

Paper Recovery and Recycling

The Facts

In Europe, 71% of paper consumption was recycled in 2022, making it one of the most recycled of all materials. The European paper value chain is committed to maximising paper recycling rates, and reducing barriers that hamper the ability to recycle paper. Recycling paper is the most eco-efficient waste management option, and the use of recycled fibres complements the need for virgin wood fibre to meet societal demand for paper and board products.

Paper is one of the most recycled products.

The paper recycling process starts with you. Once you have consumed a paper product, it can be placed in the recycling bin and collected alongside other used paper products from businesses and households.

In 2022, 52.6 million tonnes of paper was collected and recycled, resulting in a recycling rate of 70.5%.[1] Europe is the paper recycling champion, having the highest rate globally. It is followed by North America (67.9%)[2], Brazil (66.7%)[3], and Asia (56.8%)[2]. Within Europe, 14 countries exceed the 70% recycling rate.[4]

For paper packaging, the recycling rate is even higher, with 83% of paper and cardboard packaging being recycled in Europe. Paper is the most recycled packaging material followed by metal (75%), glass (74%), and plastic (41%).[5] Although Two Sides research shows that only 18% of consumers understand that paper and board packaging has a recycling rate of over 60%.[6]

Because some paper products are retained for the long-term (for example, books and archived documents) are otherwise disposed of after use (for example, sanitary products) or subsequently used for other purposes (such as insulation), the theoretical maximum recycling rate is 78%.[7]

In Europe, paper fibres were recycled and re-used 3.5 times on average in 2022 (world average 2.5 times).[4] Paper cannot be recycled indefinitely as the fibres get too short and worn out to be useful in creating a new sheet of paper. Furthermore, production cannot be based on 100% recycled fibre, as 100% of consumption cannot be collected. The cycle must therefore constantly be refilled with new strong virgin fibres from sustainably managed forests.

Paper for recycling is an essential raw material.

To maintain quality, paper must be collected separately from other materials. A packaging manufacturer can use mixed types of paper for recycling, while a manufacturer of printing and writing (graphic) paper can only use certain paper for recycling types. Therefore, paper for recycling is usually sorted, graded and then delivered to a paper mill according to EU Standard EN 643.[8]

> *"Separate collections increase the quality of Paper for Recycling, therefore all actors, even households, must recognise that they are handling a secondary raw material and not waste."*
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> European Paper Recycling Council, 2022

Paper for recycling is an essential raw material for the paper industry. In Europe, 47 million tonnes of it was used in 2022, equating to 56% of all fibres consumed by the industry. Packaging consumes the greatest proportion (79.5% of the total), followed by newsprint (6.6%) and other graphic papers (5.6%).[2]

Recycling of fibre is more eco-efficient than other waste management options.

The most eco-efficient use of wood fibre for paper and paper and board is within a 'cascading system'. In a simple cascading system, wood is sourced from the forest and used to make wood or paper products, which are recovered after use.

The recycled fibres are reused in paper and board manufacturing until they are unsuitable, at which point they are burned for energy, which is far more economical than burning it immediately for renewable energy.

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Most paper-based products are designed for good recyclability and gathering in suitable collection schemes, thus the fibres can be recycled and used again in paper and board manufacturing.

Recycled and virgin fibre are complementary.

Europe is the world leader when it comes to recycling paper – 71% of paper is recycled. In 1991, paper for recycling made up 40% of the fibre used, compared to 60% virgin fibre. In 2022, paper for recycling made up 49% of the fibre used, compared to 51% virgin fibre.[2] This means more paper for recycling is being used as a raw material by Europe's paper producers.

This growth in recycled fibres being used has slowed down in recent years as total paper for recycling in Europe reaches nearer to its practical maximum. It is therefore likely that the current balance of recycled and virgin fibres will remain steady. It is very difficult to directly compare recycled fibre with virgin fibre as both are fundamental to the paper making process.

Paper for recycling can be used in some grades more than others. For example, newsprint and some types of packaging are often made with over 90% recycled fibre. However, high-grade graphic papers have a lower utilisation rate of around 26%, as some specialty papers for technical applications, cannot include large amounts of recycled fibre due to performance, safety or hygiene requirements.[2]

The paper making process is a sustainable cycle. Recycled fibres are used as effectively as possible, while new fibres are constantly brought in to replenish and maintain the process.

Recyclability is one of the key environmental benefits of cellulose fibres, together with renewability, biodegradability and the CO_2 mitigating role of sustainably managed forests.

Sources

1. Cepi Key Statistics, 2022
2. American Forest & Paper Association, 2023
3. IBA, Brazillian Tree Industry, 2023
4. European Paper Recycling Council, Monitoring Report, 2022
5. Eurostat, 2021
6. Two Sides Trend Tracker, European Findings, 2023
7. European Paper Recycling Council, European Declaration on Paper Recycling 2021-2030
8. Cepi, Circular Economy, accessed September 2023

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