

Microalgae in Luxembourg

Environmental Permitting

Several types of permits could be applicable to algal production, namely those for a classified activity (incorporating IPPC) but also for water abstraction and nature protection. A separate building permit is issued for construction of facilities. The classes of facility range from 1, covering industrial facilities with potentially high impacts, to 4 which relates to small scale facilities with negligible impacts. Class 1 includes facilities that fall under the requirements of the IPPC Directive. Establishments that are likely to produce significant discharges to the air, water and land must apply for a Class 1 operating permit. In the case of Class 1 activities, the application must be made to the Environment Agency. Applicants should consult with the relevant commune to ensure that the proposed activity coincides with the requisite development plans. A dossier containing more information about the proposed activities is then submitted to the authority who will then put this out for public consultation. An environmental impact assessment may be requested. Activities involving the abstraction of, and discharge to, ground or surface water resources may require a separate **water permit** from the Water Management Authority.

Main implementing legislation	Primary implementing agency	Permit types
Loi du 19 Novembre 2003 modifiant la loi du 10 juin 1999 relative aux établissements classés	Environment Agency – Class 1 permits	Class 1 – 4 permits (Class 1 for IPPC activities) Water permit Nature protection permit

Key Points to consider:

1. What is the size of the facility?
2. What services exist already on the site?
3. Is the site located close to dwellings / environmentally sensitive areas / sites of special scientific interest?
4. Are any discharges produced by the site? Will significant amounts of waste be stored on site?
5. Are there any concerns about noise?
6. Are there any emissions from site?

First step:
- Contact Environment Agency

Planning

The municipalities (communes) that largely determine development within the overarching national/regional framework. At the operational level two types of plans have significance for industrial developments in communes: the general development plan or plan d'aménagement général (PAG); and the corresponding special development plan or plan d'aménagement particulier (PAP)). The PAG covers the whole of the commune area and establishes zoning for specific activities, including industry. The PAPS are for areas designated in the PAG. Although local authorities have power to determine these plans, nonetheless they are subject to Ministerial approval in conjunction with the Spatial Planning Commission (Commission d'Aménagement). Building permits (autorisation de construire, autorisation de bâtir or permis de construire) are issued on the basis of the PAG but in certain cases can be determined under the requisite PAP. The submission dossier will invariably require: details of the relevant designation under the PAP; a site plan; a more detailed layout plan; construction plans; and an energy performance certificate.

Main implementing legislation	Primary planning authority	Planning mechanism
Loi du 21 Mai 1999 concernant l'aménagement du territoire	Local authority/commune	Building permit

Key Points to consider:

1. What size is the facility?
2. Is the site located close to dwellings / environmentally sensitive areas / sites of special scientific interest?
3. Are any discharges produced by the site?
4. What services exist already on the site?
5. Is the site likely to cause nuisance - e.g. noise above levels of agricultural machinery / odour / light above dense street lighting?

First step:
- Contact Local Planning Authority

Regulatory Issues

Regulatory issues are very much dependent on end use of biomass. Please consult the relevant factsheet for further information. Factsheet #15. Algae as Feedstock for Energy Generation - European fuel quality and other bioenergy legislation are explained

Factsheet #16. Algae as Feedstock for Chemicals - this covers REACH and other pertinent legislation

Factsheet #17. Algae as Feedstock for Food or Feed - FEMAS and other regulations for entering the food chain are described in more detail.

Key Points to consider:

1. What inputs have gone into the production process: are any classified as waste?
2. What is the target end use of the algal biomass?
3. What further processing steps are required?