

# Evergreen – Circular Fiber Forward

Brussels, 3 October 2019

Technical guidance on SUP Directive regarding circular paper-based products in combination with polymers

## A. Background B. Definitions C. Conclusions and Requests

### A. The Single Use Plastic Directive created questions and concern among paper manufacturers, brand owners and retailers alike.

- In spring 2019, CEPI arranged 3 workshops on Single Use Plastic Directive and circular paper-based packaging touching upon definitions and understanding the SUP Directive, guidelines and test protocols, recycling, collection.
- CEPI wants to ensure compliance of fibre-based packaging with SUP and with EU recycling targets and beyond
- There has been wide participation across the value-chain: from brand owners and retailers to technology and material suppliers, from Paper for Recycling collectors to research institutions and paper-makers and converters.
- Workshop participants, particularly brand owners, were asking to continue collaboration in a more permanent project structure. The group took the name “Evergreen – Circular Fibre Forward”.

### B. The group has agreed on the following definitions

#### 1. Paper and Paperboard

*Paper is a non-woven, cellulose-based, article. Typically a web comprising substantially of cellulosic fibres forming hydroentanglements enabling repulping in water.*

#### 2. Plastic

*Plastics are materials where the main component<sup>1</sup> is composed of a) synthetic polymer having molar mass high<sup>2</sup> enough to differentiate it from wax or b) chemically modified naturally occurring polymer having degree of substitution high<sup>3</sup> enough to make it microbially inactive.*

<sup>1</sup> main component means minimum of 50% of mass

<sup>2</sup> high molar mass means over 5000 g/mole under which practically all polymers are biodegradable

<sup>3</sup> high degree of substitution means occupation of free hydroxyls DS>0,7, which makes especially starch and cellulose non-biodegradable independent on grafting chemistry applied



A polymer is non-plastic if

*it is a polymer with  $M_w < 5000$  g/mole or it is a naturally occurring polymer (see below under 3.) having no long term impact on the environment.*

*A composition is still considered as not being a plastic if it contains  $> 80$  % w/w (of the dry polymer part) of a non-plastic as defined above.*

### **3. Natural Polymers**

*Natural polymers are those which are extracted from natural sources by means of mechanical or chemical processes or directly synthesised by microorganisms including (but not limited to) different cellulose and starch materials (native starches, cellulose pulp, microfibrillated cellulose, xyloglucan, xylan, alginate, lignins, chitin, etc.).*

### **4. Chemically modified polymers**

*Chemically modified polymers are the polymers which are produced via chemical polymerization process such as fossil and bio-based PE, PP, PET.*

*The value chain acknowledges a transition period will be required to work on finding alternatives.*

### **5. What is a main structural component?**

a) The polymer IS NOT a main structural component of the final product if

*the final product is repulpable/readily disintegrates in repulping with no structural plastic layers remaining and without negative influence on the resulting paper quality and papermaking process efficiency.*

b) The polymer IS a main structural component of the final product if

*the cohesive strength of the chemically modified polymer in repulping is stronger than the adhesive strength between the paper and the polymer layer.*

c) The component is not a main structural component of the final product if

*the component is less than 10 per cent (w/w) of the final product.*

*Whilst any given percentage do not define product's behaviour with regards to recyclability or composting, as a cut-off rule 10 per cent is suggested.*

*In line with the transition (see point 4 above), the value chain acknowledges the gradual progress made in material technology and would commit to linear reduction of the %-share from 10 per cent downwards, subject to review in 2026, while the industry commits to finding the material alternatives for plastics with a reduced environmental impacts.*



## C. Conclusions and requests

### **Take advantage of the opportunity to reduce the total amount of plastics waste by differentiating between 100% plastic products and paper based plastic coated solutions**

- Fibre-based packaging offers an important alternative to difficult to recycle plastic materials. Recyclable fibre-based polymer coated packaging materials have several advantages from an environmental perspective compared to non-recyclable materials
- The polymer coating is needed in the material for finishing the surface and sealing, but is not a main structural component. Many coating technologies exist and are needed for the different end-uses.
- A time-limited right to use polymer-coated coated materials falling within SUP is needed in order to enable a transition from difficult-to-recycle material to fibre-based packaging
- The environmental footprint of fibre-based substitutes is often lower than the plastic alternatives. Furthermore, a polymer coated paper product is widely recyclable and fits well in established recycling systems and can be used as raw material for new renewable products by the paper industry.
- This stable market demand for paper-based products means nearly closed loops – already paper-based packaging is recycled at the rate of 84.6% (Eurostat, 2017) and is continuously increasing the rate. Any plastic component on the paper is also well managed in the industrial recycling system; this contributes to avoided littering and where littering occurs, the environmental impact is already reduced.

### **Create necessary space for renewable and recyclable material innovations**

- Polymer coated paper based packaging products play a key role already today in reducing the total amount of plastics used in society. But polymer coated products are not an end solution – product development continues. The value chain acknowledges a transition period will be required and commits to control risks and continuously improve the situation.
- Clarifying what 'main' in the phrase of 'a main structural component' by setting a cut-off value or limitation to the types of material which can be used of 10 per cent and guiding a progressive further plastics reduction with a linear reduction of that value, subject to review in 2026, would ensure both smooth transition and boost to new technologies and materials.
- Bio-based materials and products that are recyclable and have lower environmental footprint than non-recyclable plastic alternatives are a key component in eliminating packaging litter and waste. Creating best possible conditions for recyclable and renewable innovations is instrumental in transitioning towards a low carbon circular economy.

\* \* \*

*For more information: Jori Ringman ([j.ringman@cepi.org](mailto:j.ringman@cepi.org))*