute
- National Environmental Research Institute (NERI)
- Risø DTU National Laboratory for Sustainable Energy
- DONG Energy

Danish Technological Institute is working with algae in a biorefinery concept and is involved in several projects regarding algae. We have specific experience with project management, the conditioning of biomass (i.e. drying, size reduction, pelletizing and extrusion), handling, storage, combustion and gasification of biomass and a quality characterization according to the CEN standards for solid biofuels.

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