

SUMMARY OF THE LEGAL BACKGROUND OF ALGAE PRODUCTION FROM WASTE MATERIALS



INTRODUCTION

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Algae (microalgae and macroalgae) have great potential in various sectors as a renewable and sustainable alternative to conventional sources, among others, for feed, agrochemicals, pharmaceuticals and cosmetic products.

The European economy is actively exploring algae biomass from waste for a sustainable bioeconomy. Thus, this material could play a significant role, for example, in the purification of different types of wastewater and the extraction of accumulated nutrients. Furthermore, algae production in waste streams (e.g. manure, wastewater) for nutrient recycling and CO₂ capture has an increasing potential. However, many questions regarding the produced algal biomass have been raised concerning the quality, health risks (possible contaminants, pathogens), and the ambiguities surrounding the legal status of algae grown on waste or animal by-products (such as manure or household food waste).

SUMMARY OF THE CURRENT LEGAL APPROACH

Nevertheless, the legal framework for algae production and its various applications has not been harmonised in the EU, since a range of legislation can still be applied. The legal analysis commissioned by ESPP examined the issue taking into account various regulations, including the EU Waste Framework Directive (WFD, (EC) No 2008/98), Animal by-products Regulations (ABP, (EC) No. 1069/2009 Regulation) and EU Fertilising Product Regulation (FPR, (EU) 2019/1009 Regulation).

According to the Waste Framework Directive, algae grown from wastewater are classified as waste until they meet the criteria of "end-of-waste" status. Furthermore, not even the intended use (e.g., biostimulants or fertiliser as a fertilising product) alters the fact that algae produced from or in wastewater have a regulatory "waste" status. Algae derived from manure or food waste are considered "animal by-product derived products," which require additional permits. Therefore, an ABP End-Point would be required before such algae could be marketed without ABP Regulation restrictions, which is currently lacking.

According to the EU Fertilising Product Regulation, the algae grown on waste can not be used as a virgin component material (CMC 1) since, on the one hand, liveable organisms can not be classified as CMC1, on the other hand, waste materials can not be used as the input of CMC1. However, algae grown in wastewater can be classified as a plant, plant part or plant extract (CMC2) component material category, as CMC2 does not exclude waste plant materials (see EU FPR FAQ, Q8.22). In this case, the product successfully passes the conformity assessment procedures laid down in the FPR regulation, the said waste reaches end-of-waste status from the moment the manufacturer signs the EU declaration of conformity. Whereas, algae grown in manure cannot be used as CMC2 (because no ABP End-Point has been defined for such a use).

PERSPECTIVES OF ALGAE PRODUCTION IN EU

There are obstacles and ambiguities in current EU regulations that hinder the use of algae grown on some alternative nutrients. The European Commission is conducting a major industry study until June 2025. This study will explore various aspects, like safety requirements of potential usage related to algae.