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GUIDING THE MAINSTREAMING OF BEST BIO-WASTE RECYCLING PRACTICES IN EUROPE

Executive Summary

D5.4 Comprehensive Guidance for effective bio-waste management in the EU

WP5: Policy and regulatory recommendations for bio-waste

T5.2: Comprehensive Guidance for the EU

MAY **2025**

Public Report

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1 Bio-waste management in the EU: Current results and challenges

A year after the EU mandate to separately collect bio-waste took effect (§ 22 the WFD), only a few EU regions and Member States (MS) are achieving both high quality and large quantities of separately collected and recycled bio-waste. In many areas, bio-waste management is still in its infancy. Despite numerous EU policy drivers, bio-waste remains an untapped resource for recycling. Notably, kitchen waste (KW) represents only 29% of the bio-waste collected separately on average, and just 26% of all KW generated in the EU is successfully collected. With optimised collection schemes in place, up to 51 million tonnes could be captured, revealing a current shortfall of nearly 35 million tonnes/year (Favoino, Giavini, 2024).

Physical impurities, particularly from plastics, represent a significant concern. The presence of plastics in bio-waste impacts the quality of the final output, increases the percentages of rejects and increases the overall treatment costs. High or low levels of impurities are often connected to the type of collection scheme, with door-to-door collection commonly yielding the highest quality of separately collected materials. Policies should therefore aim at promoting both the highest captures and best quality of collected bio-waste, which is possible according to evidence from many best practices from across the EU.

The European Commission (EC) must therefore provide drivers to promote highly performing management models for bio-waste including separate collection systems, and subsequent recycling in composting facilities or anaerobic digestion plants, thereby reducing reliance on landfilling and incineration and increasing production and application of high-quality compost and digestate.

This is of utmost importance, as currently 60-70% of European soils are currently classified as unhealthy and nearly half are suffering from low organic matter content or erosion, reducing their capacity to retain nutrients and water (European Commission, Joint Research Centre, 2023). Also, the role of proper, efficient management of bio-waste is increasingly emphasised for its cross-connections with reduction of methane emissions from landfills and carbon sequestration, hence mitigation of climate change.

To meet the 2035 targets on recycling and preparation for reuse the contribution of bio-waste to recycling rates needs to rise from the current 17% of separately collected bio-waste out of total municipal solid waste, to 35% (ECN data report, 2022). Yet, in the absence of sufficient guidance, of performance-related legally binding targets, of a cost-competitive scenario for bio-waste in comparison to residual waste, and of effective monitoring of performance, the EU bio-waste separate collection mandate may simply continue to lead to the implementation of under-performing systems.

To fully realise its potential, effective bio-waste management requires coordinated policy actions across governance levels and key sectors, including, but not limited to, agriculture, soil management, biodiversity, industrial emissions, and, of course, the waste sector. A few well-defined and targeted improvements in existing policies may significantly advance progress towards climate targets and further the EU's objectives for a circular economy and

soil health. This is the key message from LIFE BIOBEST and related contribution in terms of collected expertise and evidence from best practices.

2 Report summary

Drawing on the regulatory framework and systemic barriers outlined in the **LIFE BIOBEST D5.2 Policy brief** as well as the four LIFE BIOBEST guidelines designed to enable bio-waste recycling to high-quality compost and digestate across the EU, the **LIFE BIOBEST D5.4 Comprehensive Guidance for the EU** offers key policy recommendations to European policymakers aimed at closing the gap between current practices and potential capture rates, addressing the fact that only 26% of KW is currently collected separately in the EU.

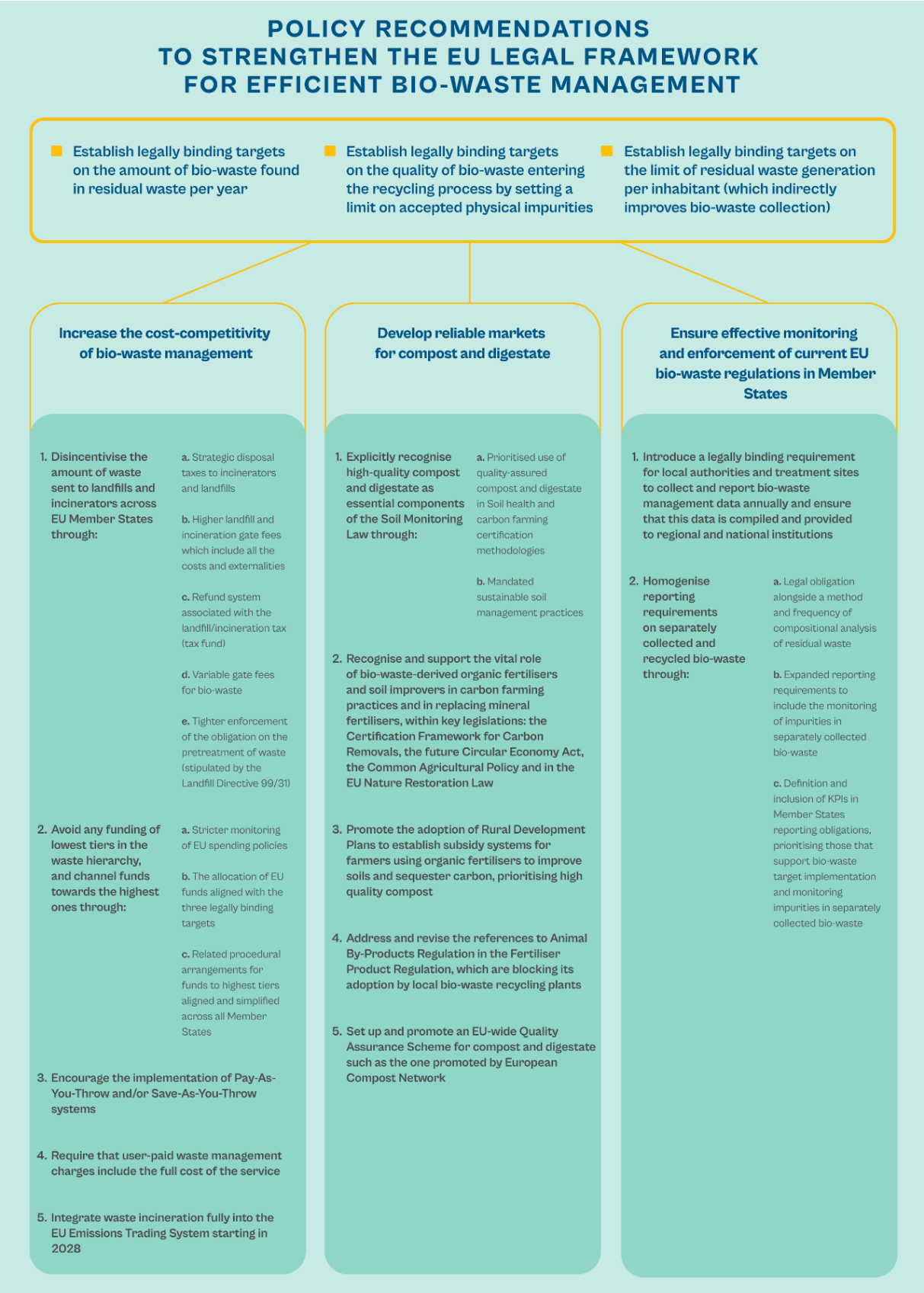
This document is a summary of the main report, which includes the detailed recommendations that are structured into three interconnected sections (see infographic on the following page), each addressing different phases of bio-waste management:

- **Section 3.1 - Boosting effective models for separate collection and recycling of bio-waste** focuses on establishing clear targets and supplementary economic instruments that promote the implementation of efficient and economically viable models.
- **Section 3.2 - Promote and strengthen reliable and new markets for compost and digestate** highlights key measures to support the production, marketing, and application of high-quality compost and digestate in agriculture, landscaping and the growing media industry. By strengthening consumer confidence, these measures aim to stimulate public and private demand for compost and digestate, thus improving incentives for proper collection & treatment.
- **Section 3.3 - Effective monitoring and enforcement of bio-waste regulations** emphasises the need for consistent data and harmonising the monitoring and reporting obligations across MS, addressing the current inconsistencies at municipal, regional, and national levels. By ensuring data availability, comparability and accuracy, policymakers will be better equipped to assess progress towards relevant waste targets and identify areas for improvement. Enhanced monitoring of the bio-waste management process would also help guarantee the quality of the final product, maximising the benefits that compost and digestate applications can provide to soil health and fertility.

Validated by 21 stakeholders representing 13 entities from across Europe, this document serves as a roadmap for EU policymakers working to improve bio-waste management.

To complement the guidance, the LIFE BIOBEST project also produced a policy recommendations **video**. It has been designed to accessibly present the key proposals and measures in an engaging way and is available with subtitles in 11 EU languages. For more information see also the LIFE BIOBEST guidelines and reports.

The figure below summarises the policy recommendations, which were singled out during the LIFE BIOBEST project as the most crucial to improve bio-waste management in the EU.



3 Conclusions

The policy recommendations and instruments outlined above, if implemented effectively, can significantly enhance bio-waste management and treatment across the EU and positively impact cross-cutting policy areas.

It is imperative that these measures be prioritised within the EC's legislative framework through the adoption of new provisions or amending and updating existing ones.

From a comprehensive overview of current EU policies and regulations, which include provisions or influences on bio-waste management including collection, processing of bio-waste and use of compost/digestate, the LIFE BIOBEST project has singled out the following areas where action is needed in following table.

Policy/regulation	Action required
Waste Framework Directive	Adopt legally binding targets on reduction of bio-waste in residual waste
	Adopt legally binding targets on the quality (defined as presence of physical impurities) of bio-waste to be accepted at composting and AD facilities
	Adopt a "residual waste cap"
	Encourage/mandate MS to adopt financial/incentive schemes to make management of residual waste more expensive (putting extra-charges and taxes for jurisdictions that do not meet the targets) and separate management of bio-waste more cost-competitive (providing subsidies or tax rebates to jurisdictions that meet and go beyond the targets)
	Mandate that waste taxes/fees ensure full coverage of costs of waste management (i.e. including all costs for collection, transport and treatment of waste along with complementary activities such as communication and monitoring) and apply variable charges (PAYT, SAYT, other variants) based on the user participation and residual waste generation
	Consolidate and reinforce reporting requirements for MS related to the management of bio-waste (to include compositional analysis of residual waste to assess percentages of bio-waste in it, compositional analysis of bio-waste to assess physical impurities, and a set of KPIs)
	Establish or mandate local authorities and treatment sites to collect and report bio-waste management data annually and transfer them to relevant local, regional and national authorities
Landfill Directive	Ensure tighter enforcement of the obligation on pretreatment of mixed or residual waste; define, accordingly, limit values for acceptance at landfills
Taxonomy of sustainable finance/ Funding programmes	Consolidate the DNSH principle, and avoid any funding to facilities for treatment and disposal of residual waste

Policy/regulation	Action required
Emissions Trading Scheme	Confirm full inclusion of incineration in the scope of the ETS
Soil Monitoring Law	Mandate sustainable soil management practices based on the use of soil improvers, and prioritise the use of quality-assured compost and digestate
Certification Framework for Carbon Removals and Common Agricultural Policy	Recognise and support the key role of soil improvers and organic fertilisers in practices related to carbon farming and sustainable agriculture
Nature Restoration Law	Support the use of bio-waste recycled materials in preparing/manufacturing growing media from renewable resources to protect peat bogs by reducing harvesting of peat
Rural Development Plans	Promote national or regional subsidy schemes for farmers using organic fertilisers, obtained from bio-waste recycling, to improve their soils and sequester carbon, with priority given to high quality compost and digestate
Fertiliser Product Regulation	Address and revise the references to ABPR which are often blocking its adoption by local bio-waste recycling plants
Multiple files	Set up and promote an EU-wide QAS for compost and digestate such as the one promoted by ECN

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