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Regulatory Pathways for Biochar and Digestates in Circular Agriculture: Insights from Fenix EU-founded project

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Summary

Definition of biowaste and how they are regulated across EU

FPR and circular agriculture

Regulatory strategy applied to Fenix project

Conclusions & take aways

FENIX

Definitions by laws

Directive 2008/98/EC

'bio-waste' means biodegradable garden and park waste, food and kitchen waste from households, offices, restaurants, wholesale, canteens, caterers and retail premises and comparable waste from food processing plants

End of waste status: The EU end-of-waste status is reached the moment the manufacturer signs the EU declaration of conformity of the EU fertilising product containing such a material. Before that along the process waste rules may apply to the material for storage and transportation etc.

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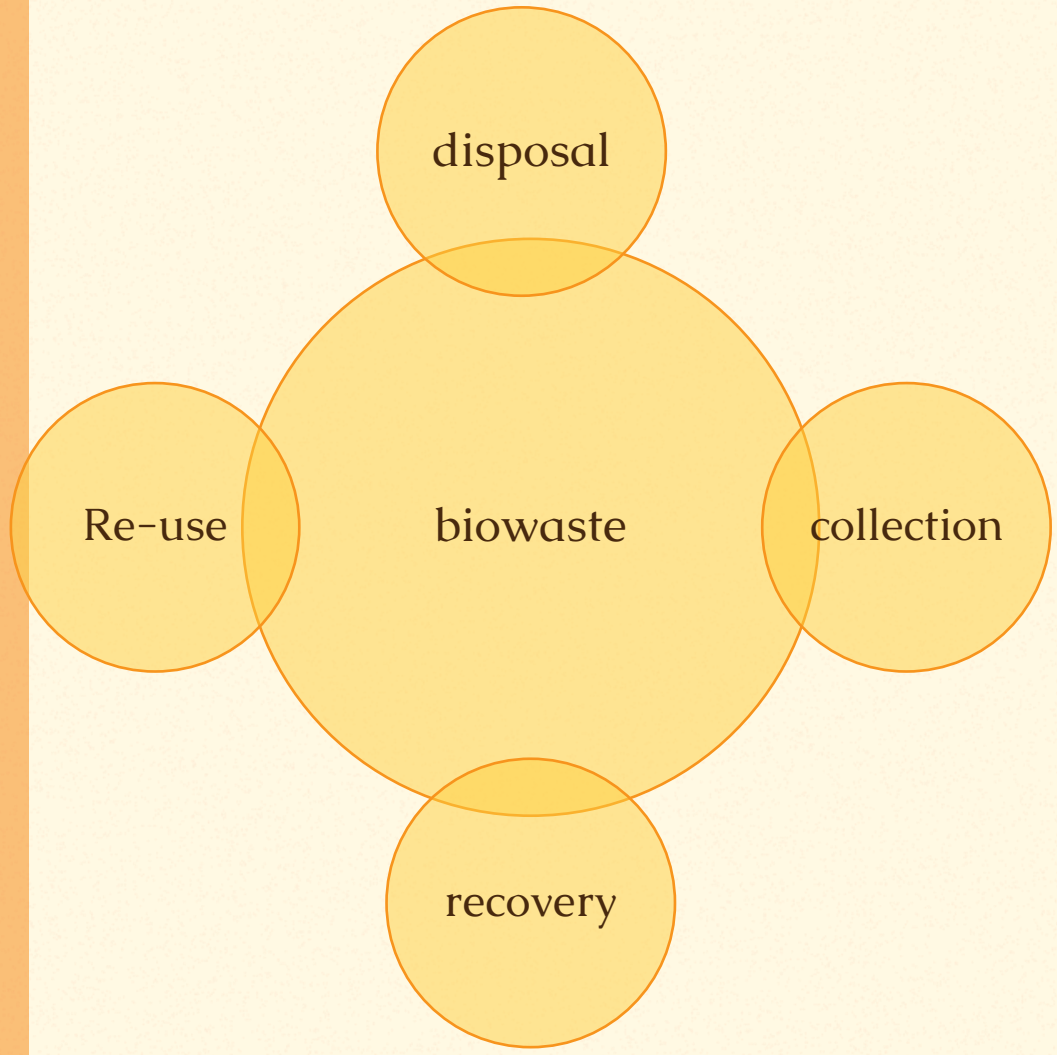
FPR & end of waste status



Feedstocks and processes in Fenix

composting residues sample before pyrolysis

Collection of Green-wastes and composting residues on Marmagne site (June 2023)

Scheme of anaerobic digestion

Regulatory strategy applied to Fenix project

Biochar: CMC 14 d) feedstocks are woody residues, green residues, composting residues collected in different season.

AD: different sources CMC5 a), CMC4, CMC5 e)

- Evaluation in terms of CMC requirements (based on material)

Soil improver, organic fert.

- evaluation in terms of PFC (based on the product category)

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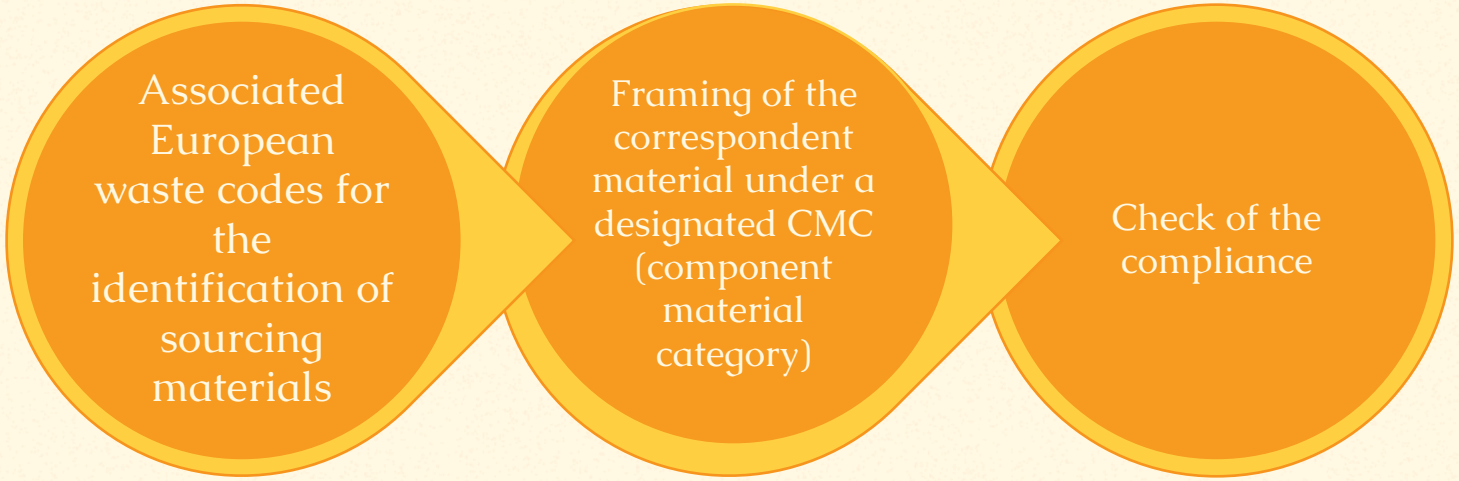
For the anaerobic digestion we have a variety of different sources



Biochar main requirements:
H/C org <0.7 on dry matter and ash free fraction if C org < 50%

≤6 mg/kg dry matter of PAH 16 (method EN 16181:2018)

≤20 ng WHO toxicity equivalents of PCDD/PCDF /kg dry matter

REACH

Digestates:
For ABP proving end of manufacturing process (safety criteria)
≤ 6 mg/kg dry matter of PAH $_{16}$
≤ 3 g/kg dry matter of macroscopic impurities above 2 mm in any of the following forms: glass, metal or plastics*
≤5 g/kg dry matter of the sum of the macroscopic impurities
Stability criteria

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Evaluation in terms of PFC (product function category)

For the framing as PFC1 a) Guaranteed analysis nutrients, minima to be met, organic carbon, NPK, heavy metals and pathogens

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Conclusions & takeaways messages

- Always evaluate your feedstocks, and all the steps from disposal to re-use
- check whether any restriction applies to the material
- characterize the output/s of your process, define the level of purity, possible contamination, etc.
- define the possible target market, function, purpose of your finished product, users, etc.
- be aware of the requirements applied and check your product periodically to meet those.
- have a good know-how and knowledge about your product and way of action.

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Thanks!

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