



RAW MATERIALS FROM SEWAGE - LEGISLATION

LUXEMBOURG CIRCULAR

Realisation of a circular economy is a key pillar of the Luxembourg policy. The ambitions of Luxembourg are described in the new Circular Economy Strategy Luxembourg, 2021. These ambitions are:

1. To define a regulatory framework for material recovery from organic waste.
2. To explore incentives and create values for recovered materials from wastewater.
3. To provide information of nutrient flows including sewage sludge.

SEWAGE IS VALUABLE

A biocomposite made from recycled toilet paper? Yes you can! Raw materials in sewage can be used for all kinds of applications. A few examples:

- Application of phosphate as a fertilizer.
- Sewage sludge to produce biogas or as a raw material for the cement industry.
- Use of lipids for biodiesel production.
- Activated carbon made from screenings for the removal of micro pollutants from sewage.
- Making degradable plastics (PHA) from fatty acids.

LEGAL FRAMEWORK

Raw materials from sewage are classified as waste materials. A substance only ceases to be waste if the following conditions from the waste framework directive (WFD art. 6, update 2018/851/EU) are met:

- The material is to be used for specific purposes.
- There is a market or demand for the material.
- The material meets technical requirements for the specific purposes and meets the existing legislation and standards applicable to products.
- The use of the material generally has no overall adverse effects on the environment or human health.

These conditions have been implemented for Luxembourg in the 'Loi modifiée du 21 mars 2012 relative à la gestion des déchets' and the 'Plan national de gestion des déchets et des Ressources' (PNGDR, 2018)



Bio char



Bio oil



Bioplastic

TOP 4 PRACTICAL CHALLENGES

Major challenges in making valuable products from sewage water are the Luxembourg policy and legal framework.

1. The 'Loi modifiée du 21 mars 2012 relative à la gestion des déchets' is open to interpretation and that makes the approval of an End of Waste (EoW) file dependent on the authority assessing the application.
2. Besides phosphate recovery, there are no concrete goals on resource recovery from waste water, only ambitions. As a result there is no direct urgency to realize resource recovery in the short term.
3. To prove demand for the material a Memorandum of Understanding with a market party has to be signed. Market parties only enter into an agreement if there is certainty that EoW status has been achieved and is available and there is a market to sell the product.
4. There is no generic European or Luxembourg End of Waste regulation for resources from sewage. Currently, a specific EoW status needs to be requested for each application, each client, each production site and each country. This is expensive, time-consuming and also hinders market uptake (see challenge 3).

MORE INFORMATION

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Or visit the website www.nweurope.eu/wow.

WHICH ACTIONS ARE NEEDED!

SHORT TERM (< 1 YEAR)

1. Include resources from sewage in the product circularity datasheet Luxembourg (PCDS).
2. Also allow a letter of intent as burden of proof that there is a market or demand

MEDIUM TERM (1-3 YEAR)

1. Make a clear assessment framework for raw materials from sewage that also addresses environmental and human health aspects.
2. Formulate concrete goals on resource recovery from wastewater to stimulate resource recovery in the short term.
3. Expand the options for agreeing to an End of Waste status of the same type of raw materials for different locations and different customers.
4. Lobby for free trading of raw materials between countries: an EoW status applies for all EU countries