

# Natural Polymers at Risk. A Call to Correct the PPWR

**Unless biological recycling is recognized for natural polymers in the PPWR by 2028, Europe risks excluding its most promising plastic alternative by 2035. Political clarity and prioritisation are needed to address this gap.**

## 1. What is the issue?

The EU Packaging and Packaging Waste Regulation (PPWR) requires that from 2030 all packaging must be designed for recycling, and from 2035 it must be “recycled at scale.”

The problem:

- Recycling is currently only defined as “material recycling” (mechanical or chemical).
- Biological recycling, like composting, is not recognized.
- This creates a regulatory gap: Natural polymers (like traceless®), which are not plastics and are naturally compostable, risk being treated as if they were plastics.

Instead of being acknowledged as naturally circular materials, natural polymers could fall under inappropriate plastic recycling rules, or remain limited to four small exceptions (labels, coffee capsules, tea bags, fruit stickers under Art. 9).

This inconsistency means that materials which are explicitly excluded from the plastic definition under EU law (SUPD and PPWR Art. 3(43)) currently lack a fitting end-of-life pathway within the PPWR framework.

## 2. What role do natural polymers play in the circular economy?

Natural polymers are not plastics. They are materials created in nature that have not been chemically modified. Due to their natural composition, they are naturally compostable, plastic-free and do not create microplastics. The EU has classified them as ‘non-plastic’ under the Single-Use Plastics Directive.

Innovative companies like traceless are developing a new generation of natural polymer materials that can replace plastics in short-lived packaging applications. Natural polymers are key for Europe’s circular economy because they close an essential gap: packaging types that cannot realistically be collected or recycled. These include small formats, multilayer composites, food-contact packaging or items that often escape collection systems. For these applications, technical recycling will never be viable, but natural polymers provide a safe, naturally circular solution.

## 3. What needs to be modified in the PPWR and until when?

To fix this regulatory gap, biological recycling must be explicitly recognised as a valid end-of-life pathways for natural polymers.

The legal pathway:

- A Delegated Act under Article 6(4) should clarify how natural polymers are considered recyclable within the PPWR framework.

- This act should define clear criteria for natural polymers and their end-of-life through biological recycling (e.g. composting, anaerobic digestion, thermal recovery of biogenic carbon).
- The clarification should be introduced via Annex II, ensuring that natural polymers are acknowledged as *recyclable by design within the biological cycle*.
- The Delegated Act must be finalised by 2028, when the Commission sets the detailed recyclability rules for all materials.

Without this correction, from 2035 onwards innovative natural polymer packaging will not meet the PPWR recycling criteria, effectively banning them from the market.

#### 4. What are the consequences for industry if the issue is not solved?

If biological recycling is not recognized:

- De facto exclusion: From 2035, natural polymers would not meet the recycling criteria and would effectively be banned from the EU packaging market.
- New industry blocked: The entire natural polymers sector would lose investment security, leading to stalled industrial scale-up and relocation outside Europe. For traceless alone, investments of up to €300 million are on the line.
- Missed climate benefits: Natural polymers reduce lifecycle emissions by up to 90% compared to plastics. Losing this pathway means higher CO<sub>2</sub> emissions and more plastic waste.
- Unfair competition: Fossil plastics would remain market standard, while sustainable alternatives would be sidelined.

This outcome would contradict the goals of the EU's Competitiveness Compass, the Green Deal, the Circular Economy Action Plan, and the Bioeconomy Strategy.

#### 5. Call to action

The European Commission is preparing delegated acts to implement the PPWR. It is essential that the recognition of biological recycling remains a priority throughout this process. Clear recognition is needed to avoid regulatory uncertainty and to ensure alignment between policy intent and implementation.

We therefore call on high-level policymakers and Member States, including Germany, to:

- Support the clarification of biological recycling for natural polymers through a Delegated Act under Article 6(4) PPWR.
- Ensure the Annex II reflects this interpretation and provides a clear end-of-life pathway for natural polymers.
- Encourage the Commission to prioritise this clarification within its delegated act work programme before 2028.

Providing this clarity will give innovators and investors the confidence to scale truly sustainable materials in Europe, securing environmental benefits, industrial competitiveness, and Europe's leadership in clean biomaterials.

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Contact

Dr.-Ing. Anne Lamp | CEO & Co-Founder | [anne.lamp@traceless.eu](mailto:anne.lamp@traceless.eu)