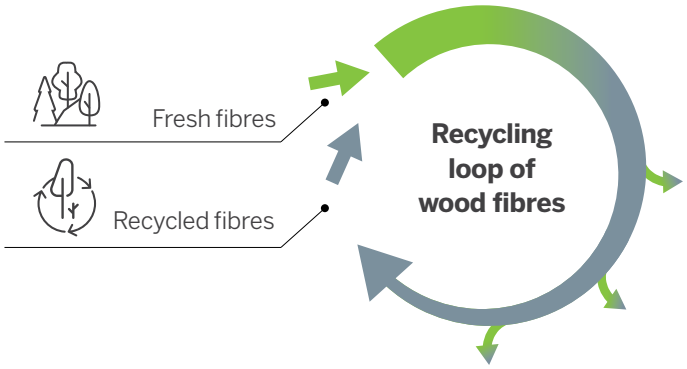
Facts about fibres

– what you should know about fresh fibre-based packaging

Packaging plays an important role in protecting products and consumers. As packaging volumes continue to rise it is important that we look for new ways to improve its sustainability. Wood fibres are a renewable raw material that can be recycled multiple times, making paperboards and packaging made of them an excellent choice for a circular economy. In terms of the circular economy, both fresh and recycled fibres are equally good and are part of the same cycle. The recycling rates of paperboard and paper packaging are already high. For example, in both the European Union[1] and the United States[2] rates are over 80%, exceeding those of other packaging materials.



100% recovery is not possible because some fibres are lost during the cycle.

Without fresh fibres shortage of recycled fibres would quickly occur.

WHY DON'T WE JUST RECYCLE THE SAME FIBRES AGAIN AND AGAIN?

Not all fibres return back to cycle. This can be due to, for example, a lack of correct sorting for recycling, inadequate collection systems, exports to other fibre-scarce markets or contamination or weakening of fibres.

Fresh wood fibres are pure and strong, making them an excellent material for the circular economy because they can be recycled multiple times. They help to maintain the fibre loop by compensating for the losses caused by papers and boards that cannot be returned back to circulation.

BUT THE CARBON FOOTPRINT OF RECYCLED PACKAGING IS LOWER, ISN'T IT?

Two major factors affect the carbon footprint of packaging: weight and the energy used in production. Boards made from recycled fibre are weaker than those made from fresh fibre, so more recycled fibres are needed in order to manufacture packaging of the same strength, which increases the packaging weight.

Another factor affecting the carbon footprint of packaging is the energy type used in board production. Countries like Finland and Sweden produce more fresh fibre paperboards, mainly using fossil-free energy. In the European countries where recycled boards account for the majority of production, the mills producing these products are mostly powered by fossil-based energy[3].

It is also good to remember that when calculating the carbon footprint of fresh fibre paperboard the starting point is the forest and the sourcing of the wood, whereas the carbon footprint calculation for recycled paperboard starts from the collected paper and board waste. In other words, the fibre sourcing from the forests is only taken into account in the carbon footprint of fresh fibre paperboard.

1) Eurostat
2) United States Environmental Protection Agency
3) Biofit factsheet

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"Pulp used in fresh fibre paperboards is made from thinner parts of the tree which are not suitable for sawn timber products."

RECYCLING IS GOOD FOR THE ENVIRONMENT, BUT IS IT GOOD FOR THE FOOD PACKED IN IT?

The choice of packaging material depends on the planned end use. While packaging made of recycled fibres is suitable for many different end uses, in hygiene and safety-critical end uses such as food and pharmaceuticals fresh fibres are the better and safer choice. Recycled fibres can contain residues like printing inks, adhesives and lacquers that should not come into direct contact with food because they are harmful to human health.

DOES CHOOSING FRESH FIBRE PRODUCTS HARM FORESTS?

The forests in Finland[4] and Sweden[5] grow more than they are used. Third-party forest certification (PEFC, FSC®) is a mark of sustainable forest use. While only 11%[6] of the world's forests are certified, in Finland the percentage is well over 80%[7] and in Sweden it is 66%[8]. Finland has the highest share of strictly protected forests in Europe.

Traceability of fibres is important because it shows whether the material comes from sustainably managed forests and is safe to use. The origin of fresh fibres can be traced back to the forest, whereas with recycled paper and packaging it is impossible to determine the origin of the fibres. The forest certification claims used in recycled paperboards do not guarantee that the fibre comes from certified or even controlled forests; they only state that recycled fibres have been used in the production of the board.

Pulp – the raw material used to make fresh fibre paperboard – is mainly made from wood from forest thinning and woodchips from sawmills. The trunk, the most robust part of the tree, is used for sawn timber products and not for pulp or paperboard production. Tree tops, bark and branches are a valuable source of bioenergy that is widely used in paperboard production in Finland and Sweden[9].

The EUDR is a European Union regulation that aims to ensure that certain products placed on or exported from the EU market are deforestation-free, helping to reduce global deforestation, forest degradation, biodiversity loss, and related greenhouse gas emissions. It will apply from 30 December 2025[10].

Fresh fibre packaging:

- is made of renewable wood raw material
- is suitable for food and other sensitive products
- is usually lightweight
- can be easily recycled

4) Natural Resources Institute Finland
5) Swedish Wood
6) North Carolina State University
7) PEFC
8) Swedish Forest Agency
9) Forest BioFacts
10) Regulation on Deforestation-free Products

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