

MONITORING REPORT 2024

European Declaration on
Paper Recycling 2021-2030

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EUROPEAN PAPER RECYCLING RATE 2024: 75.1%

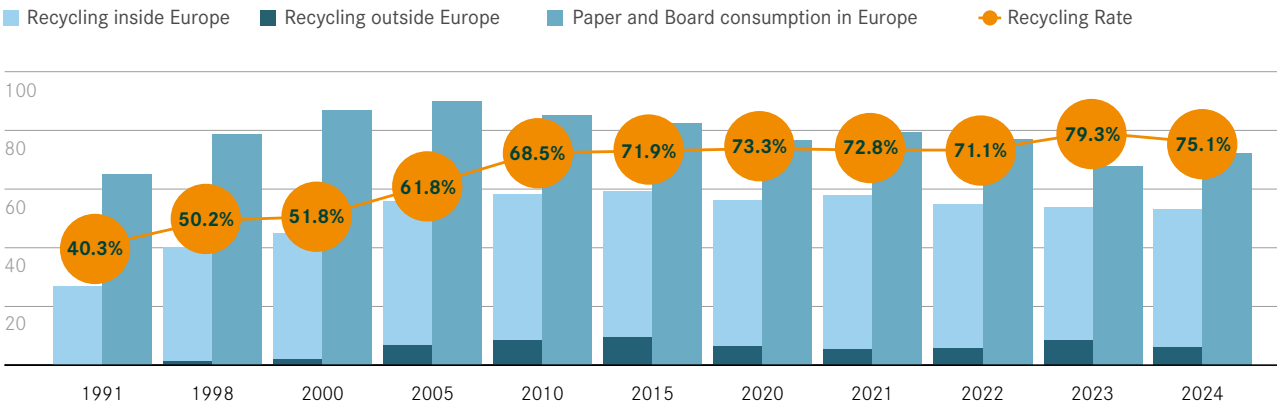
Since 2000, the European paper value chain has been committed to the two-fold aim of improving recycling and increasing efforts to remove obstacles hampering paper recycling in Europe. The signatories of the new European Declaration on Paper Recycling 2021-2030¹ committed to reach a 76% paper recycling rate by 2030.

75.1% of all paper and board consumed in 2024 in Europe was recycled. The recycling rate is defined as the ratio between the recycling of used paper, including net trade of Paper for Recycling (PFR), and consumption of new paper and board. In a year-to-year comparison, the total amount of paper and board collected and recycled in the paper sector in 2024 decreased by 0.4% to 53.4 million tonnes, while consumption of paper and board increased by 5.2% to 71.1 million tonnes. As consumption of paper and board increased much more than the recycling of paper and board within and outside Europe, the recycling rate decreased from 79.3% in 2023 to 75.1% in 2024.

As anticipated in the 2023 Monitoring Report, annual fluctuations in the consumption of paper and board which ultimately impact the paper recycling rate are normal in a free-market economy due to demand and supply and other external factors, such as the energy crisis. The consumption of paper and board in 2023 was unusually low due to the large volume of stocks consumed (which were not reflected in the figures). The 2024 increase in consumption can largely be attributed to the exceptionally low consumption in 2023. Hence the decrease in the recycling rate does not reflect poor recycling performance. In contrast it is attributed to the stock fluctuations. Therefore, it is insightful to look at the rolling average recycling rate of the last three years, which is at 75.2%, signalling we are on track to meet our recycling target of 76% by 2030.

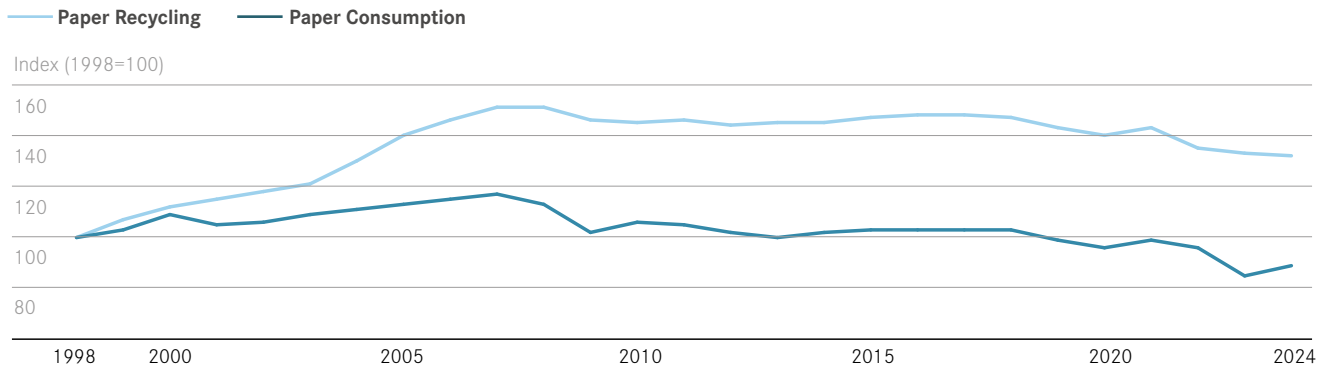
EUROPEAN PAPER RECYCLING 1991-2024

Source: Cefi 2024



¹<https://www.paperforrecycling.eu/publications/>

PAPER RECYCLING vs PAPER CONSUMPTION



Looking back at the progress made since 1998 - the base year for the first voluntary commitment set in the European Declaration on Paper Recycling - recycling has increased by 33.2% (13.3 million tonnes). In strong contrast, consumption of new paper and board since 1998 increased up until 2007 and dropped back to the level of the 1990s in the following years.

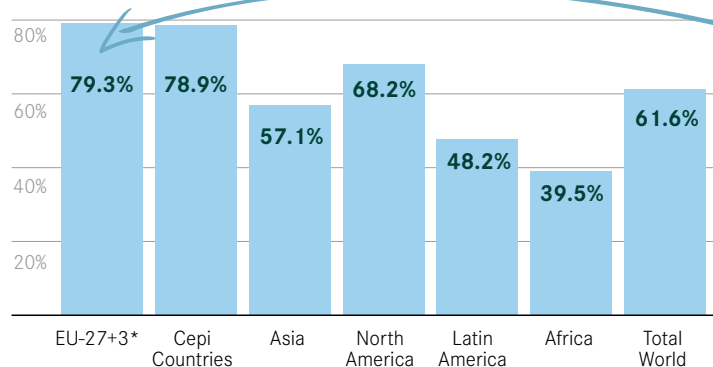
At regional level, the number of countries with a recycling rate below 60% was 6 in 2024, up from 4 in 2023. In 2024, the number of countries exceeding recycling rates of 70% was 18, from 19 in 2023. Consumption of almost all grades of paper and board increased in 2024.

At international level, Europe continues to be the world champion in paper recycling, followed by North America. The paper recycling rates of other world regions are improving, but from lower levels. In Europe, during 2024, every fibre completed on average 4 cycles of recycling and use while the world average in 2022 was 2.6 times.

EU legislators renewed the recycling targets for packaging waste²; it is clear that the well-functioning paper recycling chain is a key driver for meeting these targets. According to the latest Eurostat data, the recycling rate of paper and cardboard packaging in EU 27 in 2022 was 83.1%, higher than all other materials. In absolute volumes, more paper packaging was recycled than all other packaging materials combined.

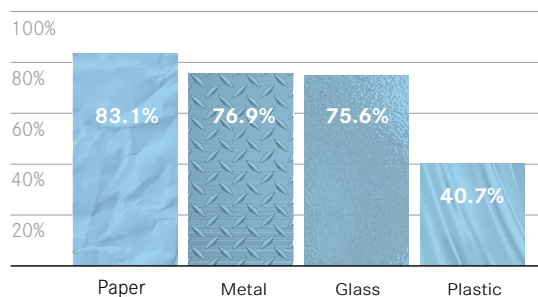
RECYCLING RATE IN WORLD REGIONS IN 2023

Cepi, Fastmarkets – 2023
*EU-27+3 (The UK, Norway and Switzerland)



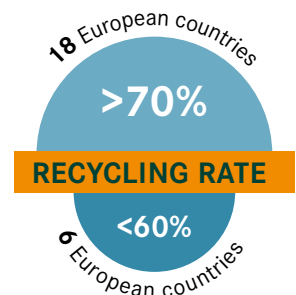
EUROPE IS THE PAPER RECYCLING CHAMPION!

2022 PACKAGING RECYCLING RATES (source EUROSTAT)



NATIONAL RECYCLING RATES IN EUROPE

18 European countries exceeded the 70% recycling rate (19 in 2023).
6 European countries were below 60% (4 in 2023).
Source: Cepi 2024



Reporting on domestic recycling rate and international flows of Paper for Recycling:

The European Declaration on Paper Recycling 2021-2030 introduces a more consistent monitoring of the domestic recycling rate, excluding net trade. The reporting only takes into consideration PfR utilisation in European paper mills excluding net trade (47.4 million tonnes), divided by paper and board consumption. The domestic recycling rate in 2024 was 66.6%.

A net volume of 6.0 million tonnes (11.3% of the total collection of 53.4 million tonnes) was bought by third countries, outside the commitment region (EU-27, the United Kingdom, Norway and Switzerland). The formerly high Chinese demand for European

PfR has decreased to levels close to zero. The key importers of European PfR were India, Indonesia, Vietnam, Malaysia and Thailand. Overall, net exports of PfR outside Europe have decreased by 26.2% compared to 2023.

Paper recycling is a “Made in Europe” industry. As collection, sorting and recycling take place in Europe, paper recycling prolongs value creation and job opportunities in Europe from a renewable and predominantly European resource: wood. Making recycling easy and simple, year after year, requires a huge effort by the paper value chain. We explain these efforts in our annual monitoring reports and are proud of the progress. For the commitment period of 2021-2030 the recycling rate calculations are independently verified by Deloitte.

²Packaging and Packaging Waste Regulation

2

PROGRESS IN QUALITATIVE TARGETS

The EPRC members, representing 14 sectors along the European paper recycling value chain, have committed to improving the paper recycling rate by 2030. By joining the European Declaration on Paper Recycling, they demonstrate their commitment to achieving qualitative targets. EPRC members are involved in initiatives to facilitate the recycling process and increase recycling activity. These notably include collection, ecodesign and innovation, and engaging with different stakeholders.

COLLECTION: Enhancing the Quality and Quantity of Paper Recycling

The first and perhaps most fundamental step in recycling is collection. Efficient and well-managed collection systems are essential for ensuring that paper and board for recycling are retrieved in sufficient quantity and quality. Separate collection of materials, including packaging, reduces contamination, enhances sorting, and ensures the creation of a consistent and high-quality input stream for recyclers. This, in turn, enables better processing and promotes innovation and investment in recycling technologies—strengthening Europe's green economy and moving it toward a more circular model.

In 2024, EPRC members actively advanced a range of initiatives to improve paper collection across different formats and uses:

To improve collection, sorting instructions are key. The newly adopted Packaging and Packaging Waste Regulation (PPWR) provides for harmonised sorting labels for packaging and waste receptacles. The aim is to improve consumer sorting at home and to simplify collection across the EU. Cefi and other EPRC members have contributed to stakeholder consultations supporting the harmonisation of the labelling system across EU 27. Cefi understands that the current harmonised system will be based on material composition of packaging but has advocated for a future consideration of aligning the proposed labelling system with the outcomes of recyclability assessments of packaging according to PPWR, so that packaging finds the appropriate recycling path and process. At that stage, there is added value in exploring potential synergies between recyclability-based labelling and the Design for Recycling framework, given that such labels inherently reflect the compatibility of packaging with specific recycling processes and not merely material composition.

The Food and Beverage Carton Alliance (FBCA) is committed to supporting the effective collection, sorting, and recycling of liquid packaging cartons. It calls for clear national targets for collection across all packaging types and for improved transparency and governance in Extended Producer Responsibility (EPR) schemes.

The European Tissue Symposium (ETS) is advocating for the inclusion of certain tissue products—such as paper hand towels—into mainstream paper recycling streams. These products contain high-quality fibres that can significantly contribute to the EU's circularity ambitions. In Italy for example, tissue paper is collected in the paper fraction.

Cefi member, Aspapel has initiated a national collaboration in Spain with industry associations AFCO, ASPACK, and REPACAR, resulting in the launch of *Cartón Circular*³. This initiative represents a collective Extended Producer Responsibility system specifically aimed at managing and recycling industrial packaging. It provides legal certainty to producers across all sectors and supports compliance with both Spanish and EU regulatory requirements. With over 70% of its members coming from industries beyond paper, *Cartón Circular* is a prime example of cross-sectoral collaboration towards circularity. Its main objectives include:

- Ensuring legal certainty for industrial producers
- Consolidating effective packaging waste management models
- Avoiding unnecessary costs associated with material recovery
- Guaranteeing sustainability and high recycling performance
- Reinforcing industry's contribution to the EU's decarbonisation and circular economy transitions

The International Association of the Deinking Industry (INGEDE) plays a critical role in securing the recycled paper cycle in Europe through its active involvement in the 4evergreen initiative, facilitated via PROPAKMA. The organisation emphasises that paper and board made from white fibres should remain within the graphic paper cycle. Through its dedicated Task Force, INGEDE is exploring the recyclability of white consumer packaging within this specific stream. Furthermore, within the 4evergreen Alliance, PROPAKMA on behalf of INGEDE co-led the Workstream which revised the Guidance on the improved Collection and Sorting of Fibre-Based Packaging for Recycling⁴.

ECODESIGN: Enhancing Recyclability and Preventing Waste

Ecodesign plays a central role in building a truly circular paper recycling loop. When products are designed with end-of-life in mind—considering how they will be sorted, processed, and recycled—they are more likely to successfully re-enter the value chain. This reduces waste, conserves natural resources, and improves recyclability. Ecodesign also ensures compatibility with evolving EU regulations and environmental expectations, such as those under the Packaging and Packaging Waste Regulation (PPWR).

EPRC members are contributing to the development and implementation of robust design frameworks and testing protocols that ensure products meet recyclability standards:

Cefi has revised and delivered the 3rd version of the Cefi recyclability test method for mills with a conventional process. The test method defines a laboratory procedure emulating the most relevant phases (pulp, screening, sheet formation) of a typical paper mill dedicated to the recycling of the most common grades of paper and board without flotation-deinking technology or other special features. The values generated by the method are used by the 4evergreen Fibre-based Packaging Recyclability Evaluation Protocol to evaluate the recyclability of fibre-based packaging in recycling mills with conventional process⁵.

The European Printing Ink Association (EuPIA) has contributed to the revision of the ecolabelling criteria for printed matter and has supported the development of the new Blue Angel standard for printing inks, helping align ink formulation with recyclability goals.

Cefi, FBCA, and INGEDE are actively participating in the development of Design for Recycling (DfR) criteria within CEN Technical Committee 261 Working Group 3. These criteria will shape future recyclability criteria under the Packaging and Packaging Waste Regulation, coming into force in 2030.

FBCA is preparing to release an updated version of its 2022 Design for Recycling Guideline, tailored to meet PPWR requirements and supported by new laboratory testing. This guide will help liquid packaging carton producers assess and enhance their products' recyclability.

³<https://cartoncircular.es/>

⁴Read more about the 4evergreen deliverables in chapter 3

⁵<https://www.cepi.org/cepi-recyclability-test-method-version-3/>

FBCA has also finalised RECYCHECK, a technical scoring system designed to evaluate the recyclability of fibre-based composite packaging (FBCP).

CITPA member, FEFCO (European Federation of Corrugated Board Manufacturers) has published updated Corrugated Packaging Recyclability Guidelines⁶ (2024), which now include a “traffic light” design evaluation tool. This anticipates the recyclability scoring tables expected under the PPWR.

In collaboration with VTT, FEFCO also released a Biodegradability Study demonstrating the environmental compatibility of corrugated board, further reinforcing its role in sustainable packaging solutions.

The Association of the European Adhesive & Sealant Industry (FEICA) organised two webinars⁷ on labelling adhesives in packaging recycling and on laminating adhesives supporting flexible packaging recycling.

During the FEICA webinars, the benefits of labelling and laminating adhesives were explained, the ways they pass through the recycling processes and up-to-date test methods and the adhesive industry's activities to promote the continuous evolution of recyclable adhesive products.

Driving Innovation Across the Value Chain

Research and development are essential to meeting future recycling challenges, especially as materials, products, and regulatory demands continue to evolve. EPRC members are deeply invested in R&D to improve fibre recovery, optimise recycling mill performance, reduce waste, and valorise by-products from the recycling process. These efforts ensure that the industry remains at the forefront of innovation while supporting the EU's sustainability targets. Notable research initiatives include:

INGEDE is a key sponsor of the SPaRe research project⁸, which explores how pulper rejects can be better managed and how valuable fibres and plastics can be more effectively recovered and repurposed. In a separate project, INGEDE has investigated the recyclability of fibres sourced from annual plants, offering a potential alternative to traditional wood-based fibres.

FBCA continues to develop solutions for multilayer packaging materials. Currently, around 30% of PolyAl (the polyethylene/aluminium layer in liquid packaging cartons) is recycled. Ongoing industry investment is expected to increase this to 80% by 2026, with full recyclability targeted by 2028.

ETS members in France have backed the use of new technologies that now recover almost 100% of the fibres in used liquid packaging cartons—an impressive leap from the previous recovery rate of 70%. These breakthroughs significantly reduce the volume of wet waste that need to be disposed of.

FEFCO has released its Best Practice Handbook for Improved Energy Efficiency⁹, a comprehensive guide offering practical solutions to enhance energy efficiency throughout the corrugated cardboard production and conversion process. This initiative supports FEFCO's Climate Neutrality Roadmap 2050.

Cepi's Clean Processes and Products Forum (CPPF) strives to accelerate development and implementation of strategies and technologies to remove or mitigate the negative effects of components

of concern from our circular value chains. The aim is to create a fact base to support advocacy in questions related to substances of concern as well as raise awareness within its membership and facilitate the exchange of knowledge, expertise and practical solutions. The strength of the Forum lies in attracting expertise from within but also outside the Cepi membership. By reaching out to suppliers, technology providers, research institutes and universities, the CPPF benefits from years of experience in different areas and can provide a good overall understanding of various topics, including PFAS and microplastics.

EDUCATION AND INFORMATION SHARING: Engaging Stakeholders Across Europe

Educating consumers, industry stakeholders, and policymakers is vital to the success of recycling initiatives. By sharing knowledge, promoting transparency, and supporting information campaigns, EPRC members help raise awareness about the importance of recycling and best practices in collection and recovery. These efforts also help foster public trust and drive behavioural change toward more sustainable consumption and disposal patterns. EPRC members are actively engaged in disseminating relevant information and supporting stakeholder education across the continent:

Cepi and FBCA continued in 2024 with their support to Greensource¹⁰, a platform and social media campaign informing interested stakeholder and the wider public about key facts and figures in the forest sector. Greensource includes a section on circularity with videos, factsheets and other references for people interested in learning more about the circularity of the forest-based sector.

Cepi continues to lead the Circular Choices¹¹ campaign, uniting 20 EU associations from the forest-based sector – the biggest coalition ever from the forest-based bioeconomy sector at EU level. After three years of dedicated work, the Circular Choices campaign has successfully reintegrated the bioeconomy into the EU policy agenda. The campaign successfully highlighted the forest-based bioeconomy's needs, challenges, and solutions in the lead-up to the 2024–2029 European Commission mandate, securing its place as a priority on the new political agenda. It demonstrated to EU policymakers the sector's potential to drive sustainable growth, resilience, and industrial competitiveness—now increasingly recognised across key EU institutions.

EuPIA provides detailed guidance on the food safety of recycled paper and board packaging materials¹².

The INGEDE Symposium, held annually, serves as a vital platform for dialogue and knowledge exchange on the role of paper in the circular economy. It attracts professionals from across the paper value chain and the broader recycling industry.

FBCA, through its national associations in seven EU Member States, as well as in the UK and Switzerland, supports a wide range of awareness campaigns, educational programmes, and best practice exchanges on the collection and recycling of used liquid packaging cartons.

CITPA member, FEFCO launched a monthly newsletter in 2024 to keep stakeholders informed about the latest developments in the corrugated packaging industry, including innovations in circularity, regulatory updates, and progress toward sustainability goals. In addition, FEFCO published its 2023 Activity Report¹³, providing a detailed overview of recent initiatives and achievement.

⁶https://www.fefco.org/sites/default/files/documents/FEFCO-Recyclability-Guidelines-UPDATE%202024%20final_0.pdf

⁷View the presentation slides <https://www.feica.eu/information-center/all-information-centre/preview/1214/feica-webinar-labelling-adhesives-packaging-recycling-presentation?id=68d1a95b-370c-4c6a-8ff8-5112719cff10&filename=FEICA+Webinar+-+Labelling+Adhesives+in+Packaging+Recycling+-+Presentation.pdf>

View the webinar recording <https://vimeo.com/1079344667>

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⁸<https://www.ants.rwth-aachen.de/cms/iar/forschung/aktuelle-forschungsprojekte/~bkkrho/spare/?mobile=1&lid=1>

⁹https://www.fefco.org/sites/default/files/documents/2024-08-14_Best%20Practice%20Handbook%20for%20Improved%20Energy%20Efficiency_Online.pdf

¹⁰<https://www.eugreensource.org/>

¹¹<https://www.circularchoices.eu/>

¹²<https://www.eupia.org/key-topics/recycling/#paper>

¹³<https://www.fefco.org/sites/default/files/documents/FEFCO%20Activity%20Report%202023.pdf>

3

4EVERGREEN: A COLLABORATIVE PLATFORM THAT PERFECTS CIRCULARITY IN FIBRE-BASED PACKAGING

4evergreen is an alliance of over 110 organisations across the **fibre-based packaging** value chain. Its members include paper and board producers, packaging manufacturers, brand owners, retailers, recyclers, and waste management companies. The alliance also brings together suppliers of non-fibre materials such as inks and adhesives, technology providers, research institutions, and start-ups.

Together, these members are working to improve the circularity of fibre-based packaging. Their shared goal is to achieve a **90% recycling rate** by 2030, building on the current rate of 83,1% for paper and board packaging (Eurostat, 2022). To support this ambition, 4evergreen has developed a set of practical tools and guidelines, including:

- the **Recyclability Evaluation Protocol**¹⁴ describes the assessment and score calculation procedures of the technical recyclability of fibre-based packaging items and/or materials for three different types of paper recycling mill processes: conventional, flotation-deinking, and specialised. Following a beta release in December 2022, Version 1 was published in January 2025.
- the **Circularity by Design Guideline**¹⁵, now in its third version, helps companies design packaging compatible with recycling systems. In fact, the primary purpose of the document is to explain how different parameters, elements and materials of fibre-based packaging impact recycling processes and subsequent pulping reject recovery. It includes a decision tree and a checklist to support better design choices.

- the **Guidance on Improved Collection and Sorting**¹⁶ provides recommendations written based on best practices, which are intended to aid the implementation of future collection, sorting and recycling infrastructure, to meet EU legal requirements. The document was updated in 2024 to include new insights on sorting technologies, organic contamination, and recycling in hospitality and on-the-go settings.

These two latter deliverables were updated in late 2024, adding more knowledge to their circularity toolbox. The alliance also strongly emphasises communication and outreach. In 2024, it launched an Ambassadorship Programme¹⁷ and hosted its fifth Annual Conference¹⁸, which brought together industry leaders and policymakers. In 2024, 4evergreen celebrated the achievements of its members through the second edition of the Circularity Success Stories¹⁹, which highlighted innovative projects that contribute to the alliance's goals.

In 2025, 4evergreen is focusing on refining its tools and strengthening collaboration across the fibre-based packaging value chain. The alliance will also tackle barriers to packaging circularity and expand outreach through refreshed communications and stronger ties with industry partners. Read more about what we have achieved and what is waiting ahead in our latest Annual Report²⁰.

The deliverables are available on the 4evergreen website: <https://4evergreenforum.eu/about/guidelinesandprotocol>



¹⁴<https://4evergreenforum.eu/wp-content/uploads/4evergreen-Report2025-V8.pdf>

¹⁵<https://4evergreenforum.eu/wp-content/uploads/4evergreen-Circularity-by-Design3.pdf>

¹⁶<https://4evergreenforum.eu/wp-content/uploads/4evergreen-WS-3-2024.pdf>

¹⁷<https://4evergreenforum.eu/ambassadors/>

¹⁸<https://4evergreenforum.eu/4evergreen-alliance-discussed-key-developments-for-the-fibre-based-packaging>

¹⁹<https://4evergreenforum.eu/circularity-success-stories/>

²⁰<https://4evergreenforum.eu/wp-content/uploads/4evergreen-annual-report-2024.pdf>

4

DATA QUALITY: 2024 DATA

The data used to calculate recycling rates is collected by Cepi and comes from a questionnaire sent to its national member associations in 19 countries (Austria, Belgium, Czech Republic, Finland, France, Germany, Greece²¹, Hungary, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom). Cepi's national associations supply the data, collected from their members' mills and companies, as well as official sources where appropriate.

In case data is not supplied to Cepi within the requested deadline, it is estimated using different sources such as AFRY or Eurostat.

The data in this report includes PfR utilisation and trade plus paper and board production, trade and consumption for non-Cepi members of the EU-27 (Bulgaria, Croatia, Cyprus, Denmark, Estonia, Ireland, Latvia, Lithuania, Luxembourg and Malta), and Switzerland. The data is obtained from AFRY Management Consulting.

After submission to Cepi, the data may be adjusted by the source, in particular the trade data obtained from customs authorities. Cepi takes the adjustments into account, with the figures being considered as final and published in the subsequent report (e.g. 2023 figures are given in this report).

Following this rigorous process, the 2023 recycling rate was confirmed at 79.3%.

For certain countries, the calculation of the mass of recycled paper and board based on PfR utilisation and net trade has not produced a result considered to adequately reflect reality. Consequently, recycling in these cases has been based on actual paper and board collection for the specific purpose of recycling.

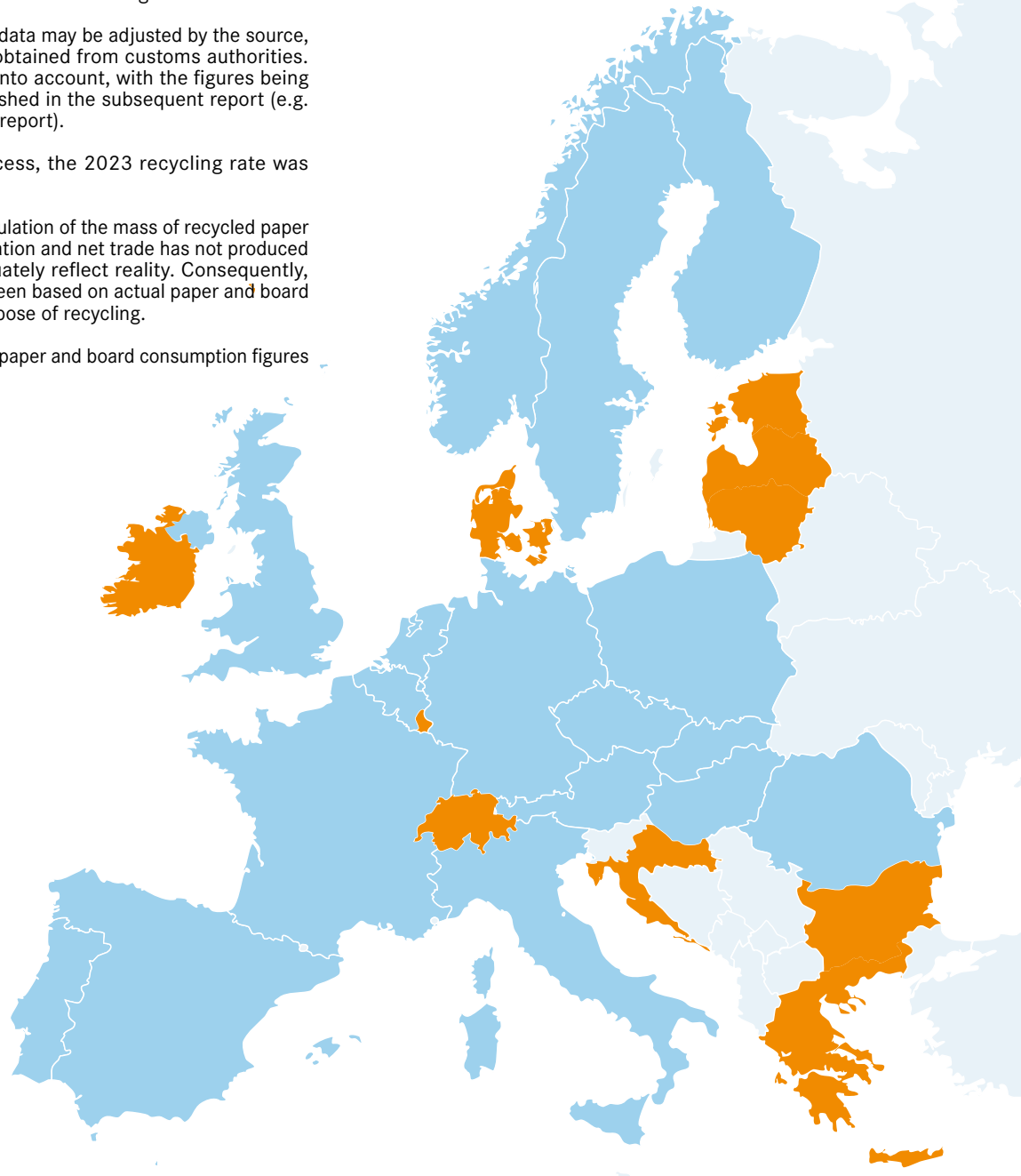
Other countries have adjusted paper and board consumption figures with the opposite impact.

All historical annual recycling rates have been recomputed based on the revised calculation methodology.

Cepi has commissioned an external verification of the recycling rate calculation since 2000 (see Assurance Reports 2011 - 2015 by EY, 2006 - 2010 by PricewaterhouseCoopers and 2000 - 2005 by Pöyry in the respective Annual Reports). Since 2015, external verification has been conducted by Deloitte and this contract has been extended for the ongoing period of the European Declaration.

As an annual exercise, data quality will be assessed using a method recently adopted by the European Commission for organisation and product environmental footprints. Specifically, this will cover geographical representativeness, time-related representativeness, completeness and the uncertainty parameter. Cepi will publish the assessment results on its website.

- Data collected by Cepi members
- Data obtained from AFRY Management Consulting



²¹Greece is a Cepi member as of 1 January 2024.

The European Paper Recycling Council (EPRC) was set up as an industry self-initiative in November 2000 to monitor progress towards meeting the paper recycling targets set out in the 2000 European Declaration on Paper Recycling. Since then, the commitments in the Declaration are renewed every five years.

The EPRC has committed itself to meeting both a voluntary recycling rate target of 76% in the EU-27 plus the United Kingdom, Switzerland and Norway by 2030 as well as qualitative targets in areas such as waste prevention, ecodesign, research and development, education and information.

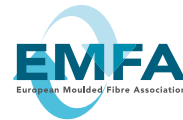
Signatories



www.cepi.org



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www.emfa.eu



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