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Bioplastics in the Evolving EU Policy Framework

PPWR · EU Bioeconomy Strategy · Biotech Act II · wider framework

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From niche product to industrial strategy

EU policy increasingly treats bioplastics as part of industrial and bioeconomy strategy, but the framework is uneven. The open question: clear demand signals, or stuck between recycling-first rules and growth-oriented industrial policy?



PPWR

Binding. Narrow, defined role for compostables; bio-based plastics left mostly to a future review.



Bioeconomy Strategy

Political momentum: lead markets, investment, biomass cascading. Few binding obligations.



Biotech Act II

Expected pillar for industrial biotech: authorisation, sandboxes, finance, scale-up.

The PPWR: the most binding instrument

Feb 2025

Entered into force

12 Aug 2026

General Application

Early 2028

Compostable mandate
for listed formats; bio-
based review due



Core logic: recycling first. Outside a short list of mandated compostable formats, packaging must be recyclable, and compostable materials must not contaminate conventional recycling streams. Bio-based plastics face the same rules as fossil-based plastics.

Compostable vs. bio-based plastics

Compostable: a mandated niche

Must be industrially compostable by early 2028:



Tea & coffee bags



Single-serve pods



Fruit & veg sticky labels



Very lightweight carrier bags

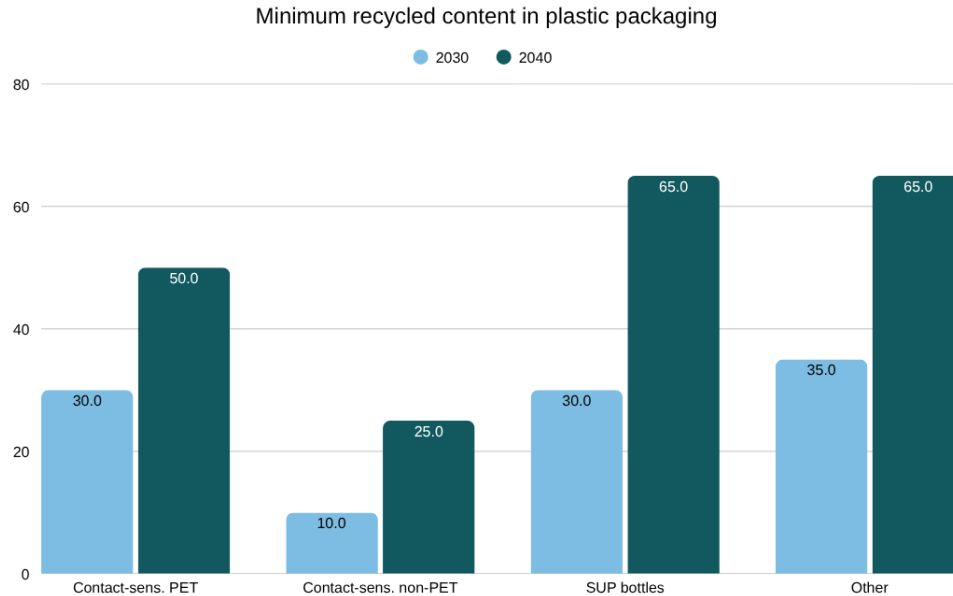
Member States may extend to other formats where infrastructure allows. Exempt from recycled-content targets.



Bio-based: no dedicated regime

- Same recyclability and recycled-content rules as fossil-based plastics.
- Commission must review bio-based plastic packaging (around 2028).
- Could lead to sustainability requirements or bio-based content targets: a key point to watch.

Rewarding recycled, not renewable, content



Stricter green claims

The Empowering Consumers for the Green Transition Directive applies from September 2026. Vague "eco" or "biodegradable" marketing is constrained; claims need solid substantiation and harmonised labelling.

An industrial framing for the bioeconomy

Recasts the bioeconomy as a question of competitiveness, strategic autonomy and defossilisation, not only sustainability.

Momentum, not mandates

Few binding obligations. Its value depends on follow-up legislation.



Lead markets

Public procurement and possible bio-based content requirements.



Investment

Mobilising capital for first-of-a-kind biorefineries.



Standards & certification

Better standards and certification for bio-based products.



Biomass cascading

Implicitly favours residues, waste and by-products over primary crops.

The Biotech Act II: the industrial biotech pillar



Biotech Act I

Proposed late 2025.
Focuses mainly on
health biotechnology.
Less directly relevant to
bioplastics.



Biotech Act II (expected 2026)

Industrial, agri-food and environmental biotech: the base for fermentation-based polymers (PHA) and building blocks for PLA and bio-based polyesters.

What stakeholders expect:

- Faster authorisation
- Regulatory sandboxes
- Access to finance
- Scale-up capacity
- Market creation for bio-made products

Other instruments shaping the outlook



Circular Economy Act

Planned 2026. May shape secondary raw material markets and how bio-based vs recycled feedstocks are valued.



Clean Industrial Deal & Chemicals Action Plan

2025. Frame bio-based chemicals as part of the sector's transition.



Single-Use Plastics Directive

Treats bio-based and biodegradable plastics as plastics: no exemption.



2022 policy framework

Non-binding reference: measure and label bio-based content; limit biodegradability claims.



RED III & PEF

Increasingly the benchmarks for biomass sustainability and life-cycle benefits.

**Recurring theme:
bioplastics must prove
real, measurable
environmental benefit.**

Three tensions will shape the next few years

1

Recycling-first vs. bioeconomy growth

PPWR targets reward recycled content, not renewable feedstock, unless the (2028?) bio-based review changes this.

2

Compostables vs. infrastructure

The mandated niche depends on separate biowaste collection: mandatory since 2024 but unevenly implemented.

3

Feedstock sustainability

Scale-up will face pressure to use waste and residue biomass and prove life-cycle benefits.



Milestones to watch



Together, these will decide whether bioplastics become a structural part of EU material policy or stay a specialised segment.



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Thank you.

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