

Regulatory questions around waste-derived algae & nutrient recycling



Objectives:

- Identify regulatory obstacles to nutrient recycling/reuse from waste-derived algae / micro-algae, i.e. which either have had 'waste' status or which are grown using waste inputs
- Outline potential valorisation routes, current status of development and market potential, important risk questions (contaminants, safety)
- Propose possible approaches to address key regulatory questions identified

Examples

- algae grown using waste as a substrate, e.g. grown in municipal or industrial wastewater, in manure or food waste liquors, in digestates derived from such wastes, or fed by offgases (CO₂ and/or NO_x emissions mitigation),
- valorisation of the algae themselves (e.g. after 'mechanical' processing or dying), or of materials or chemicals derived or extracted from the algae,
- materials left over from processing algae grown for another purpose, e.g. for extraction of pharmaceuticals, biofuels, cosmetics ...
- algae collected from cleaning operations, such as beach cleaning, canal dredging, clarification of eutrophied waters

Uses for the algae and derived materials can include:

- animal feeds
- fertilising products: nutrient fertilisers, organic soil improvers, crop biostimulants (e.g. humics)
- industrial products: packaging (fibres), chemicals ...
- applications with specific regulations: cosmetics, pharmaceuticals, human food additives
- energy use: extraction of biofuels, combustion of biomass
- combinations of these, e.g. extraction of a substance for a specific use (cosmetics, biofuels) leaving remaining biomass which can be used for a lower grade application, such as animal feed or fertiliser

Outline programme

Opening plenary 9h00 – 10h00 CET
Overview of different waste-related algae production potential, potential nutrient recycling routes, current states of development and potential markets, with EABA
Examples of companies valorising nutrients from waste-related algae, including in each case regulatory challenges or questions:
Treatment of municipal wastewater: - benefits and potential, state of development, regulatory questions for nutrient valorisation
Treatment of manures, food wastes, other wastewaters, inc. digestates
Seaweeds
Nutrients removed from algae in biofuels production : valorisation routes, waste or by-product status
Nutrients removed from algae in pharmaceuticals production: valorisation routes, waste or by-product status
Algae grown using wastewater for aquaculture feed
Use of algae production for CO ₂ capture
Questions and discussion
Breakout session n°1, 10h15 – 10h55 CET: waste-derived algae in the EU Fertilising Products Regulation and REACH
Algae and micro-algae, and materials derived from them, in the EU Fertilising Products Regulation, current status (CMCs 1, 2, 3, 5, 7, 11), including REACH requirements. With European Commission, DG GROW
Breakout session n°2, 11h15 – 11h55 CET: waste status and other regulatory questions for waste-related algae and materials derived from them
Overview of waste / by-product / product status of different waste-related algae and materials derived from them. With European Commission, DG ENVI
Contaminants. Risk assessment. Development of an algae Quality Standard
Closing plenary 12h15 – 12h55 CET
Proposed EU strategy "Towards a strong and sustainable algae sector" and waste-related algae in this strategy, European Commission DG MARE
Summaries of breakouts by rapporteurs. Questions, discussion, conclusions, possible next steps