Introduction

Welcome to the latest issue of Cepi's Annual Statistics, covering data for 2024.

Cepi was founded in 1992 and annual statistics cover the period 1991 – 2024. Cepi represents 90% of the European* pulp and paper industry in terms of production.

The Confederation of European Paper Industries (Cepi) is a Brussels-based non-profit making organisation, which represents the European pulp and paper industry towards the European Institutions. Through its member associations, Cepi also represents approximately 470 pulp, paper and board producing companies across Europe, ranging from small and medium-sized enterprises, to multinationals (counting once companies with a presence in more than one Cepi country).

Since the 1st January 2024, EVICHE, the Union of Greek Paper Mills, is member of Cepi. Historic data included in this report has been updated to include figures from the Greek Paper and Board industry. See more information page 96.

Tissue Paper : as of 1 January 2025, the paper category "Sanitary and Household" becomes "Tissue Paper", resulting from a joint Cepi and European Tissue Symposium (ETS) decision to ensure a more consistent and accurate approach to data collection and sector recognition.

* Europe minus Russian Federation.

Circular Economy in the European Pulp and Paper Industry

The European Pulp and Paper industry plays a big role in the circular economy.
This icon has been introduced in the report to highlight the many areas that are circular in our sector.
More information on circular economy can be found on Cepi's website
https://www.cepi.org/policy-area/sustainability-circularity

Members of Cepi in 2024

Members of Cepi are the National Associations of the 19 following countries:
Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

Data Collection

This report mainly aggregates data from 2023 and 2024 voluntarily provided by Cepi member National Associations and, where it is complemented by data other than from these members, the sources are clearly stated.
The data result from the answers to the questionnaires sent by Cepi to its members.
The National Associations supply the data, which they collect from their member mills/companies plus official sources where appropriate.

Data quality and compliance with EU competition rules



Responsibility for the collection and the management of the statistical data lies with the Cepi statistics department, which is constantly working to improve the quality of the data reported. In order to further increase the reliability and credibility of the data reported, Cepi has commissioned Deloitte to issue a limited assurance statement on the data quality rating that Cepi carried out on its core indicators in the statistics report. The detailed data quality rating and the limited assurance statement will be available soon on http://www.Cepi.org/statistics

The compliance of the data produced with the EU competition rules is periodically checked by a law firm.

Definitions

Notes and definitions related to the terms and sources used in this report can be found on pages 95 to 109.

More information and details related to the definitions and descriptions of terms and categories used in the European Pulp and Paper Industry can be found in the Cepi booklet "Pulp and Paper Industry - Definitions and Concepts":

https://www.cepi.org/wp-content/uploads/2025/01/2025-CEPI-Definitions-and-Concepts.pdf

More Information

More statistics reports (annual, quarterly and monthly) are available by subscription:
- Please visit our website https://www.cepi.org/statistics-order-form/
- Or contact

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Countries members of Cepi



Members of Cepi in 2024

Members of Cepi are the National Associations of the 19 following countries: Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

The list of National Associations and their details are available on Cepi website:
https://www.cepi.org/about-cepi/members/

Key Figures

Cepi Pulp and Paper Industry*

	1991	2000	2010	2020	**2023**	**2024**	**% Change 2024/2023**	**% Change 2024/2020**
Industry Structure								
Number of Companies[1]								
Number of Mills								
Pulp								
Paper and Board								
Number of Paper Machines								
Employment								
Turnover[2] (Million Euros)								
Investments[2] (Million Euros)								
Added Value[2] (Million Euros)								
Total Pulp[3] ('000 Tonnes)								
Production Capacity								
Operating Rate								
Production								
Total Deliveries[4]								
Cepi Internal Deliveries								
Consumption[8] (Apparent)								
Market Pulp ('000 Tonnes)								
Production								
Exports to Outside Cepi								
Imports from Outside Cepi								
Trade Balance with Outside Cepi								
Consumption[8] (Apparent)								
Exports/Production								
Imports/Consumption								
Paper and Board ('000 Tonnes)								
Production Capacity								
Operating Rate								
Production								
Total Deliveries[4]								
Cepi Internal Deliveries								
Exports to Outside Cepi								
Imports from Outside Cepi								
Trade Balance with Outside Cepi								
Consumption[8] (Apparent)								
Exports/Production								
Imports/Consumption								

Key Figures

Cepi Pulp and Paper Industry*

	1991	2000	2010	2020	**2023**	**2024**	**% Change 2024/2023**	**% Change 2024/2020**
Wood ('000 m³)								
Consumption								
Hardwood								
Softwood								
Imports/Consumption								
Domestic/Consumption								
Paper for Recycling ('000 Tonnes)								
Collection								
Utilisation								
Exports to Outside Cepi								
Imports from Outside Cepi								
Trade Balance with Outside Cepi								
Utilisation Rate								
Exports/Collection								
Imports/Utilisation								
Recycling Rate in Europe[5] ('000 Tonnes)								
Paper for Recycling Collection								
Paper and Board Apparent Consumption								
Recycling Rate								
Non-Fibrous Materials ('000 Tonnes)								
Consumption								
Energy and Environment[6]								
Fuels Consumption ('000 Tj)								
Biomass Use (%) of Total FC								
Electricity Consumption (GWh)								
% of Electricity produced through CHP[7]								
CO_2 Emissions (Cepi Countries)								
CO_2 Direct Emissions (Mt)								
Specific CO_2 Emissions (kt CO_2 / kt of product)								

**See Definitions on Pages 95 to 110*

[1] *470 groups or corporations in 2024, when considering the entities established in one or several countries that are not bound together by legal and/or financial links.*

[2] *2023 and 2024 figures are based on members' data, Eurostat and estimates for some countries.*

[3] *Total Pulp = Market Pulp + Integrated Pulp.*

[4] *Total Deliveries are greater than production due to the use of difference sources and to transit in big harbours.*

[5] *Europe means EU-27 countries plus Norway, Switzerland and the United Kingdom - Recycling Rate in 2024: see note page 68.*

[6] Greece, *Hungary, Romania and Slovenia are not included in energy and environment data.*

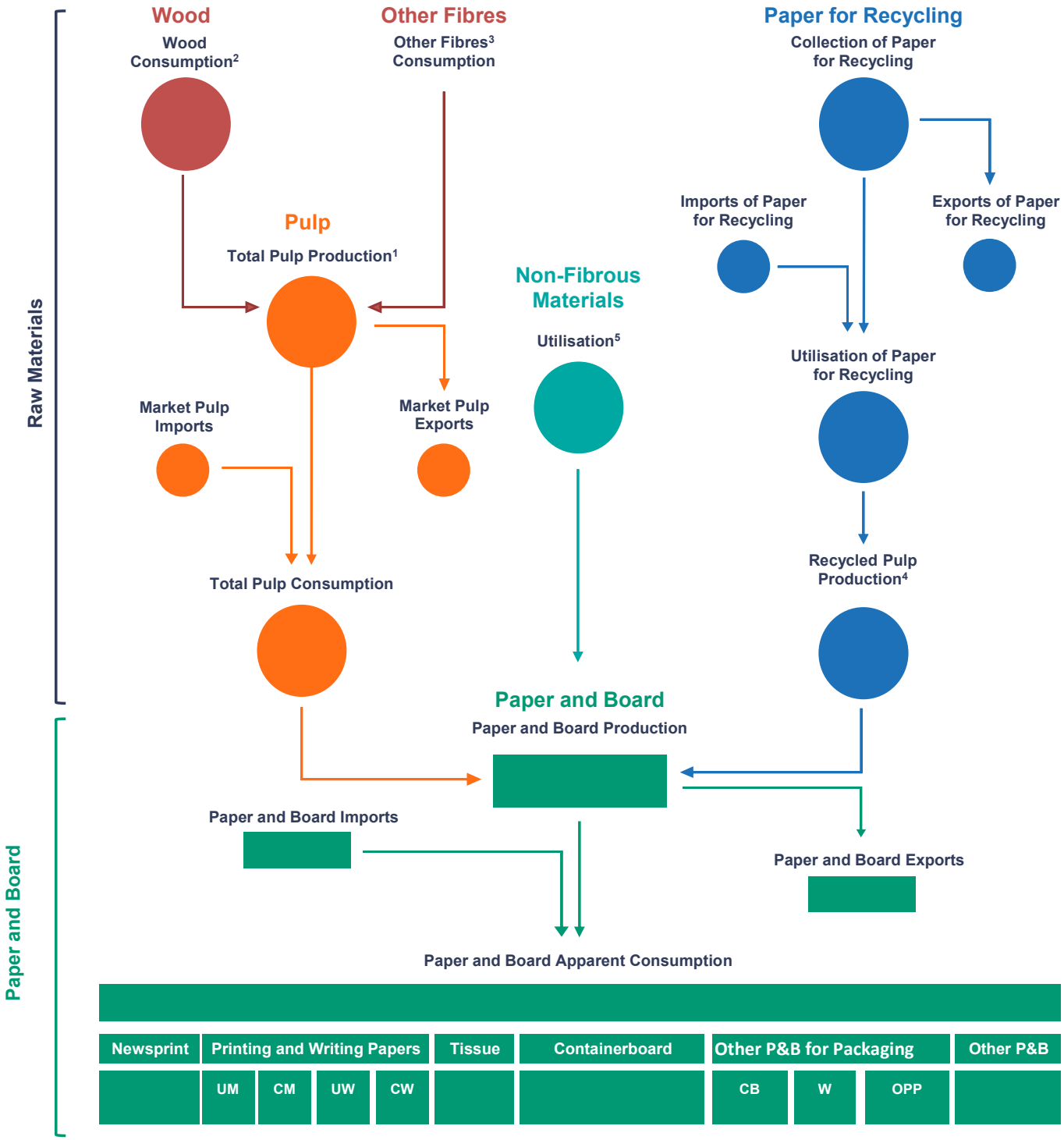
[7] *CHP: combined heat and power (compared to total on-site electricity generation).*

[8] *Cepi Apparent Consumption = production - exports to outside Cepi + imports from outside Cepi (see note page 100 & 101).*

From Raw Material to Paper and Board

Pulp and Paper Industry in 2024

Figures in Million Tonnes



Paper and Board Consumption = Production + Imports from outside Cepi - Exports to outside Cepi (see note page 101).

UM = Uncoated Mechanical - CM = Coated Mechanical - UW = Uncoated Woodfree - CW = Coated Woodfree

CB = Carton Board - W = Wrappings - OPP = Other Paper and Board for Packaging - Tissue = Tissue Paper (excuding converted products)

[1] *of which Integrated Pulp 18.9 Million Tonnes*

[2] *Wood consumption: see definition on page 104.*

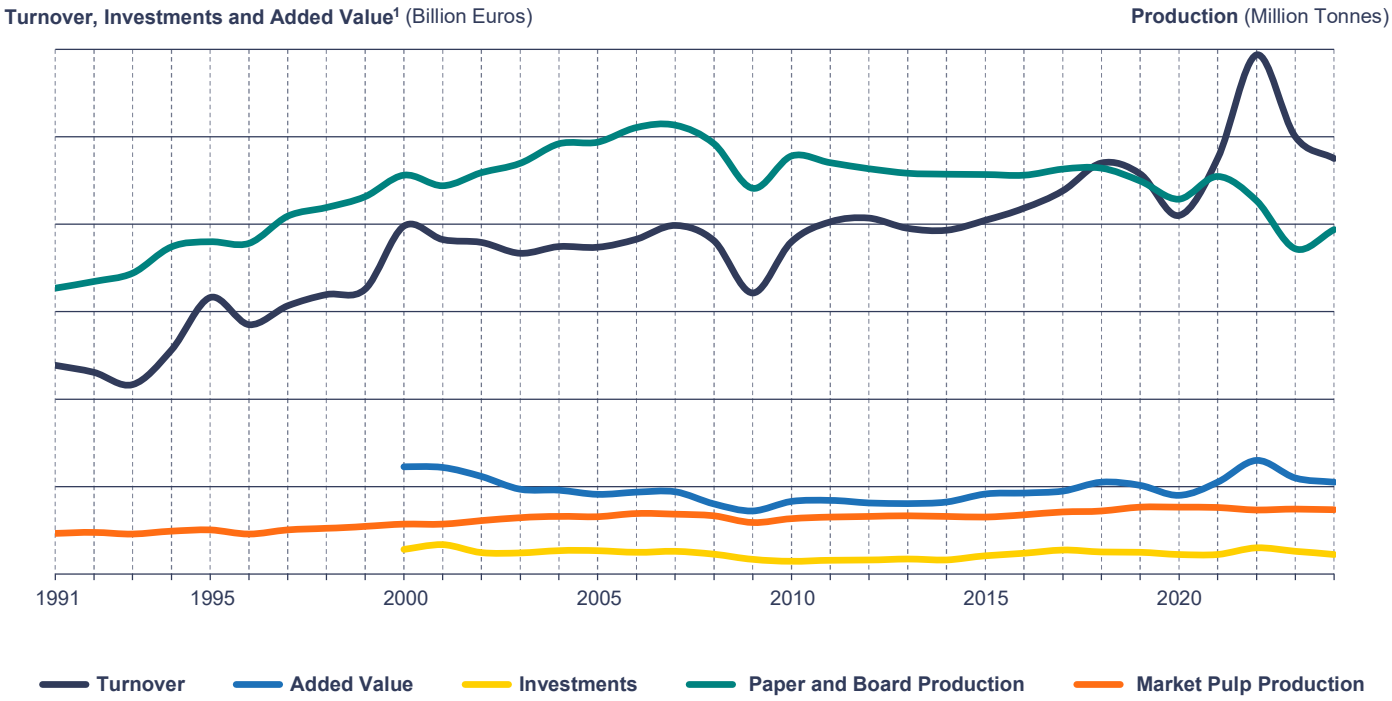
[3] *Straw, Bamboo, Bagasse, …*

[4] *Estimated by Cepi*

[5] *See definition page 104.*

Turnover, Added Value and Investments

Production, Turnover, Added Value and Investments



Turnover by Country

Million Euros	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Austria							
Belgium							
Czech Republic							
Finland							
France							
Germany							
Greece							
Hungary							
Italy							
Netherlands							
Norway							
Poland							
Portugal							
Romania							
Slovakia							
Slovenia							
Spain							
Sweden							
United Kingdom							
Total Cepi							

n.a. : Figures have been estimated by Cepi and are included in Total Cepi.

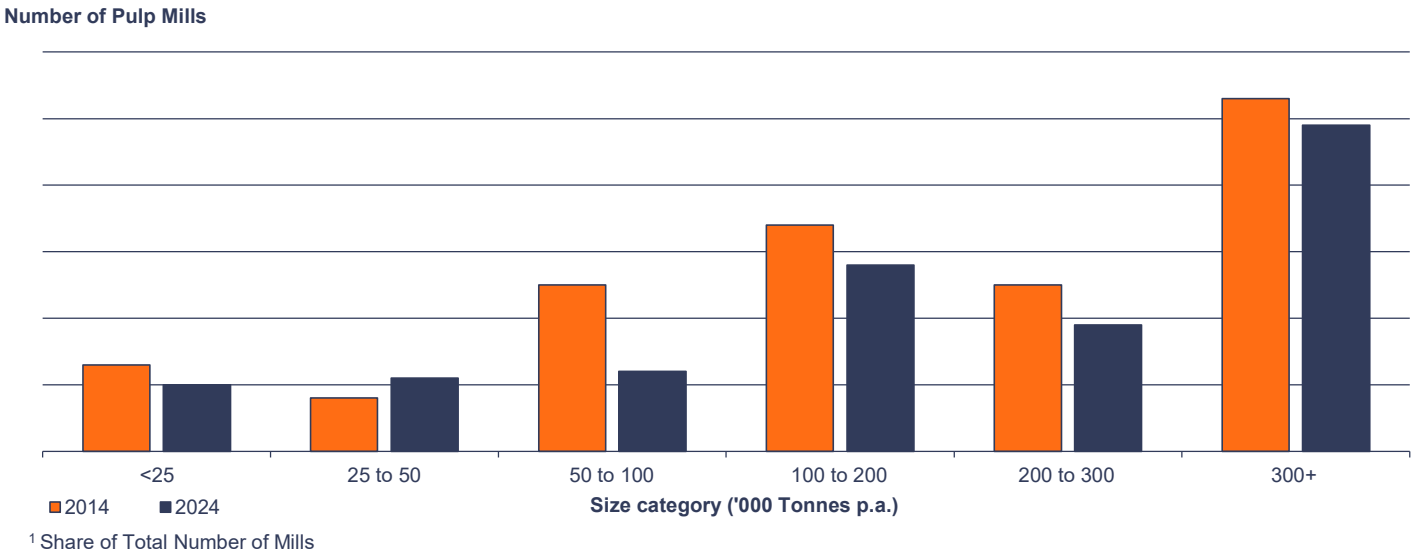
Finland: as from 2013, 17 companies have been reclassified and therefore added to turnover data.

France: Turnover includes all pulp mills (integrated and market pulp producers)

2023: data for some countries has been estimated by Cepi (Source: Eurostat).

[1] *Cepi Region - 2023 and 2024 figures are based on members' data, Eurostat and estimates for some countries.*

Number of Pulp Mills by Volume in 2014 and 2024

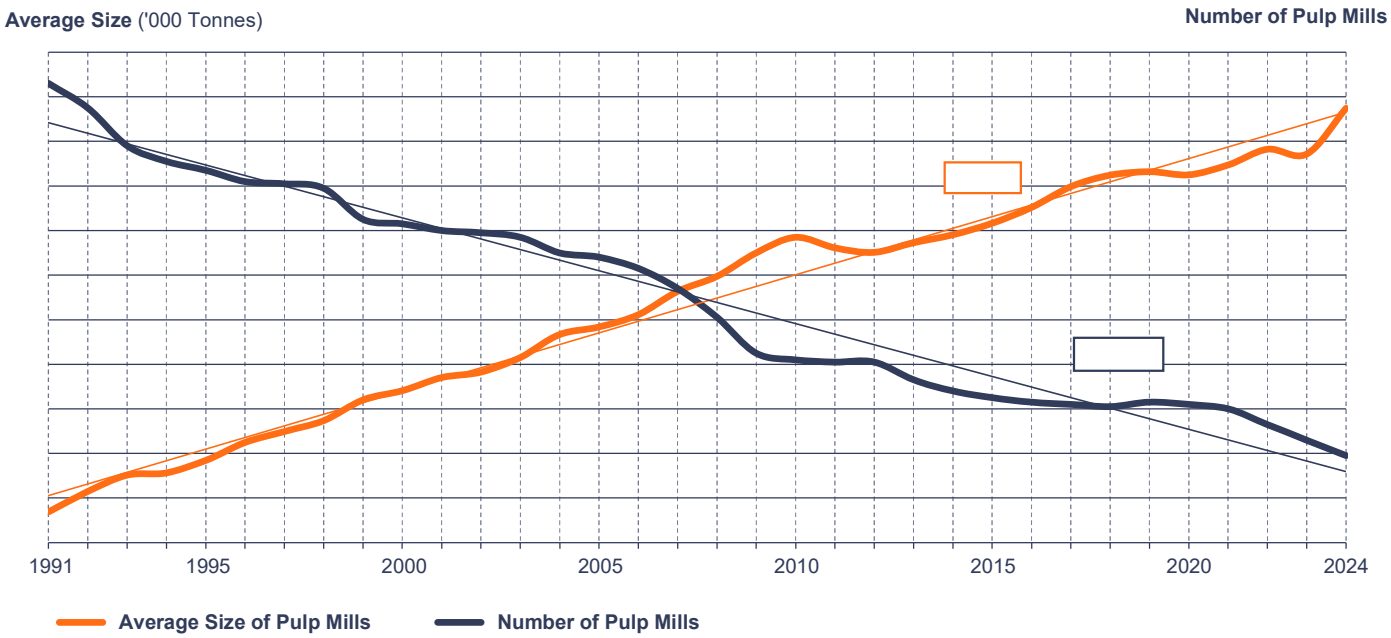


[1] Share of Total Number of Mills

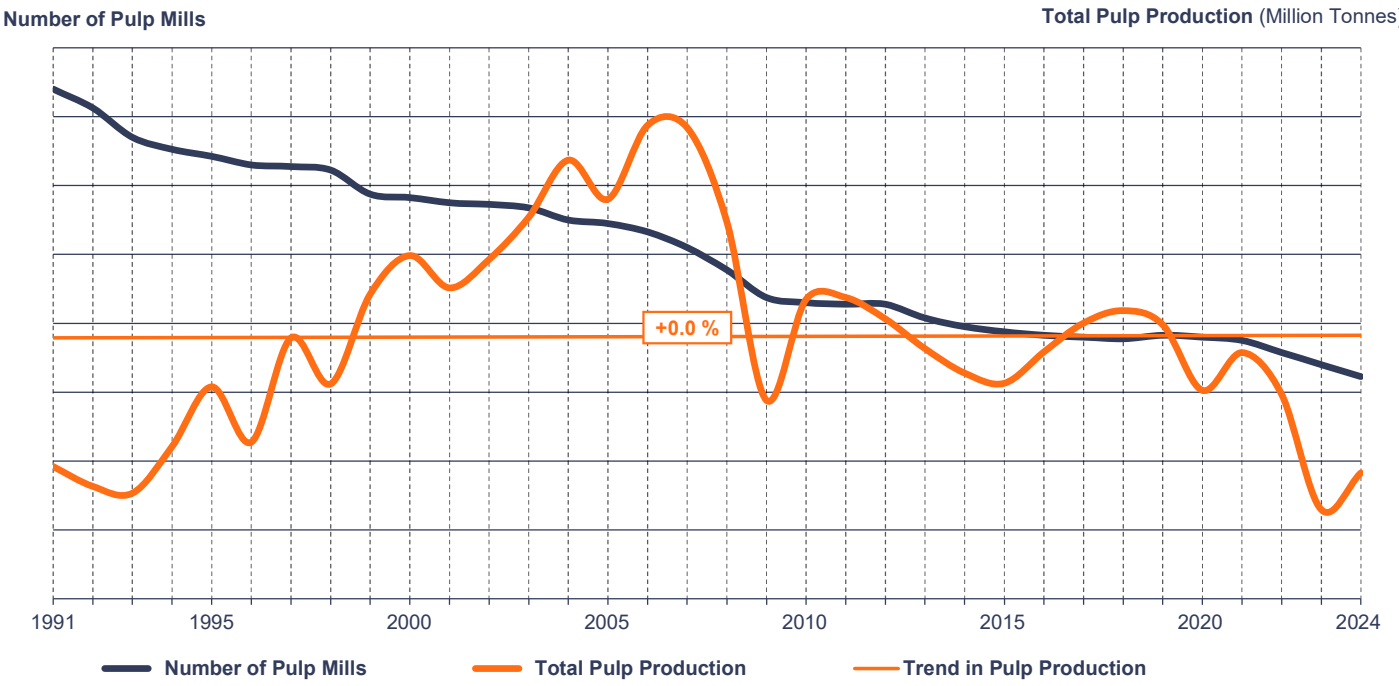
Number of Pulp Mills by Volume

Size Category ('000 Tonnes p.a.)	1995	2000	2010	2015	2020	2023	2024	% Share of Total	Chge 2024/2023	Chge 2024/2010
<25										
25 to 50										
50 to 100										
100 to 200										
200 to 300										
>300										
Total Mills										

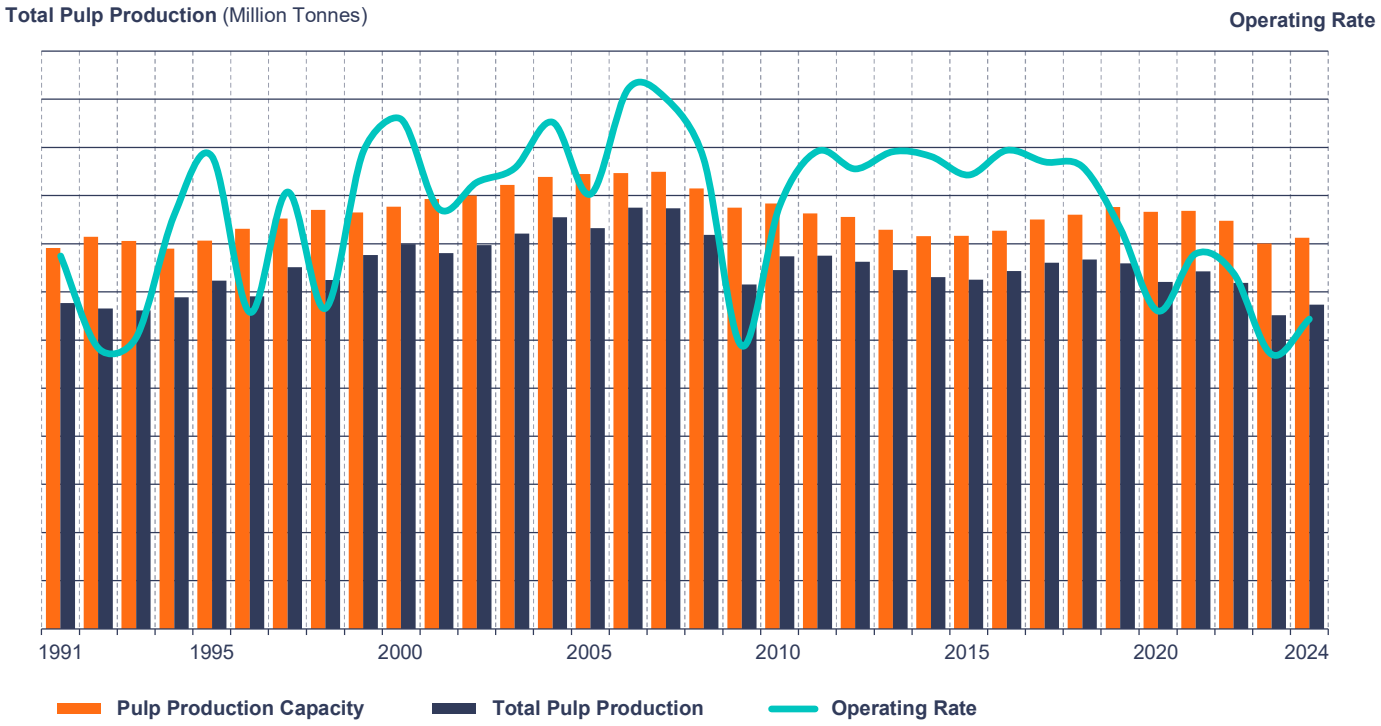
Number of Pulp Mills and Average Size (Capacity)



Number of Pulp Mills and Total Pulp Production



Total Pulp Production and Capacity



Number of Pulp Mills by Grade in 2024

	Mechanical	Semi-Chemical	Chemical Sulphite	Chemical Sulphate	Total Woodpulp	Other Pulp	Total
Austria							
Belgium							
Czech Republic							
Finland							
France							
Germany							
Greece							
Hungary							
Italy							
Netherlands							
Norway							
Poland							
Portugal							
Romania							
Slovakia							
Slovenia							
Spain							
Sweden							
United Kingdom							
Total Cepi							

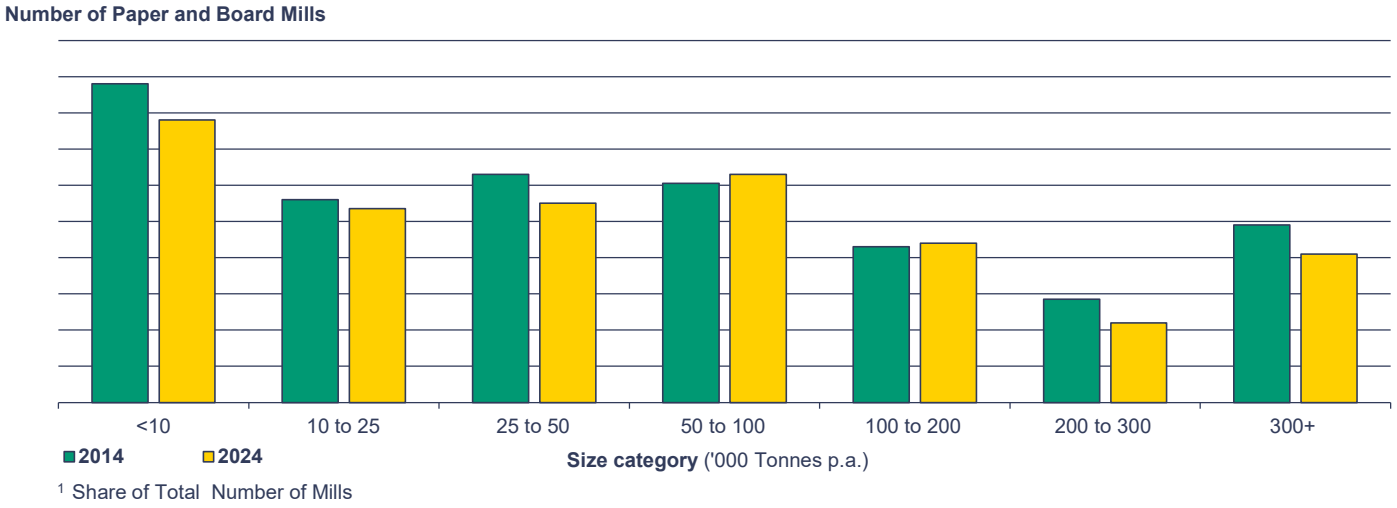
Greece, Hungary, Slovakia and Slovenia: Figures have been estimated by Cepi

Number of Pulp Mills by Volume in 2024

'000 tonnes	Less than 25	25 - 50	50 - 100	100 - 200	200 - 300	Over 300	Total
Austria							
Belgium							
Czech Republic							
Finland							
France							
Germany							
Greece							
Hungary							
Italy							
Netherlands							
Norway							
Poland							
Portugal							
Romania							
Slovakia							
Slovenia							
Spain							
Sweden							
United Kingdom							
Total Cepi							

Greece, Hungary, Slovakia and Slovenia: Figures have been estimated by Cepi

Number of Paper and Board Mills by Volume in 2014 and 2024

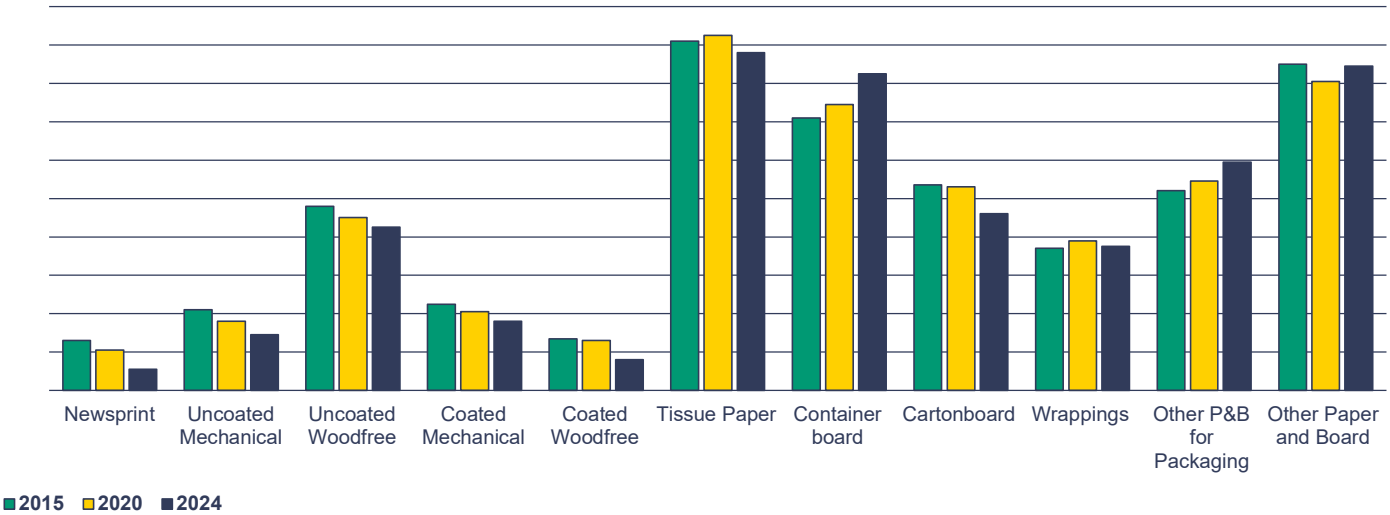


[1] Share of Total Number of Mills

Number of Paper and Board Mills by Volume

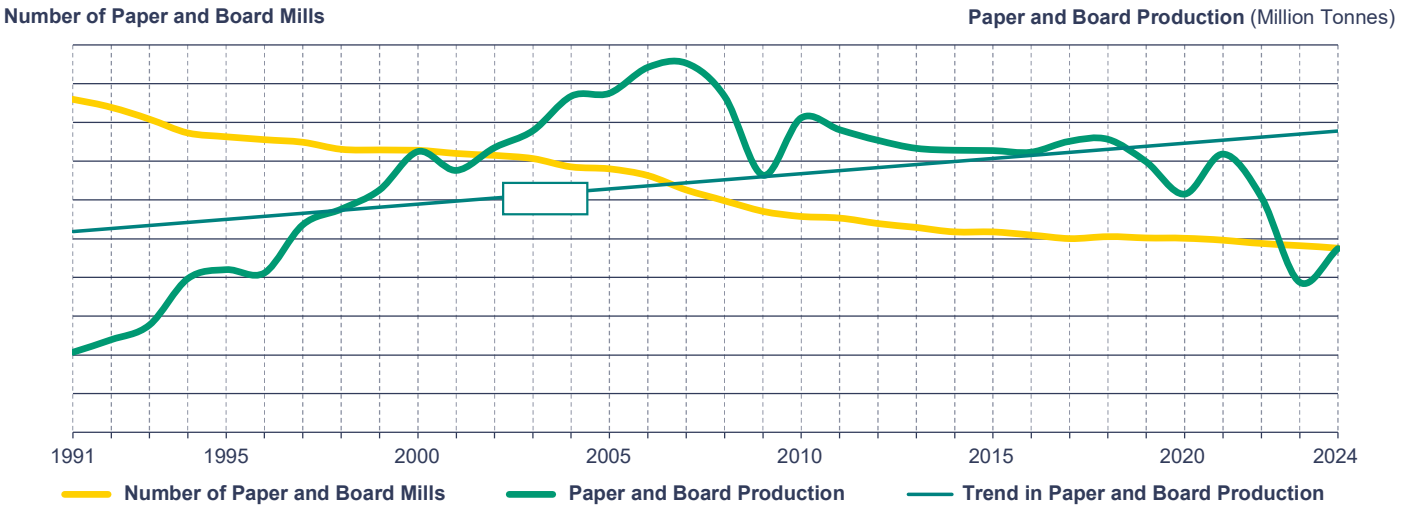
Size Category ('000 Tonnes p.a.)	1995	2000	2010	2015	2020	2023	2024	% Share of Total	Chge 2024/2023	Chge 2024/2010
<10										
10 to 25										
25 to 50										
50 to 100										
100 to 200										
200 to 300										
>300										
Total Mills										

Number of Paper and Board Mills by Grade[1]

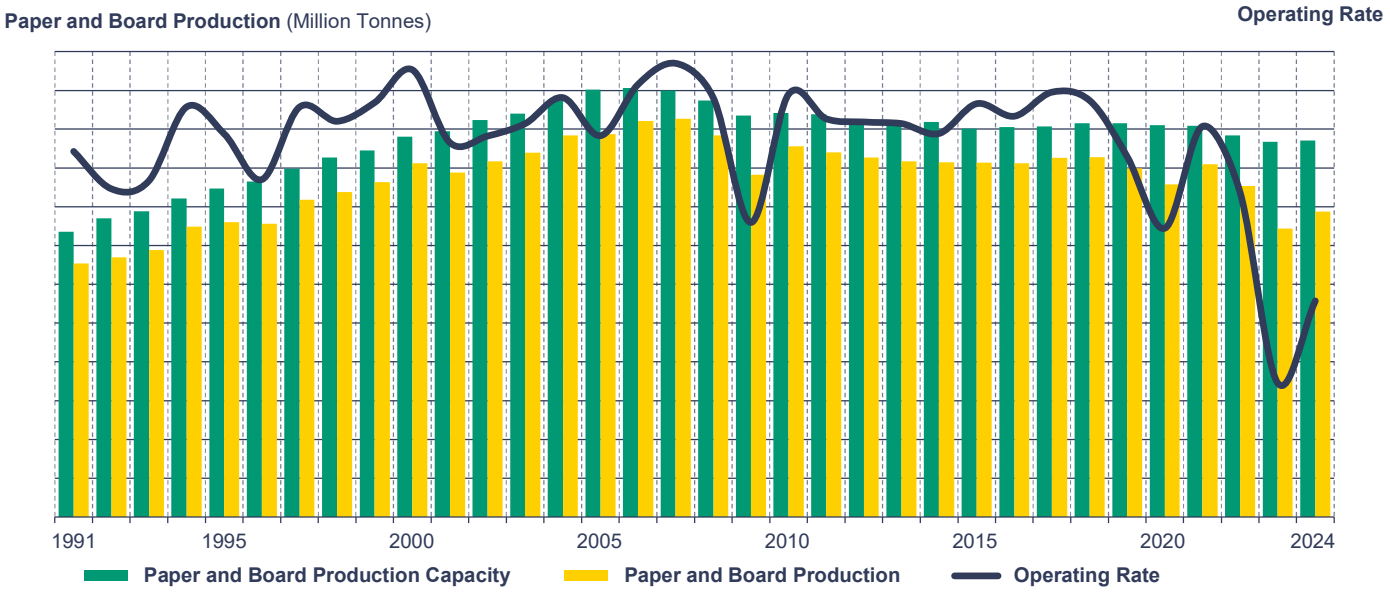


[1] *Mills producing more than one grade are counted for each of the grades they produce.*
The numbers of mills per grade cannot therefore be added together to obtain the total number of paper and board mills.

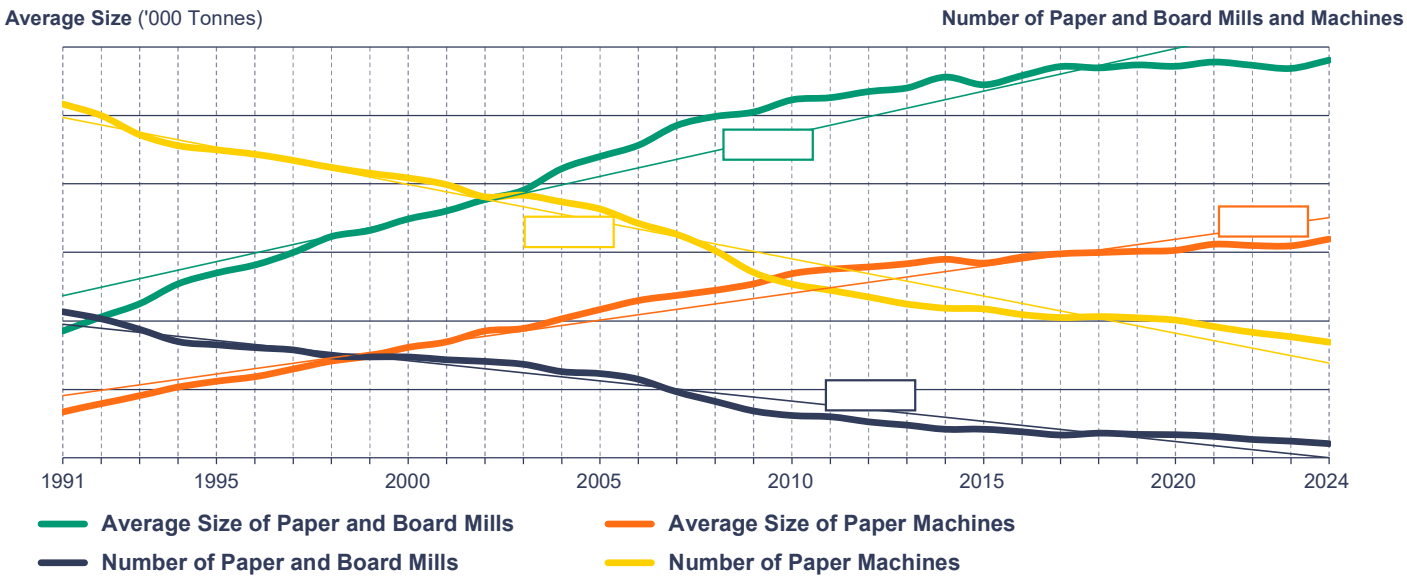
Number of Paper and Board Mills and Paper and Board Production



Paper and Board Production and Capacity



Number of Paper and Board Mills and Machines and Average Size (Capacity)

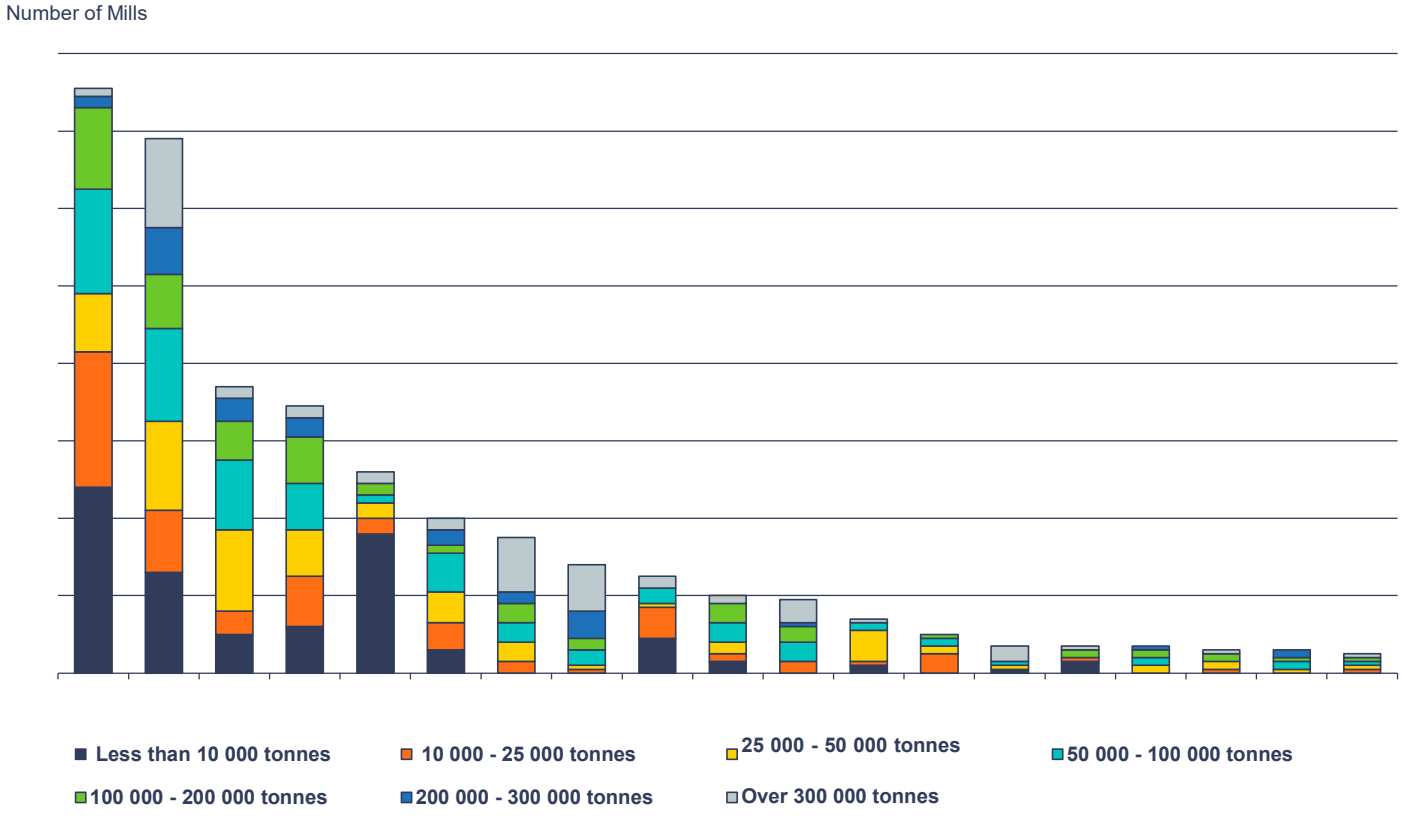


Number of Paper and Board Mills by Volume in 2024

'000 Tonnes	Less than 10	10 - 25	25 - 50	50 - 100	100 - 200	200 - 300	Over 300	Total
Austria								
Belgium								
Czech Republic								
Finland								
France								
Germany								
Greece								
Hungary								
Italy								
Netherlands								
Norway								
Poland								
Portugal								
Romania								
Slovakia								
Slovenia								
Spain								
Sweden								
United Kingdom								
Total Cepi								

Greece, Hungary, Slovakia and Slovenia: Figures have been estimated by Cepi

Number of Paper and Board Mills by Country and by Volume in 2024



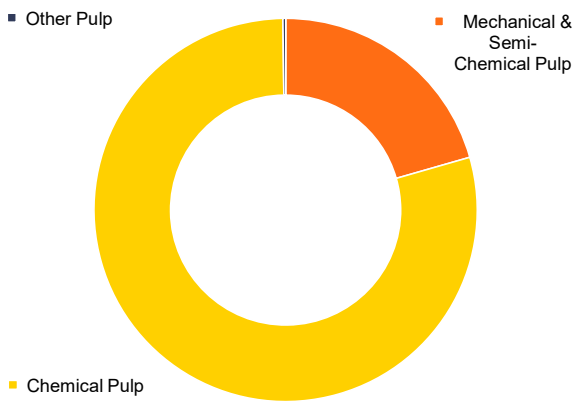
Total Pulp[1] Production by Grade

'000 Tonnes	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Mechanical & Semi-Chemical Pulp								
Sulphite Pulp								
Sulphate Pulp								
Total Chemical Pulp								
Total Woodpulp								
Other Pulp								
Total Pulp								

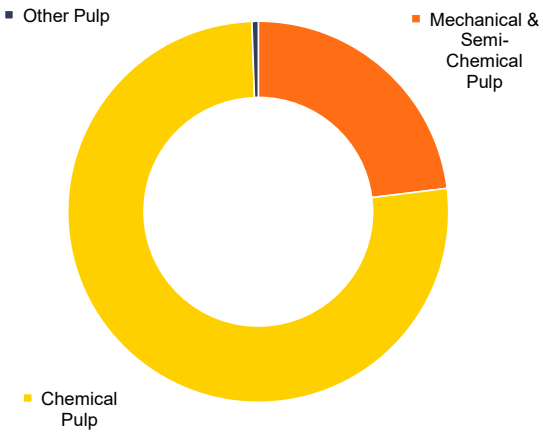
Of which **Market Pulp Production by Grade**

'000 Tonnes	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Mechanical & Semi-Chemical Pulp								
Sulphite Pulp								
Sulphate Pulp								
Total Chemical Pulp								
Total Woodpulp								
Other Pulp								
Total Pulp								

Total Pulp[1] Production in 2024

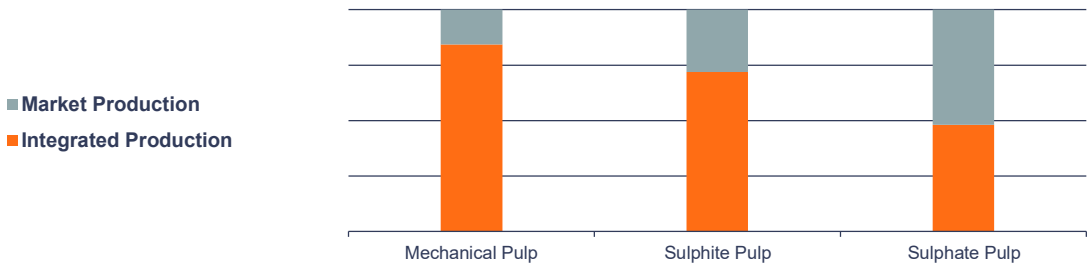


Total Pulp[1] Production Capacity in 2024



[1] *Total Pulp = Integrated Pulp + Market Pulp*

Integrated and Market Pulp Production by Grade in 2024

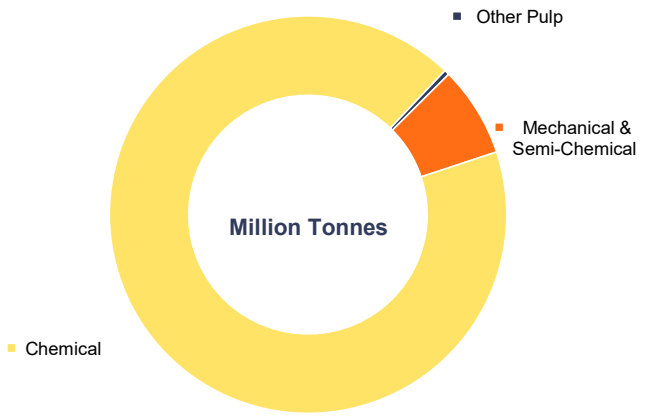


Pulp Production, Trade and Consumption

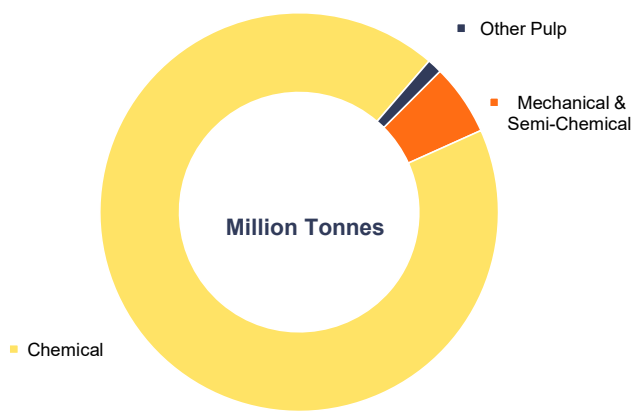
'000 Tonnes	Production A_1 Market Pulp			Production A_2 Integrated Pulp			Production $A = A_1 + A_2$ Total Pulp[1]			Deliveries B Internal Deliveries		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Mechanical & Semi-Chemical												
Sulphite Pulp												
Sulphate Pulp												
Total Chemical Pulp												
Total Woodpulp												
Other Pulp[3]												
Total Pulp												
EU-27 Countries[2]												

Market Pulp Production, Trade and Consumption in 2024

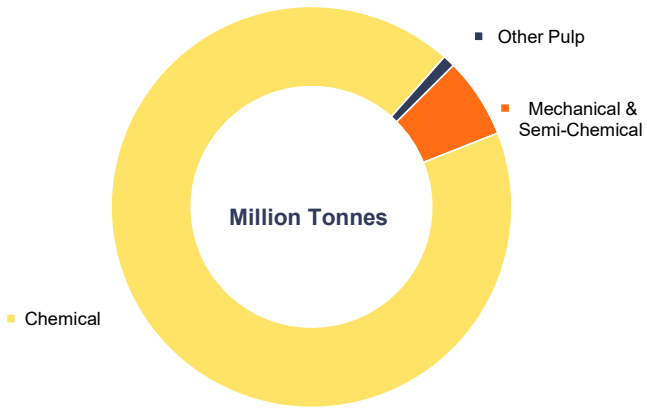
Market Pulp Production



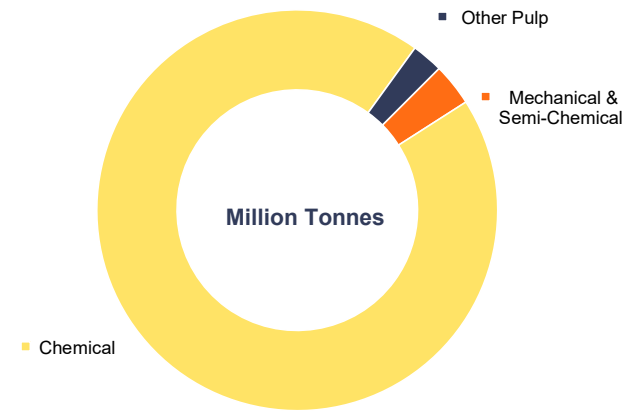
Market Pulp Consumption



Market Pulp Exports



Market Pulp Imports



[1] *Total Pulp = Integrated Pulp + Market Pulp*

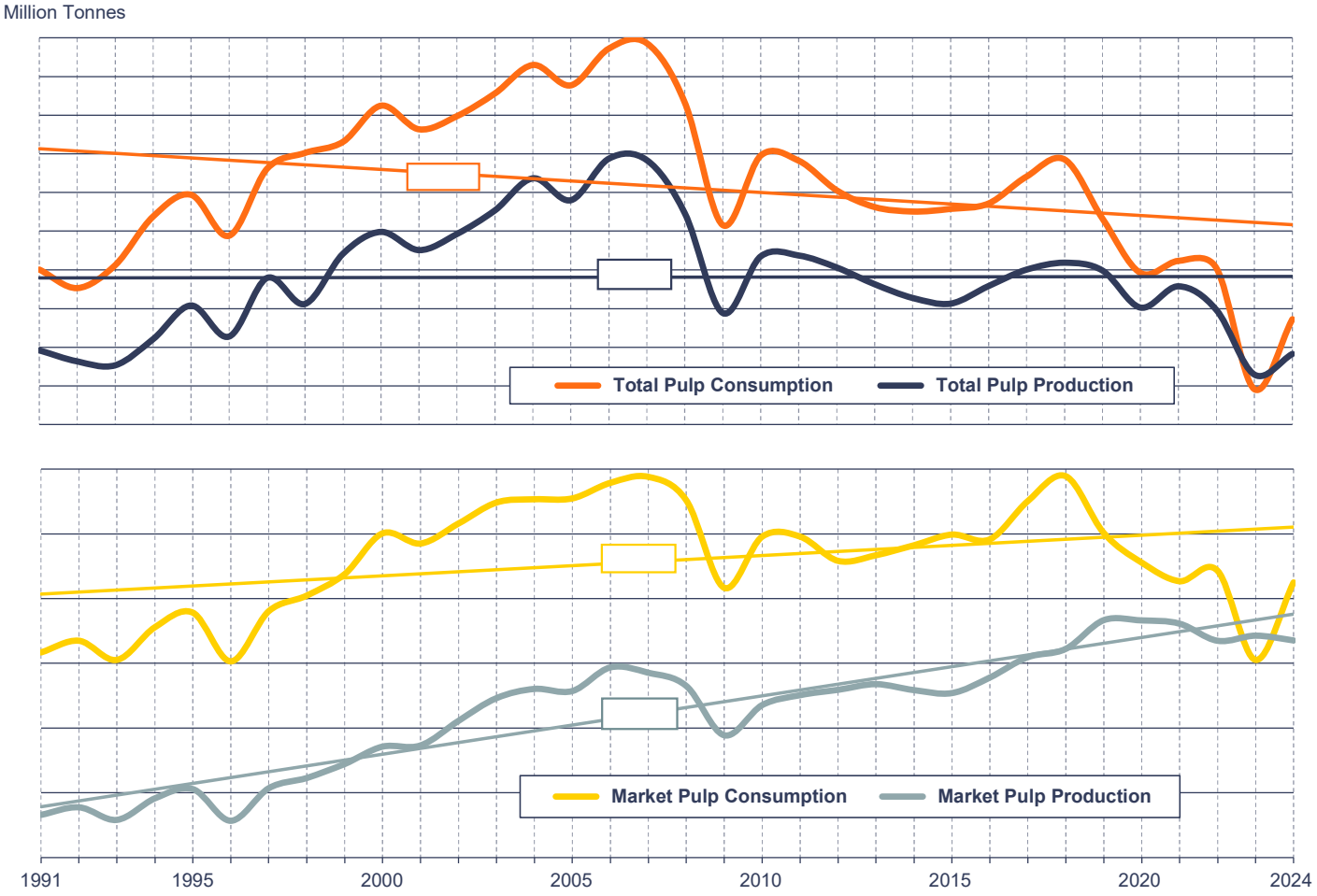
[2] *Data for EU countries not members of Cepi has been estimated (Source: Fastmarkets, Eurostat - See page 98).*
More data related to EU-27 area can be found on page 29.

[3] *Other Pulp: Pulp produced from fibres other than wood, such as sugar cane bagasse, wheat straw, kenaf, cotton rags and hemp.*

Pulp Production, Trade and Consumption

'000 Tonnes	Trade						Consumption[4]					
	C Exports[2]			D Imports[2]			$E_1 = A_1+D-C$ Market Pulp			E = A+D-C Total Pulp[1]		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Mechanical & Semi-Chemical												
Sulphite Pulp												
Sulphate Pulp												
Chemical Pulp												
Woodpulp												
Other Pulp[3]												
Total Pulp												
EU-27 Countries[5]												

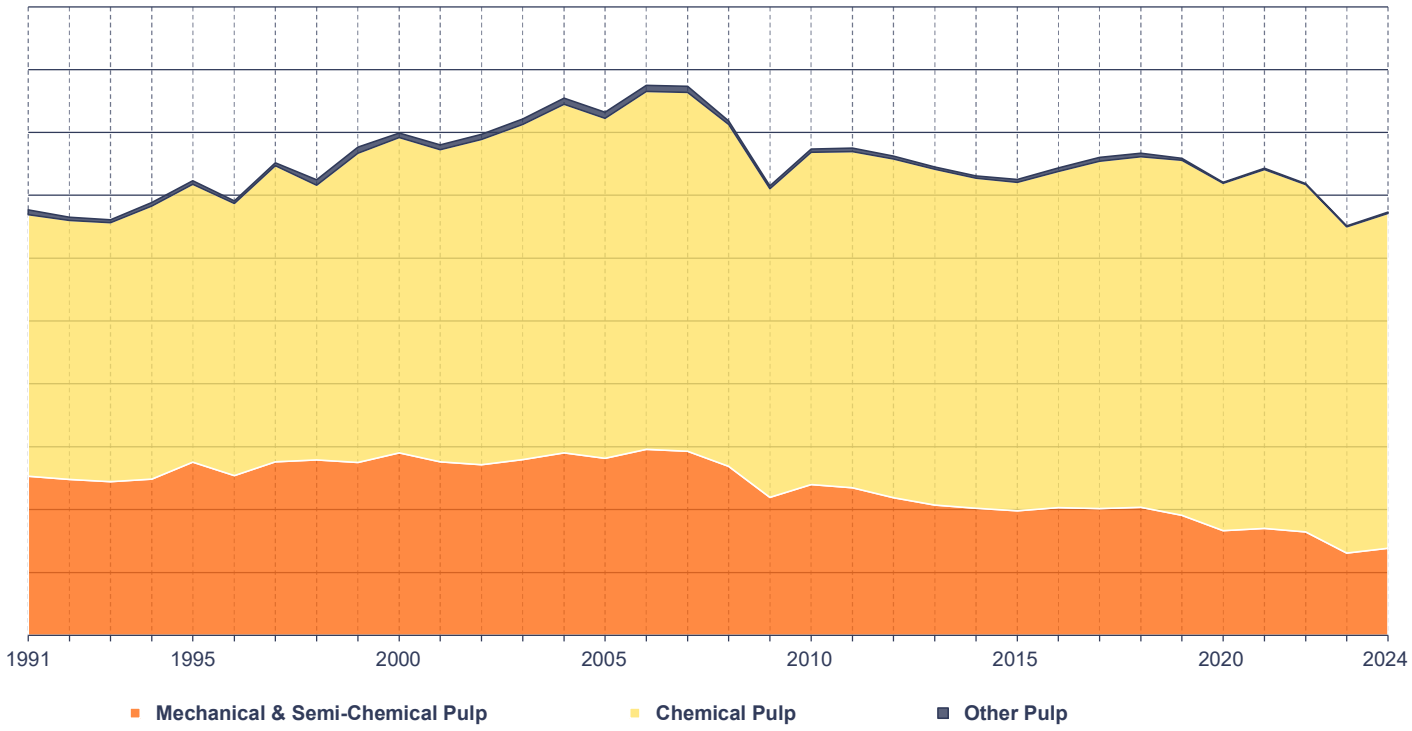
Market Pulp and Total Pulp[1] Production and Consumption



[1] *Total Pulp = Integrated Pulp + Market Pulp.*
[2] *Exports and Imports to and from countries outside Cepi or outside EU.*
[3] *Other Pulp: Pulp produced from fibres other than wood, such as sugar cane bagasse, wheat straw, kenaf, cotton rags and hemp.*
[4] *Total Cepi Consumption: production - exports to outside Cepi + imports from outside Cepi (see note page 99).*
[5] *Data for EU countries not members of Cepi has been estimated (Source: Fastmarkets, Eurostat - See page 97).*
More data related to EU-27 area can be found on page 29.

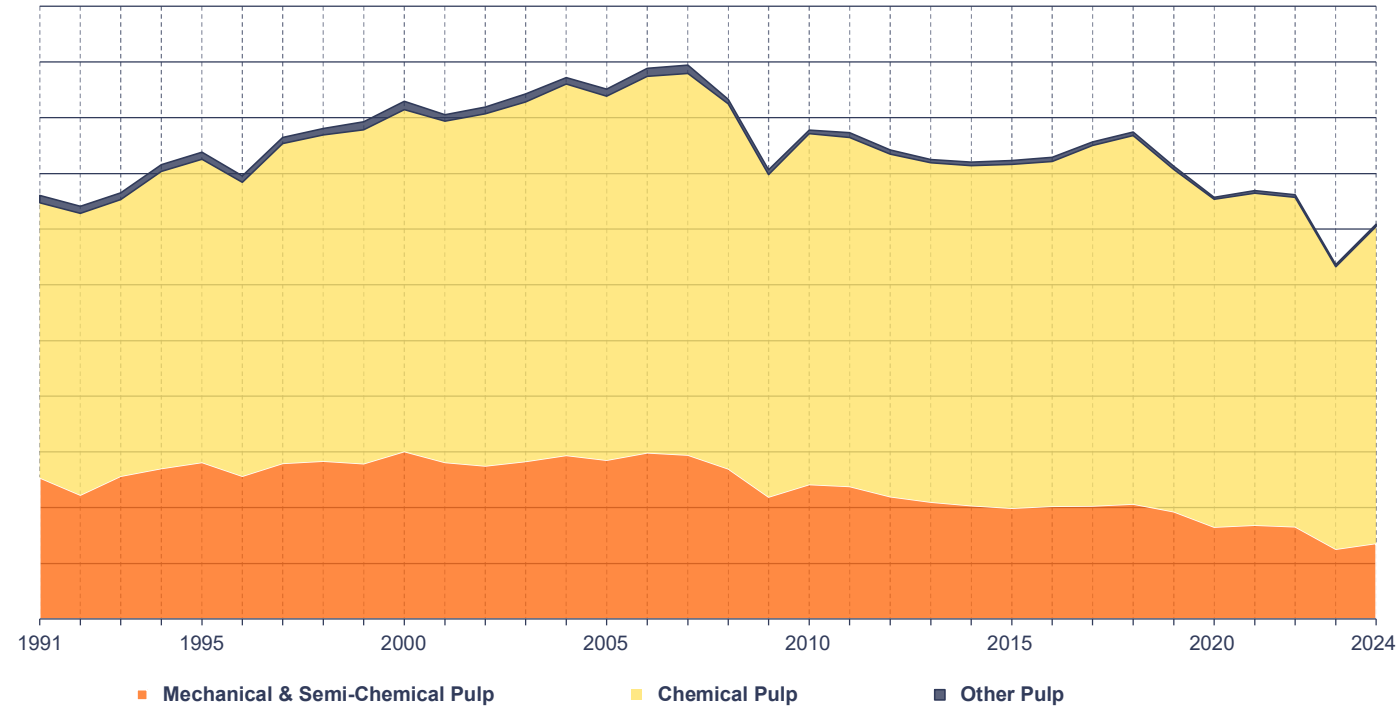
Total Pulp[1] Production by Grade

Million Tonnes



Total Pulp[1] Consumption by Grade

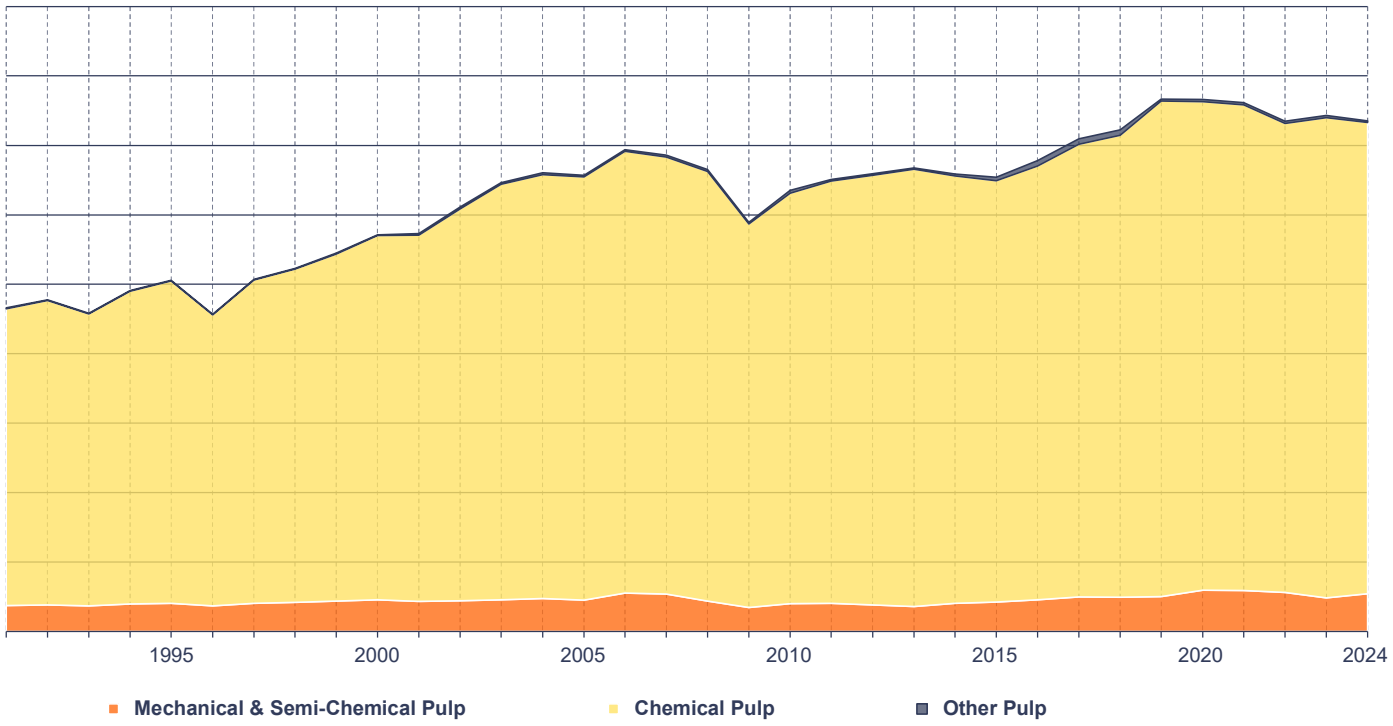
Million Tonnes



[1] *Total Pulp = Integrated Pulp + Market Pulp*

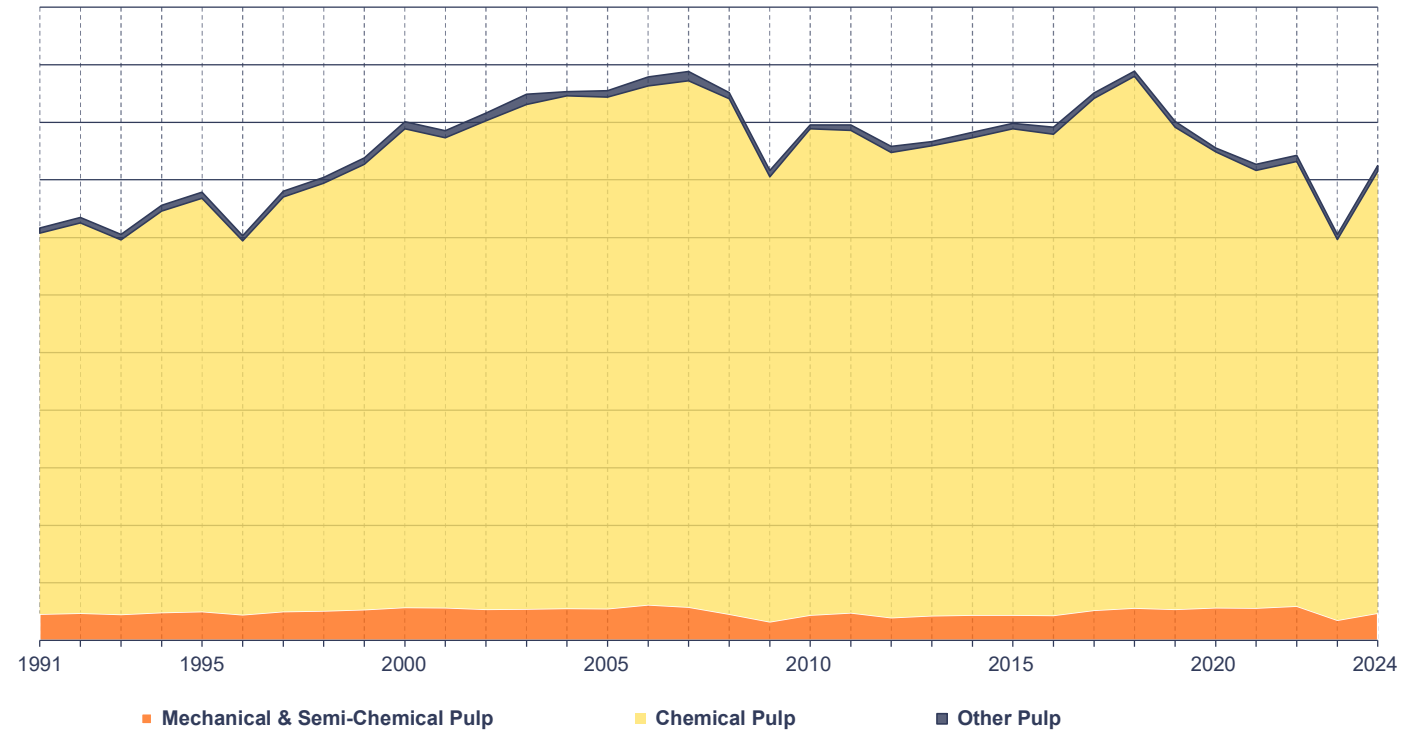
Market Pulp Production by Grade

Million Tonnes



Market Pulp Consumption by Grade

Million Tonnes



Market Pulp Exports to Other Regions

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]							
North America							
Latin America							
Asia							
Rest of the World							
Total							

Market Pulp Imports from Other Regions

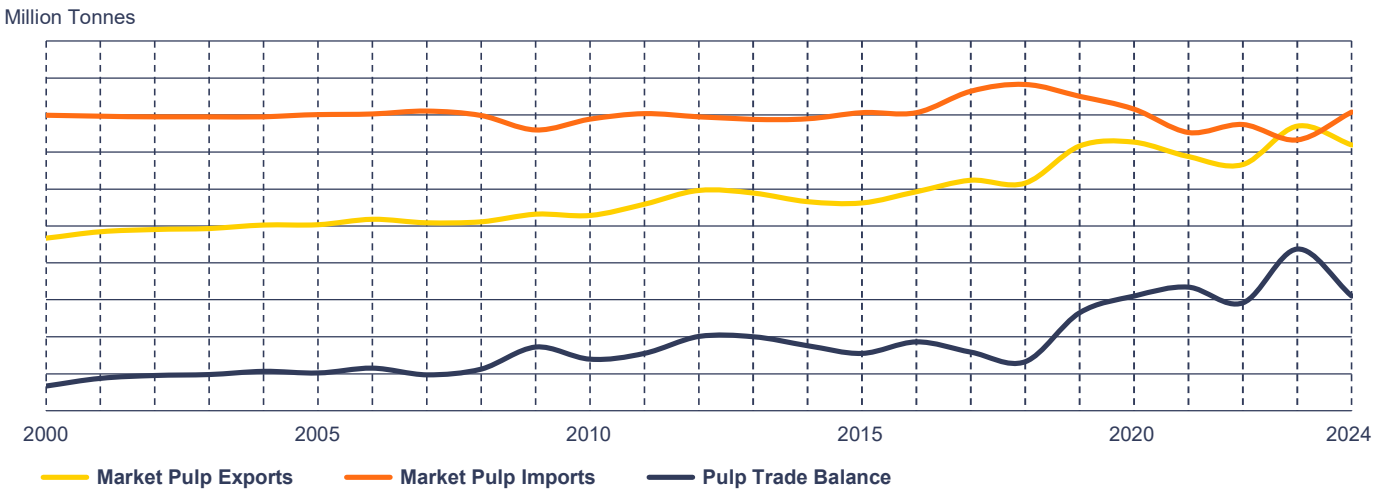
'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]							
North America							
Latin America							
Asia							
Rest of the World							
Total							

Market Pulp Trade Balance with Other Regions

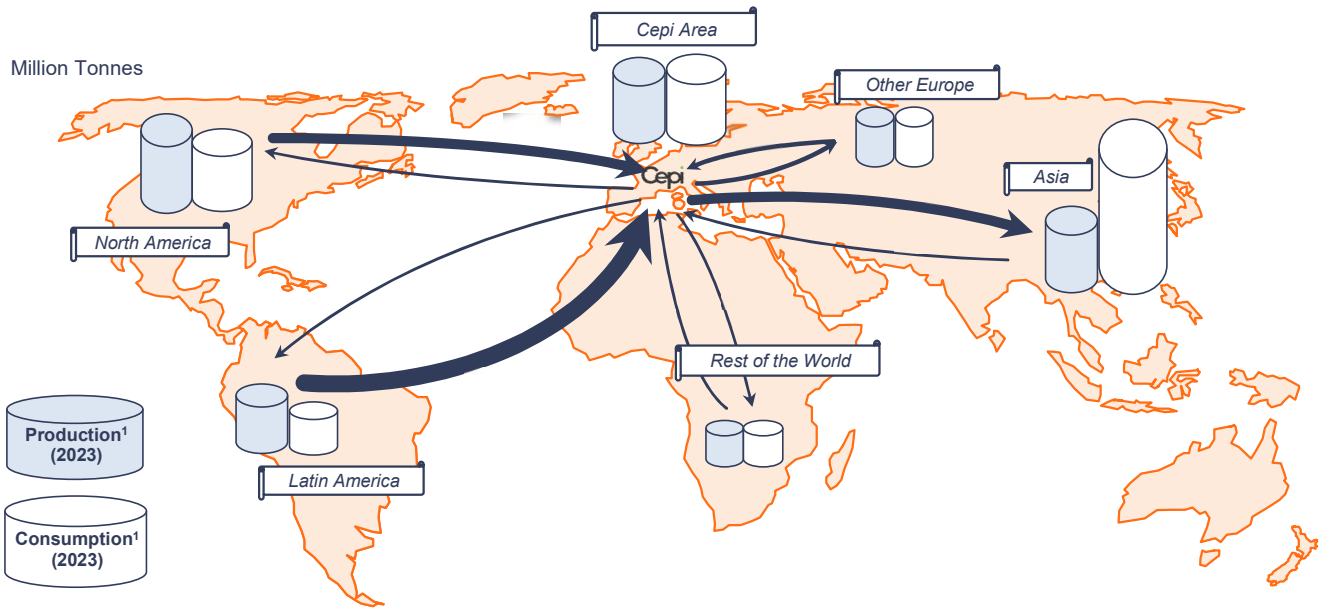
'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023
Other Europe[1]						
North America						
Latin America						
Asia						
Rest of the World						
Total						

[1] *Other Europe: see nomenclature on page 110.*

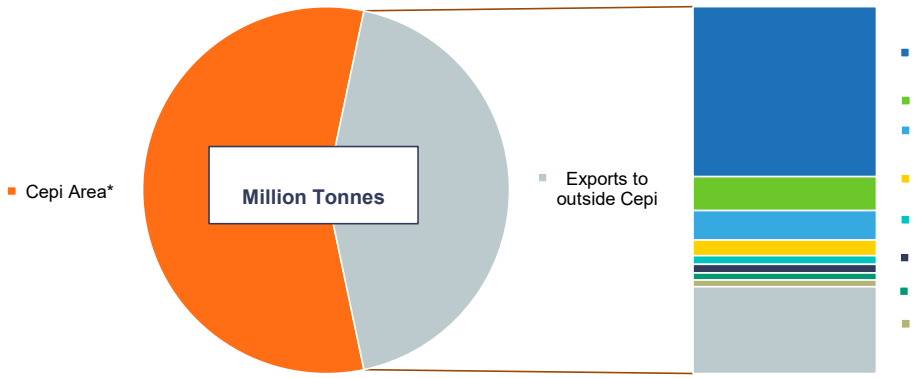
Market Pulp Exports, Imports and Trade Balance



Trade Flows of Market Pulp in 2024



Destination of Market Pulp Production in 2024



Origin of Market Pulp Consumption in 2024



[1] *Production and consumption of total pulp (market and integrated).*
Source: Cepi, Fastmarkets.
[*] *Cepi Area = production - exports to outside Cepi.*

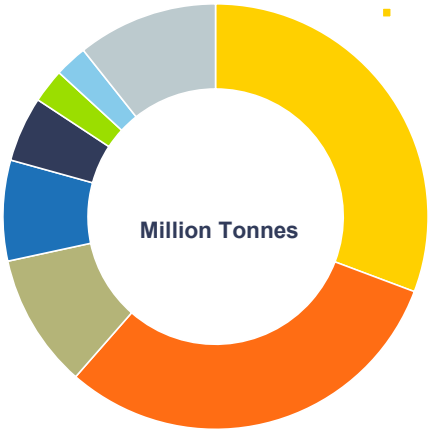
Pulp Production, Trade and Consumption in 2024

'000 Tonnes	Production				Domestic Deliveries	Exports to Other Cepi Countries	Imports from Other Cepi Countries
	Market pulp	% Change 2024/2023	Integrated Pulp	Total Pulp			
Austria							
Finland							
France							
Germany							
Norway							
Poland							
Portugal							
Spain							
Sweden							
Other Cepi Countries							
Total Cepi							

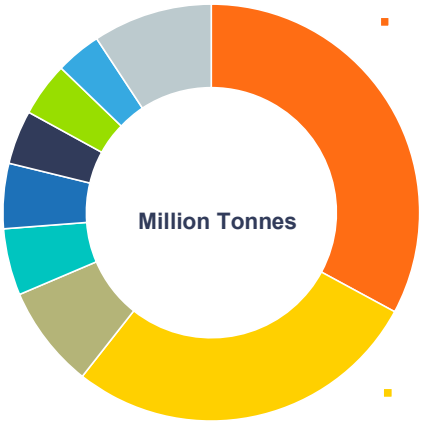
France: domestic deliveries and total deliveries have been estimated by Cepi

n.a.: data for Germany can't be published and is included in "Other Cepi Countries"
Other Cepi Countries: includes countries members of Cepi, that are not included in the table (see list of members page 1).

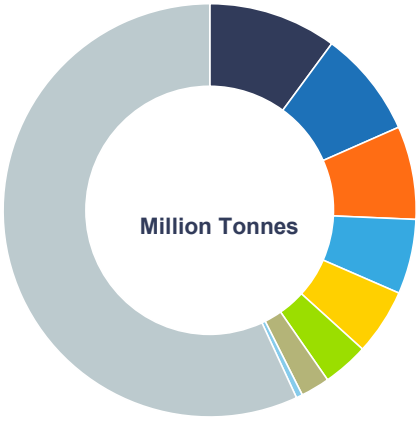
Market Pulp Production



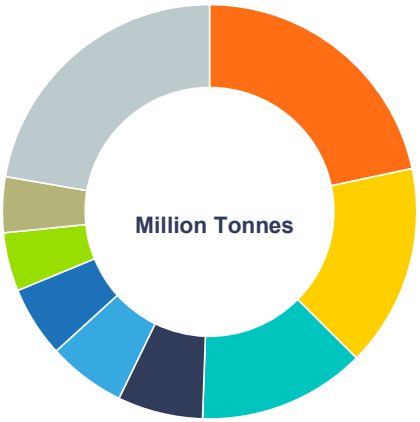
Total Pulp Production



Market Pulp Consumption



Total Pulp Consumption



** Some main producers / consumers could be included in "Rest of Cepi Countries" for transparency reasons.*

Pulp Production, Trade and Consumption in 2024

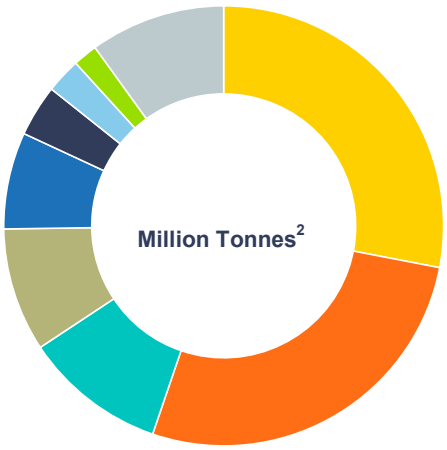
'000 Tonnes	Exports to Countries Outside Cepi	Imports from Countries Outside Cepi	Total Deliveries	Apparent Consumption[1]		
				Market Pulp	% Change 2024/2023	Total Pulp
Austria						
Finland						
France						
Germany						
Norway						
Poland						
Portugal						
Spain						
Sweden						
Other Cepi Countries						
Total Cepi						

France: domestic deliveries and total deliveries have been estimated by Cepi

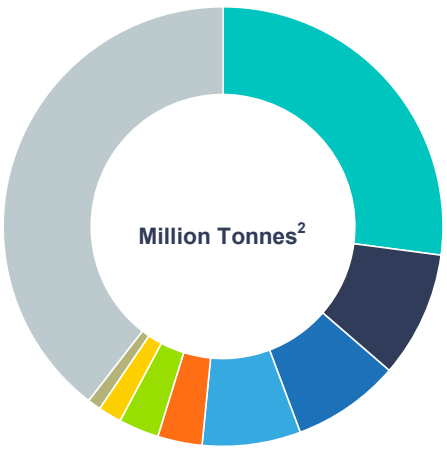
n.a.: data for Germany can't be published and is included in "Other Cepi Countries"
Other Cepi Countries: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Pulp Trade by Country in 2024

Exports[2]



Imports[2]



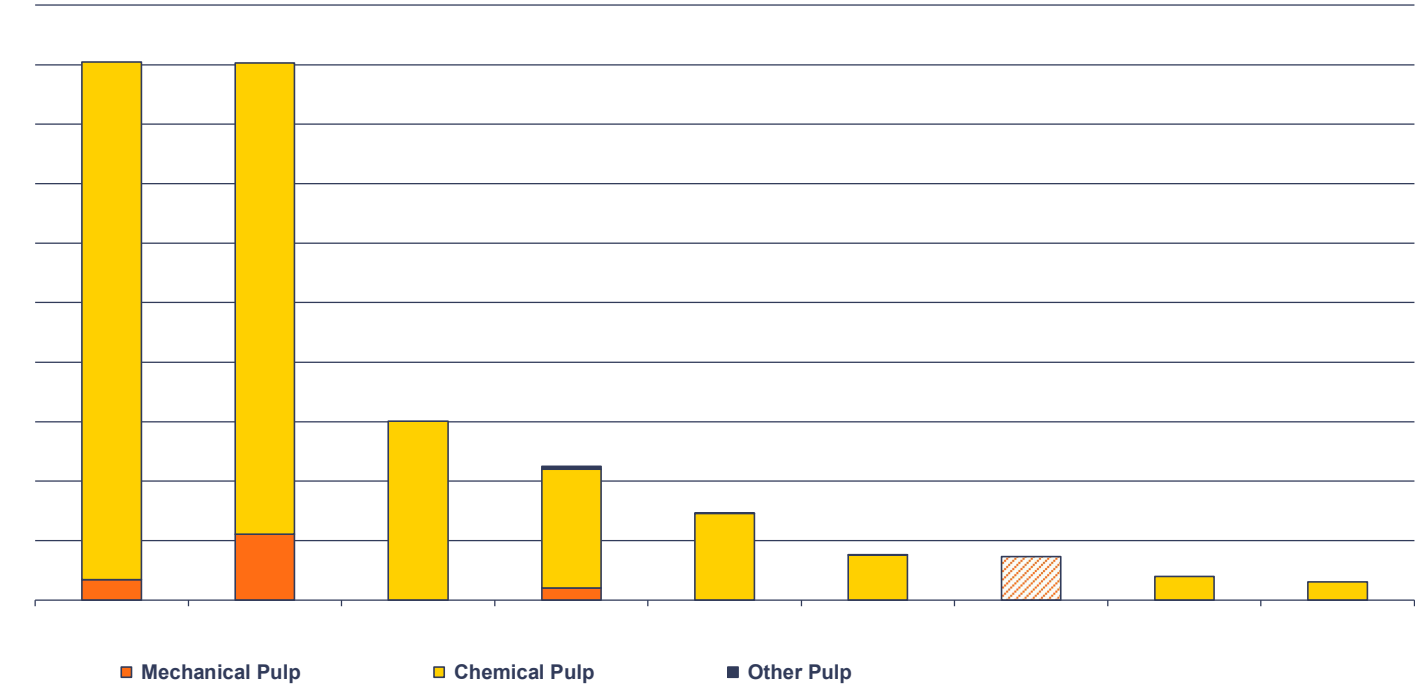
** Some main importers / exporters could be included in "Rest of Cepi Countries" for transparency reasons.*

[1] Apparent Consumption: See note page 100.

[2] Include exports and imports between Cepi countries

Market Pulp Production by Country and by Grade in 2024

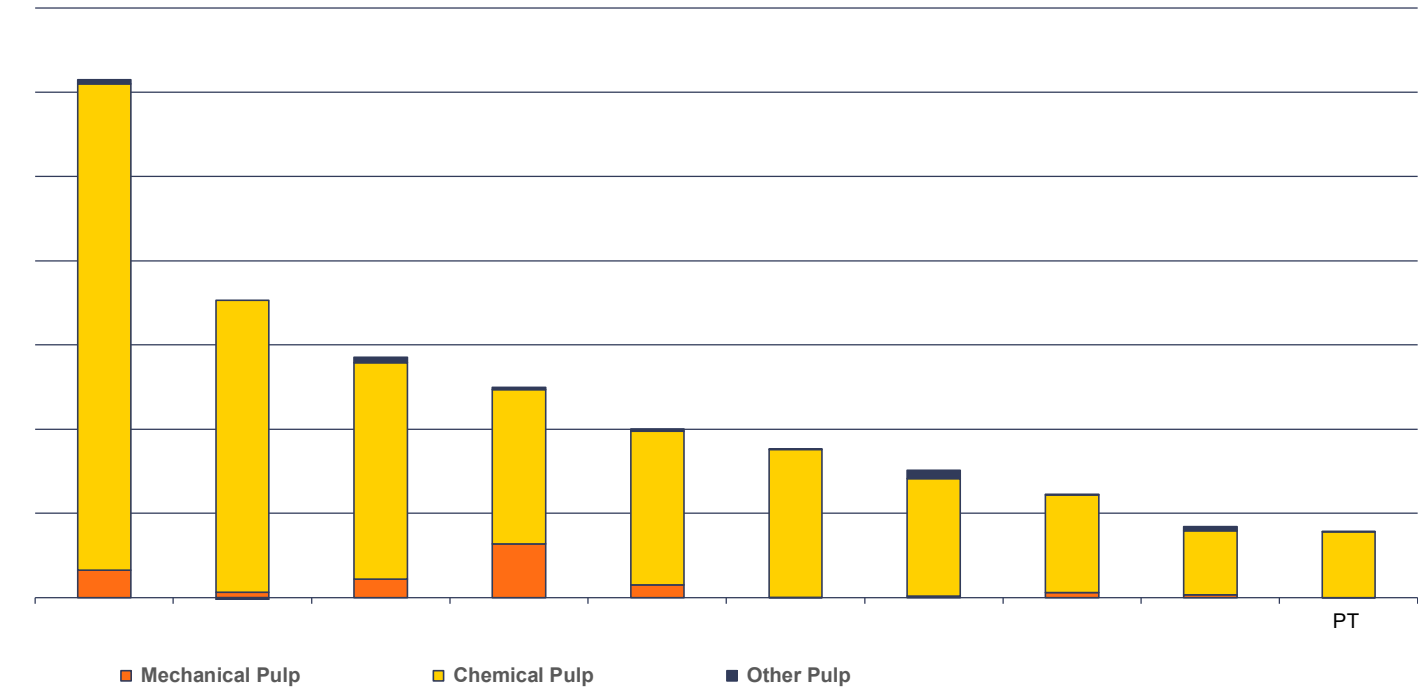
Market Pulp Production (Million Tonnes)



** Split within grades can't be shown due to transparency reasons*

Market Pulp Consumption by Country and by Grade in 2024

Market Pulp Consumption (Million Tonnes)



Mechanical & Semi-Chemical Pulp - Production, Trade and Consumption in 2024

'000 Tonnes	Production			Domestic Deliveries	Deliveries to Other Cepi Countries	Imports from Other Cepi Countries
	Market Pulp	Integrated Pulp	Total Pulp			
Austria						
Finland						
Portugal						
Sweden						
Other Cepi Countries						
Total Cepi						

n.a.: Figures can't be published for transparency reasons and are included in Total Cepi figures.

Other Cepi Countries: includes countries members of Cepi, that are not included in the table (see list of members page 1).

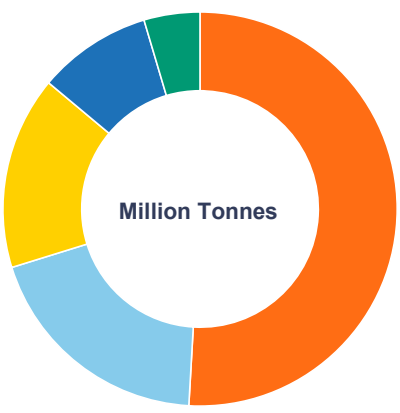
'000 Tonnes	Exports to Countries Outside Cepi	Imports from Countries Outside Cepi	Total Deliveries	Apparent Consumption[1]	
				Market Pulp	Total Pulp
Austria					
Finland					
Portugal					
Sweden					
Other Cepi Countries					
Total Cepi					

n.a.: Figures can't be published for transparency reasons and are included in Total Cepi figures.

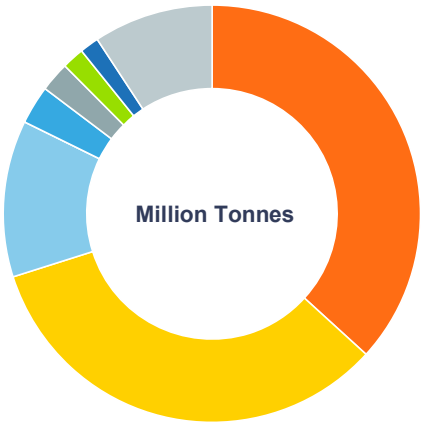
Other Cepi Countries: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Mechanical & Semi-Chemical Pulp Production in 2024

Market Pulp



Total Pulp



[1] *Apparent Consumption: See note page 100.*

Chemical and Other Pulp[1] - Production, Trade and Consumption in 2024

'000 Tonnes	Production			Domestic Deliveries	Deliveries to Other Cepi Countries	Imports from Other Cepi Countries
	Market Pulp	Integrated Pulp	Total Pulp			
Austria						
Finland						
Portugal						
Sweden						
Other Cepi Countries						
Total Cepi						

n.a.: Figures can't be published for transparency reasons and are included in Total Cepi figures.

Other Cepi Countries: includes countries members of Cepi, that are not included in the table (see list of members page 1).

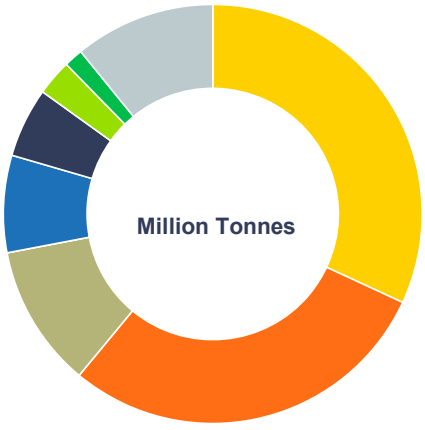
'000 Tonnes	Exports to Countries Outside Cepi	Imports from Countries Outside Cepi	Total Deliveries	Apparent Consumption[2]	
				Market Pulp	Total Pulp
Austria					
Finland					
Portugal					
Sweden					
Other Cepi Countries					
Total Cepi					

n.a.: Figures can't be published for transparency reasons and are included in Total Cepi figures.

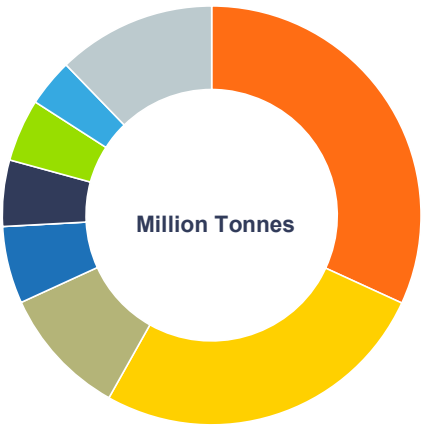
Other Cepi Countries: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Chemical Pulp Production in 2024

Market Pulp



Total Pulp



[1] *Other Pulp: Pulp produced from fibres other than wood, such as sugar cane bagasse, wheat straw, kenaf, cotton rags and hemp.*

[2] *Apparent Consumption: See note page 100*

EU Pulp Production, Trade and Consumption[1]

'000 Tonnes	Production								
	A_1 Market Pulp			A_2 Integrated Pulp			$A = A_1 + A_2$ Total Pulp[2]		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Mechanical & Semi-Chemical									
Sulphite Pulp									
Sulphate Pulp									
Chemical Pulp									
Total Woodpulp									
Other Pulp									
Total Pulp									

'000 Tonnes	Trade						Consumption					
	C Exports[3]			D Imports[3]			$E_1 = A_1+D-C$ Market Pulp			$E = A+D-C$ Total Pulp[2]		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Mechanical & Semi-Chemical												
Sulphite Pulp												
Sulphate Pulp												
Chemical Pulp												
Woodpulp												
Other Pulp												
Total Pulp												

EU-27 Pulp Trade by Destination and Origin in 2024



[1] *Data for EU countries not members of Cepi has been estimated (Source: Fastmarkets - See page 98).*

[2] *Total Pulp = Integrated Pulp + Market Pulp.*

[3] *Exports and Imports to and from countries outside EU.*

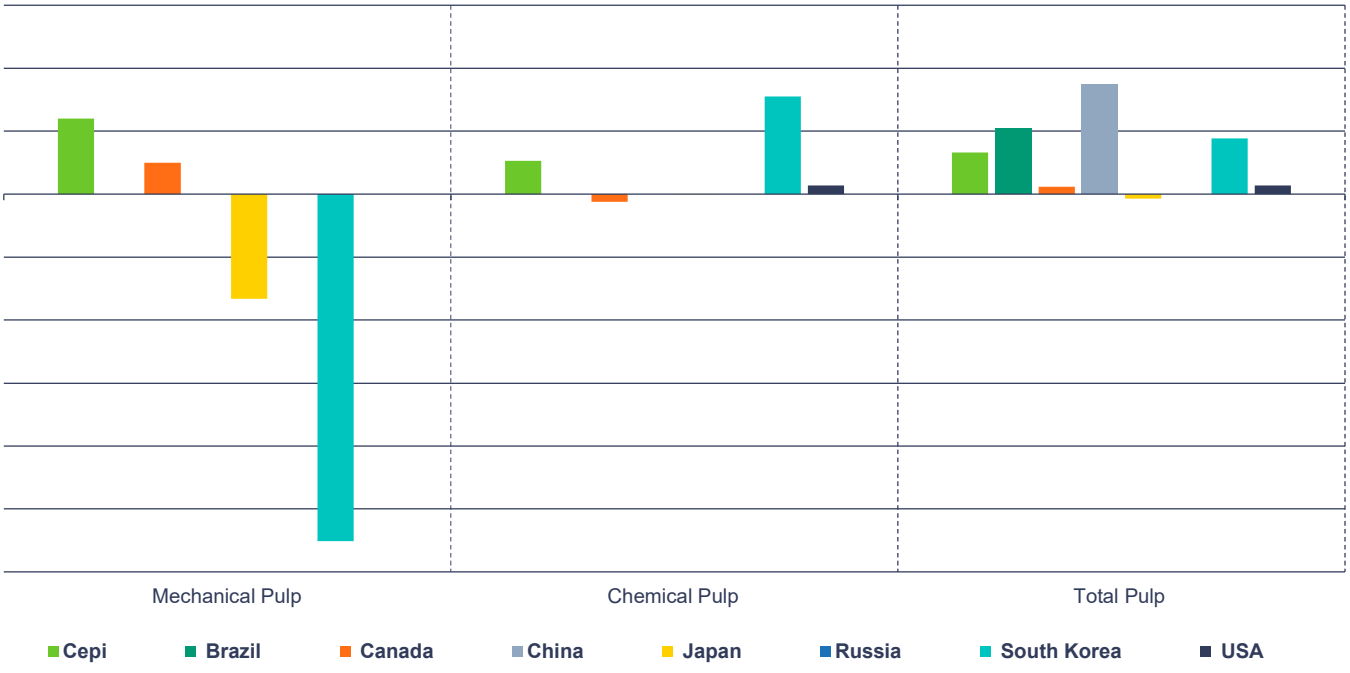
Total Pulp[1] Production by Grade and by Country[2]

Million Tonnes	Cepi		Brazil		Canada		China	
	2024	% Chg[3]	2024	% Chg[3]	2024	% Chg[3]	2024	% Chg[3]
Mechanical Pulp & Semi-Chemical Pulp								
Chemical & Other Pulp								
Total Pulp								

Million Tonnes	Japan		Russia		South Korea		USA	
	2024	% Chg[3]	2024	% Chg[3]	2024	% Chg[3]	2024	% Chg[3]
Mechanical Pulp & Semi-Chemical Pulp								
Chemical & Other Pulp								
Total Pulp								

Change in Production by Grade and by Country[2]

% change 2024/2023



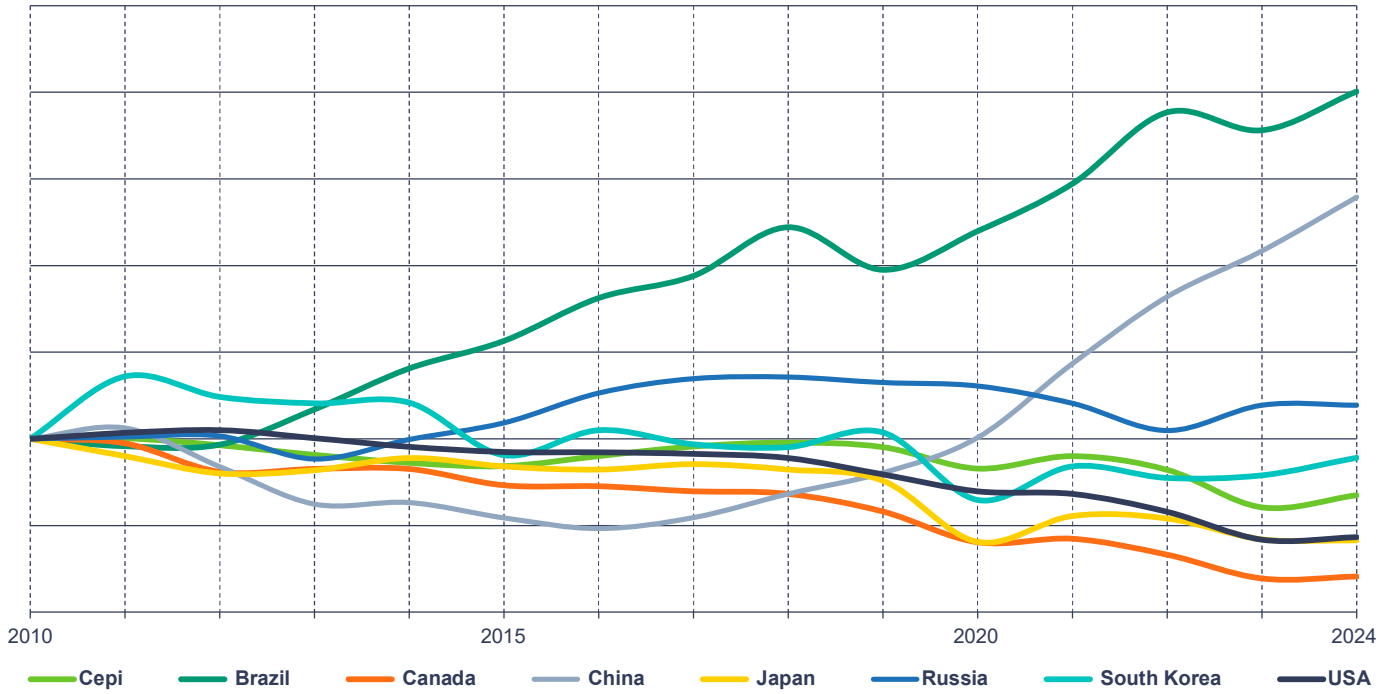
[1] *Total Pulp = Integrated Pulp + Market Pulp*

[2] *Sources:*
USA: AF&PA - The American Forest & Paper Association and Cepi estimations / Brazil: IBA - Indústria Brasileira de Árvores / Canada: PPPC - Pulp and Paper Products Council / Japan: JPA - Japan Paper Association / South Korea: KPMA - Korea Paper Manufacturers' Association / China: CPA - China Paper Association and Cepi estimations / Russia: Fastmarkets and Cepi estimations

[3] *% change 2024/2023*

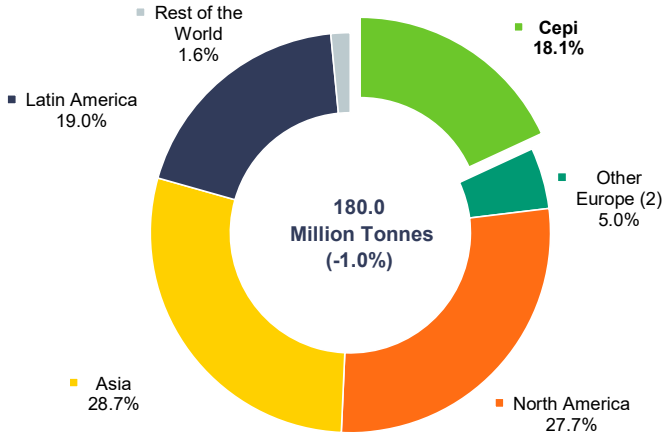
Indexed Growth in Total Pulp[1] Production

Index (2010 = 100)

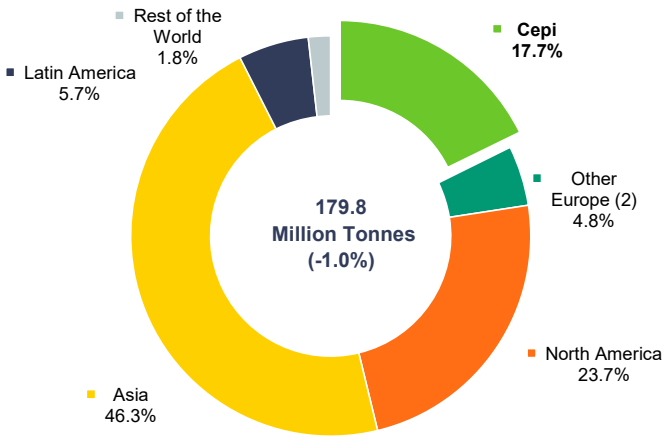


USA: based on chemical pulp data

World Total Pulp[1] Production by Region in 2023[3]



World Total Pulp[1] Consumption by Region in 2023[3]

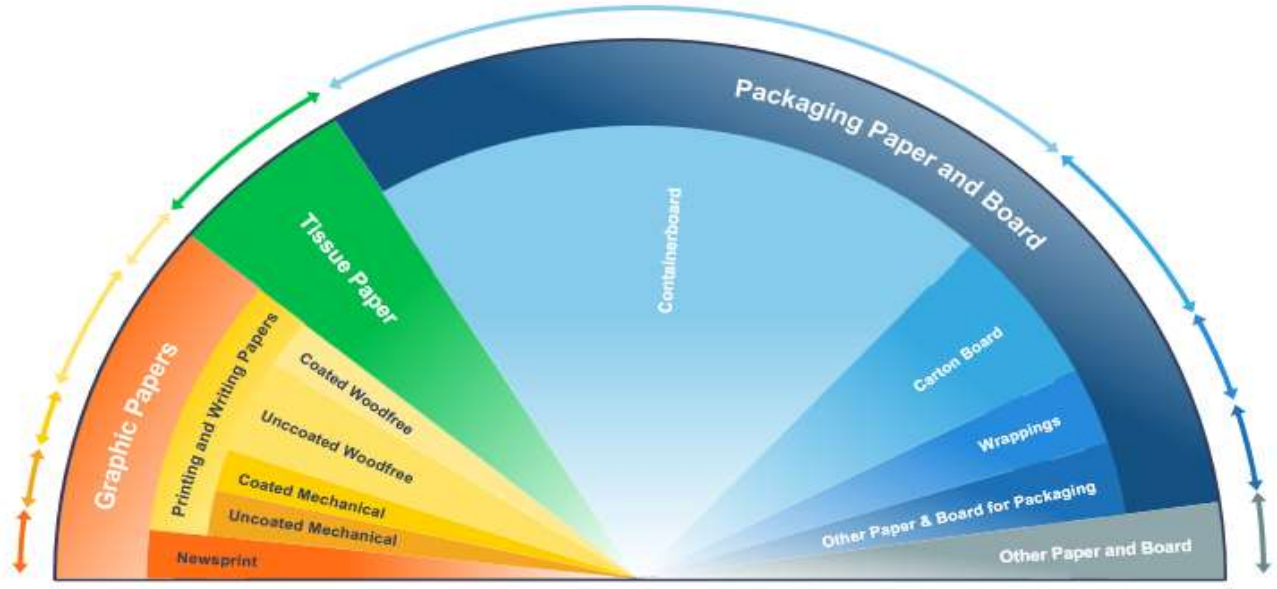


[1] *Total Pulp = Integrated Pulp + Market Pulp*

[2] *Other Europe: see nomenclature on page 110.*

[3] *Sources: Cepi, Fastmarkets.*

Paper and Board - A Whole Range of Products for Everyday Life



Total Paper and Board Production: 78.7 Million Tonnes

Main Uses of Paper and Board Grades

Graphic Papers

Newsprint - Newspapers
Uncoated Mechanical - Directories, Catalogues, Flyers, Books, Magazines, Inserts, Coupons, Tabloids
Coated Mechanical - Magazines, Catalogues,Advertising material
Uncoated Woodfree - Catalogues and brochures,Magazines (higher quality),office paper, company annual reports
Coated Woodfree - Books, Stationery, Envelopes, Greetings Cards

Tissue Paper

Toilet paper, Tissues, Kitchen towels, Hand towels, Napkins and serviettes, Industrial wipers, Clothing products, Medical products, Nappies, Feminine hygiene products

Packaging Paper and Board

Containerboard - Corrugated cases, Storage boxes, Transport packaging, Product displays
Cartonboard - Packaging for perfume, pharmaceutical products, frozen foods and cigarettes, Multipack cartons, Packaging for cosmetics, chocolate, clothing, toys and games, Packaging for cereal, dry foods, detergents, toiletries and household goods
Wrappings - Sacks, Bags, Wrappers, Greaseproof paper, Sulphite papers
Other Paper and Board for Packaging - Tubes, Toys and games, Building materials, Book and diary covers, Stiffeners

Other Paper and Board

Filter Paper, Building/roofing materials, Insulation, Cigarette paper, Wallpaper

Including 10.6 million tonnes of Speciality Paper and Board[1]

Speciality Paper and Board

Paper or board with enhanced properties (physical, optical, electrical, chemical and/or other special considerations) that are required for either the performance of the paper in a special application or to convey a visual or tactile perception of a brand.

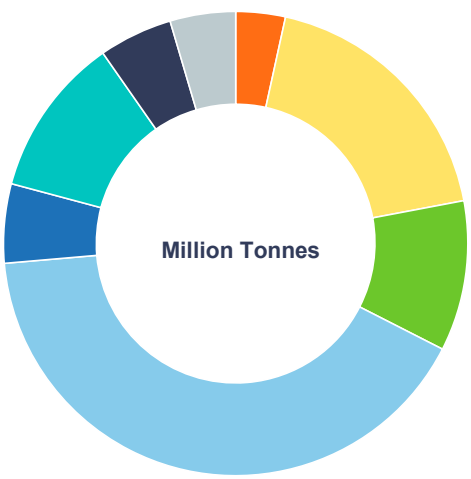
Speciality paper and board can be found under several Cepi grades: wrappings, cartonboard, graphic papers, tisse paper and other paper and board. Europe is currently the leading specialty paper and board producing and exporting region.

[1] *Speciality Paper and Board: see details and explanations page 38.*

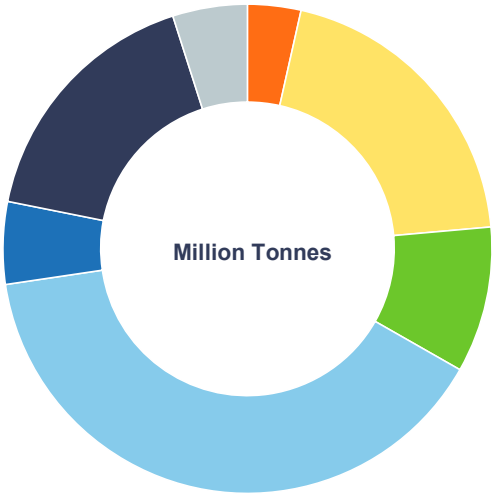
Paper and Board Production by Grade

'000 Tonnes	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Newsprint								
Uncoated Mechanical								
Coated Mechanical								
Uncoated Woodfree								
Coated Woodfree								
Printing and Writing Papers								
Total Graphic Papers								
Tissue Paper								
Containerboard								
Cartonboard								
Wrappings								
Other Paper and Board for Packaging								
Total Packaging Paper and Board								
Other Paper and Board								
Total Paper and Board								
Of which Speciality Paper and Board[1]								

Paper and Board Production in 2024



Paper and Board Production Capacity in 2024



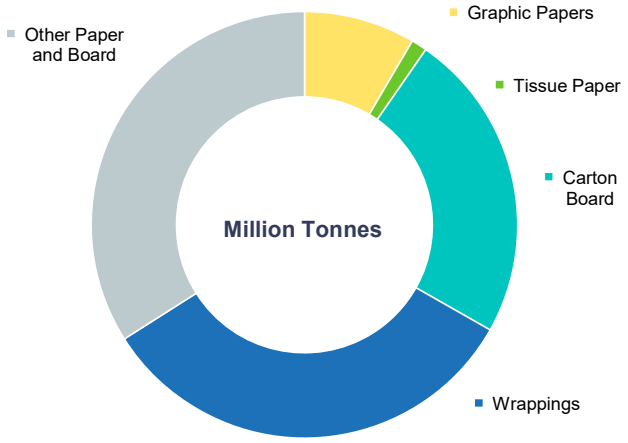
[1] *Speciality Paper and Board: see details and explanations page 38 (Source: Smithers)*

Production of Speciality Paper and Board[1] in 2024

Share of Cepi Grade considered as Speciality P&B [2]

Cepi Grade	Share
Graphic Papers	
Tissue Paper	
Carton Board	
Wrappings	
Other Paper and Board	
Total Paper and Board	

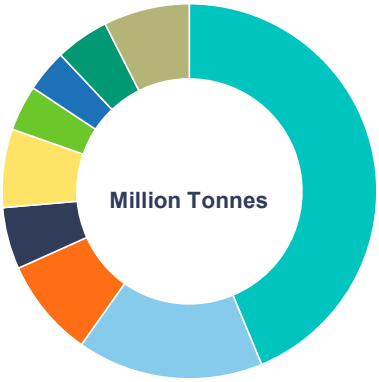
Production of Speciality P&B by Cepi Grade[3]

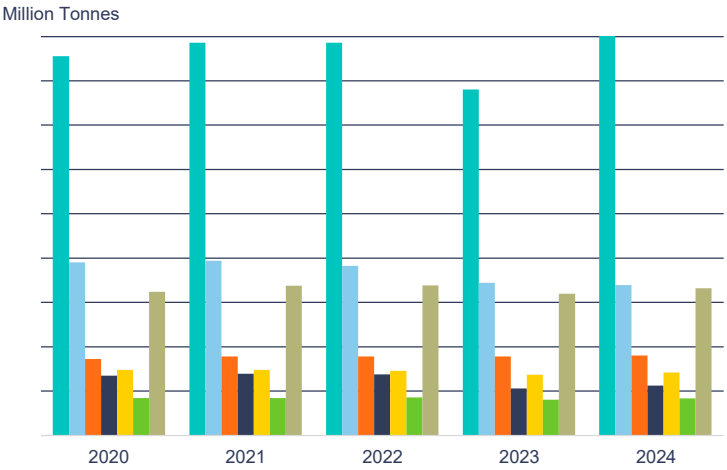


Production of Speciality Paper and Board by End-use Category

'000 Tonnes	2018	2020	2021	2022	2023	2024	% chge 2024/2023	% Share of Total
Packaging & Labelling								
Building / Construction								
Food Service								
Business & Communication								
Industrial								
Printing & Publishing								
Consumer								
Filter								
Other End-uses[4]								
Total Speciality P&B								

Production of Speciality Paper and Board by End-use Category





Source: 2024 - Smithers estimates / 2018-2023 - Cepi, AWA.

[1] Speciality Paper and Board: see definitions page 101.

[2] Share of Cepi grade that can be considered as Speciality Paper and Board. For example 29% of carton board is considered as Speciality P&B.

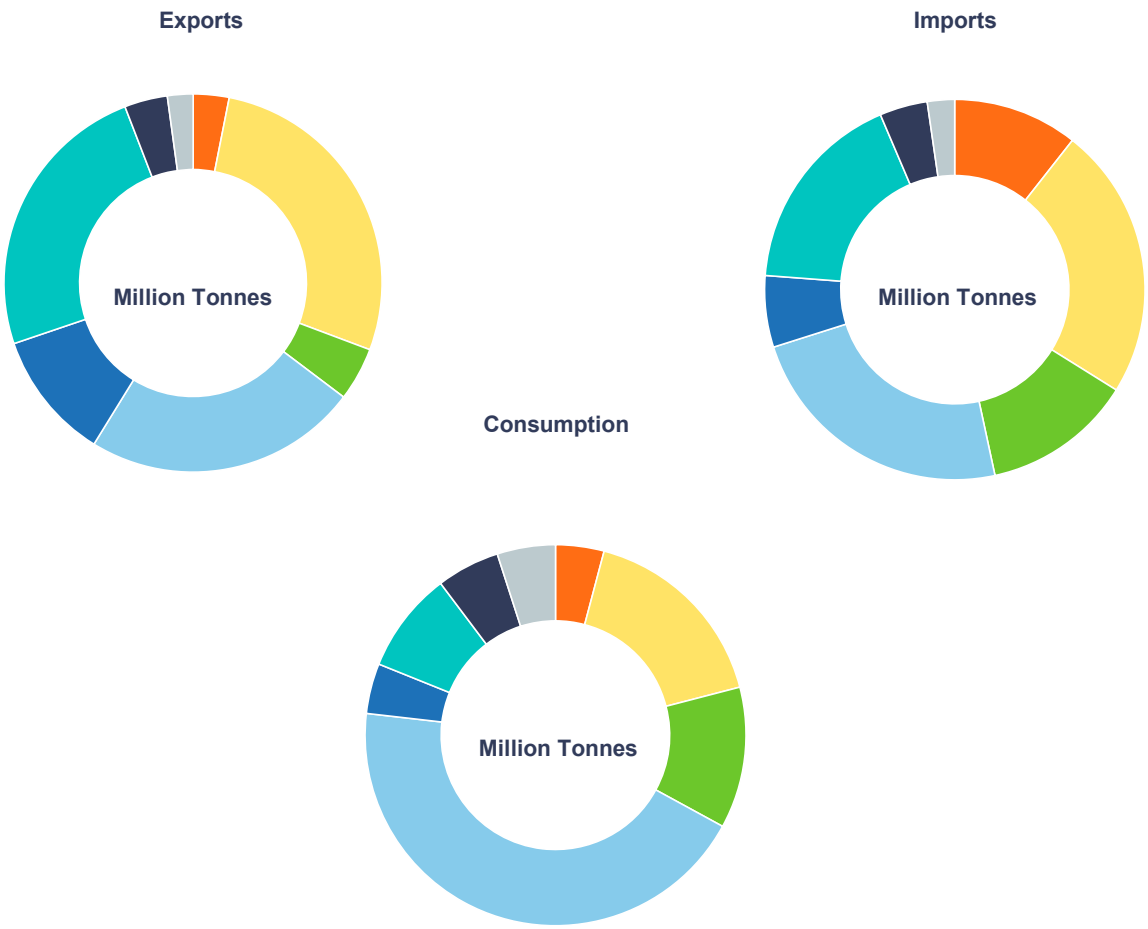
[3] Share of Speciality Paper and Board Production by Cepi grade. For example 22% of Speciality P&B production is under the Cepi grade Cartonboard.

[4] Other End-uses: Security, Medical, Electrical, Others

Paper and Board Production, Trade and Consumption

'000 Tonnes	A Production 2023	A Production 2024	A Production % chg	Domestic Deliveries 2023	Domestic Deliveries 2024	Domestic Deliveries % chg	B Internal Deliveries 2023	B Internal Deliveries 2024	B Internal Deliveries % chg
Newsprint									
Uncoated Mechanical									
Coated Mechanical									
Uncoated Woodfree									
Coated Woodfree									
Printing and Writing Papers									
Total Graphic Papers									
Tissue Paper									
Containerboard									
Carton Board									
Wrappings									
Other P&B for Packaging									
Total Packaging Paper and Board									
Other Paper and Board									
Total Paper and Board									
EU-27 Countries[1]									

Trade and Consumption of Paper and Board by Grade in 2024



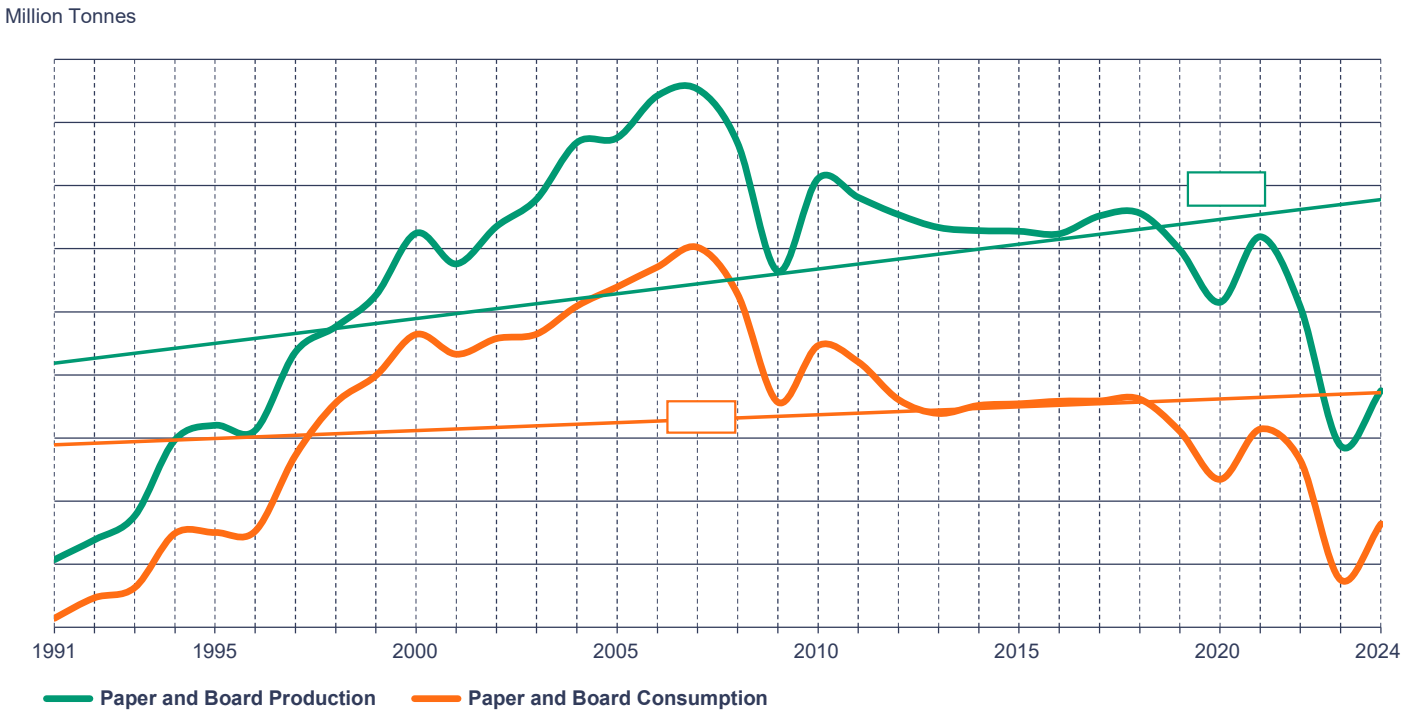
[1] *Data for EU countries not members of Cepi has been estimated (Source: Fastmarkets - See page 95).*

More data related to EU-27 area can be found page 50.

Paper and Board Production, Trade and Consumption

'000 Tonnes	C Exports[1]			D Imports[1]			E = A - C + D Consumption[2]			
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg	% Share
Newsprint										
Uncoated Mechanical										
Coated Mechanical										
Uncoated Woodfree										
Coated Woodfree										
Printing and Writing Papers										
Total Graphic Papers										
Tissue Paper										
Containerboard										
Carton Board										
Wrappings										
Other P&B for Packaging										
Total Packaging Paper and Board										
Other Paper and Board										
Total Paper and Board										
EU-27 Countries[3]										

Paper and Board Production and Consumption



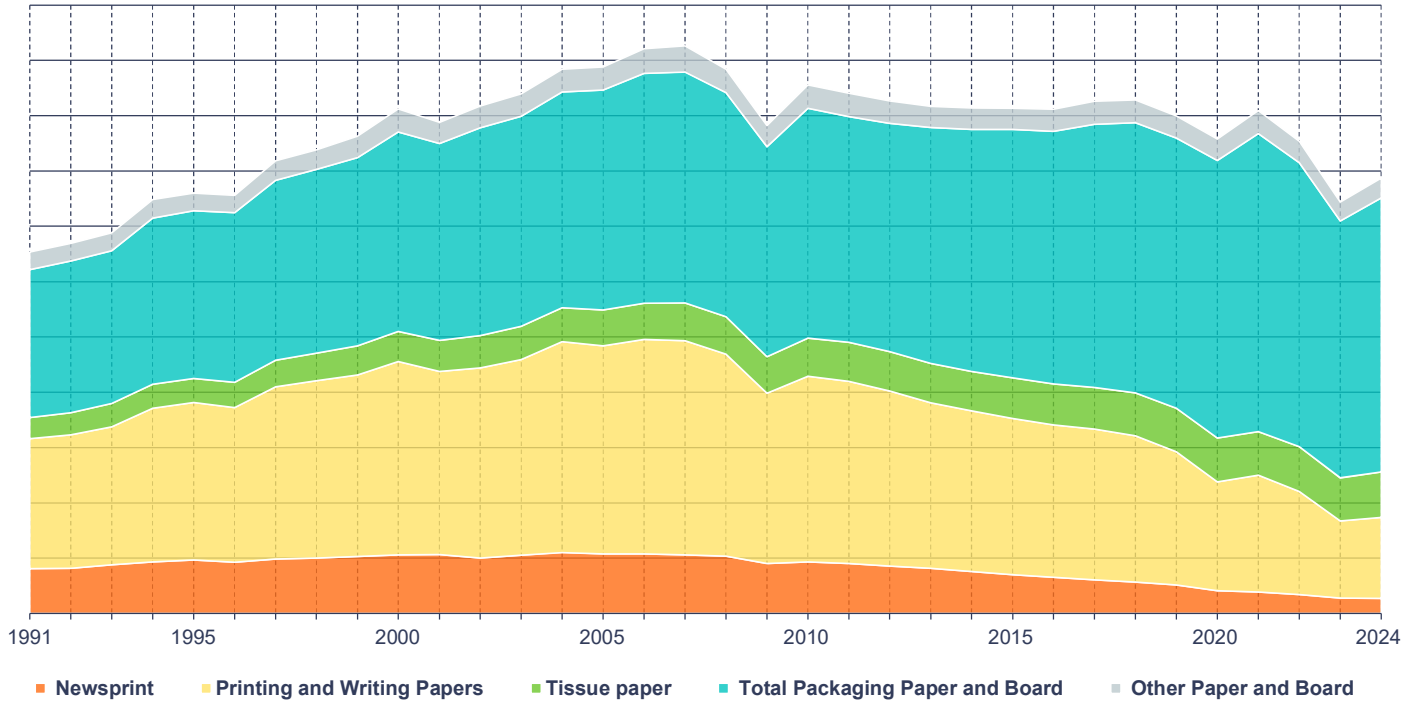
[1] *Exports and Imports to and from countries outside Cepi or outside EU*

[2] *Total Cepi Consumption: see note page 101.*

[3] *Data for EU countries not members of Cepi has been estimated (Sources: Fastmarkets, Eurostat, AFRY - See page 97).*

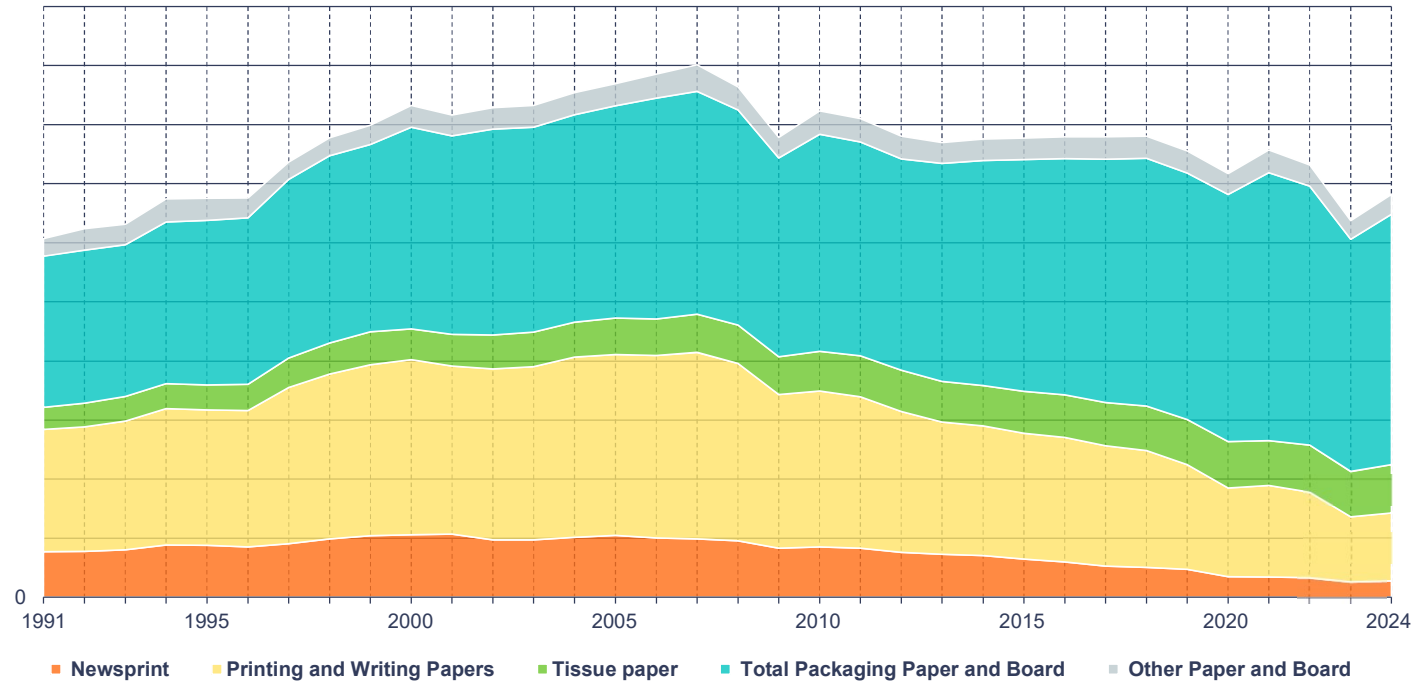
Paper and Board Production by Grade

Million Tonnes



Paper and Board Consumption by Grade

Million Tonnes



Paper and Board Exports to Other Regions

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]							
North America							
Latin America							
Asia							
Rest of the World							
Total							

Paper and Board Imports from Other Regions

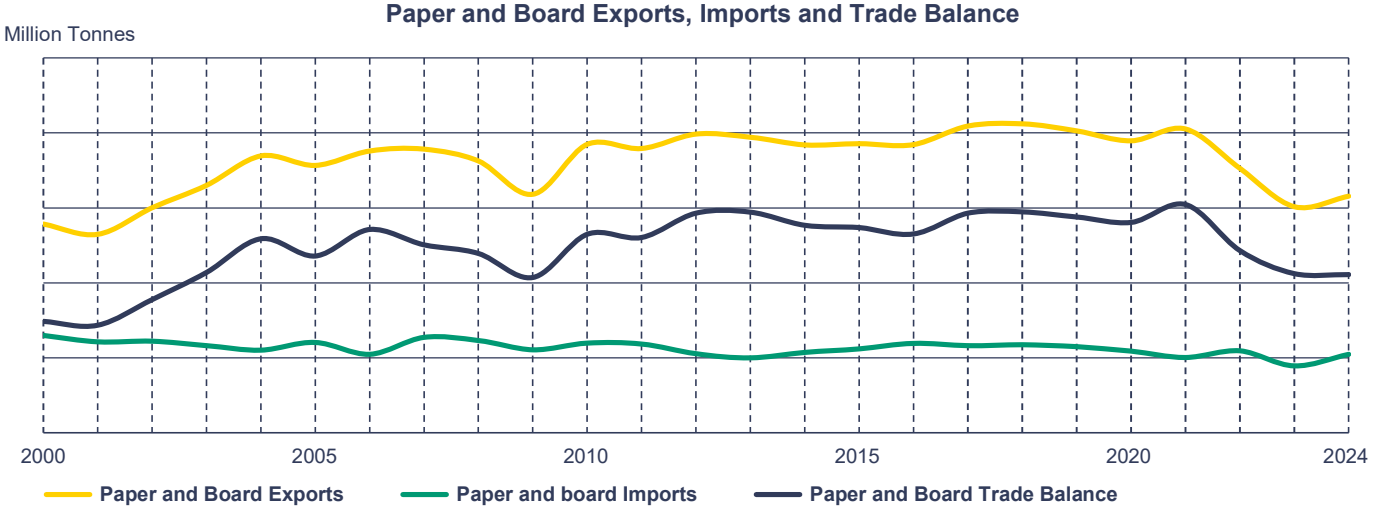
'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]							
North America							
Latin America							
Asia							
Rest of the World							
Total							

Paper and Board Trade Balance with Other Regions

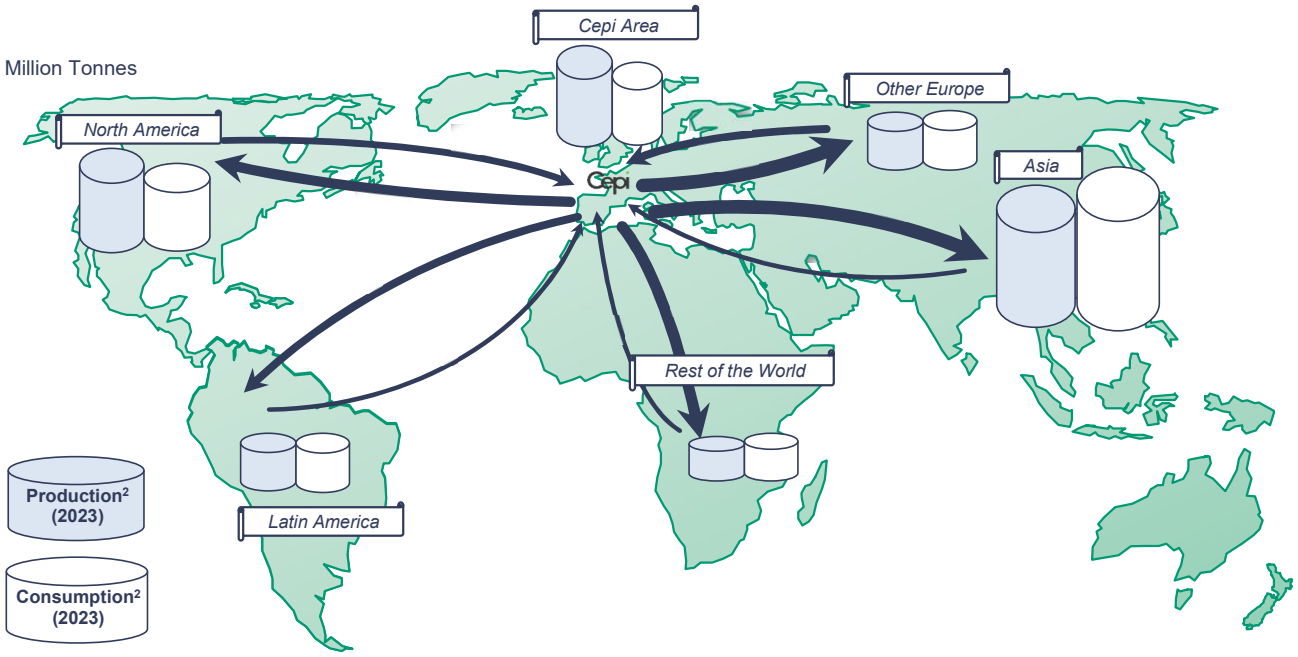
'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023
Other Europe[1]						
North America						
Latin America						
Asia						
Rest of the World						
Total						

[1] *Other Europe: see nomenclature on page 110.*

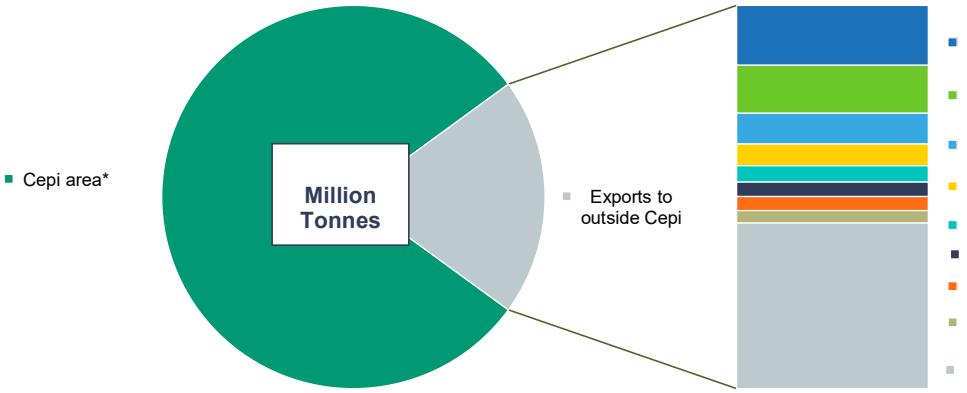
Paper and Board Exports, Imports and Trade Balance



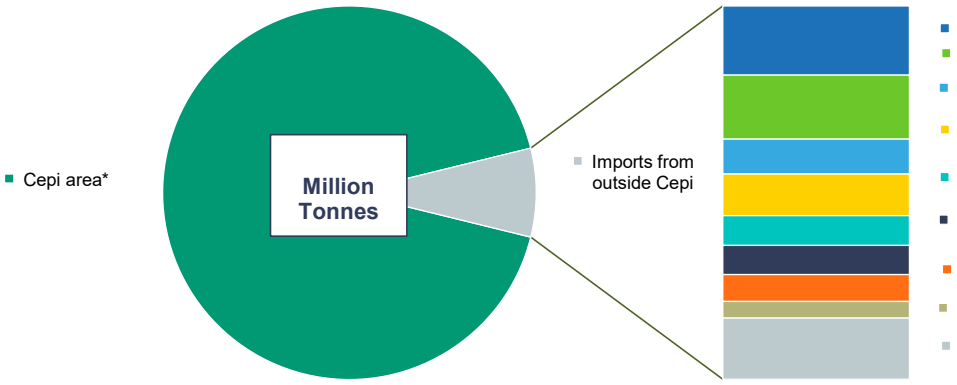
Trade Flows of Paper and Board in 2024



Destination of Paper and Board Production in 2024



Origin of Paper and Board Consumption in 2024



[1] ***Other Europe:*** *see nomenclature on page 110.*

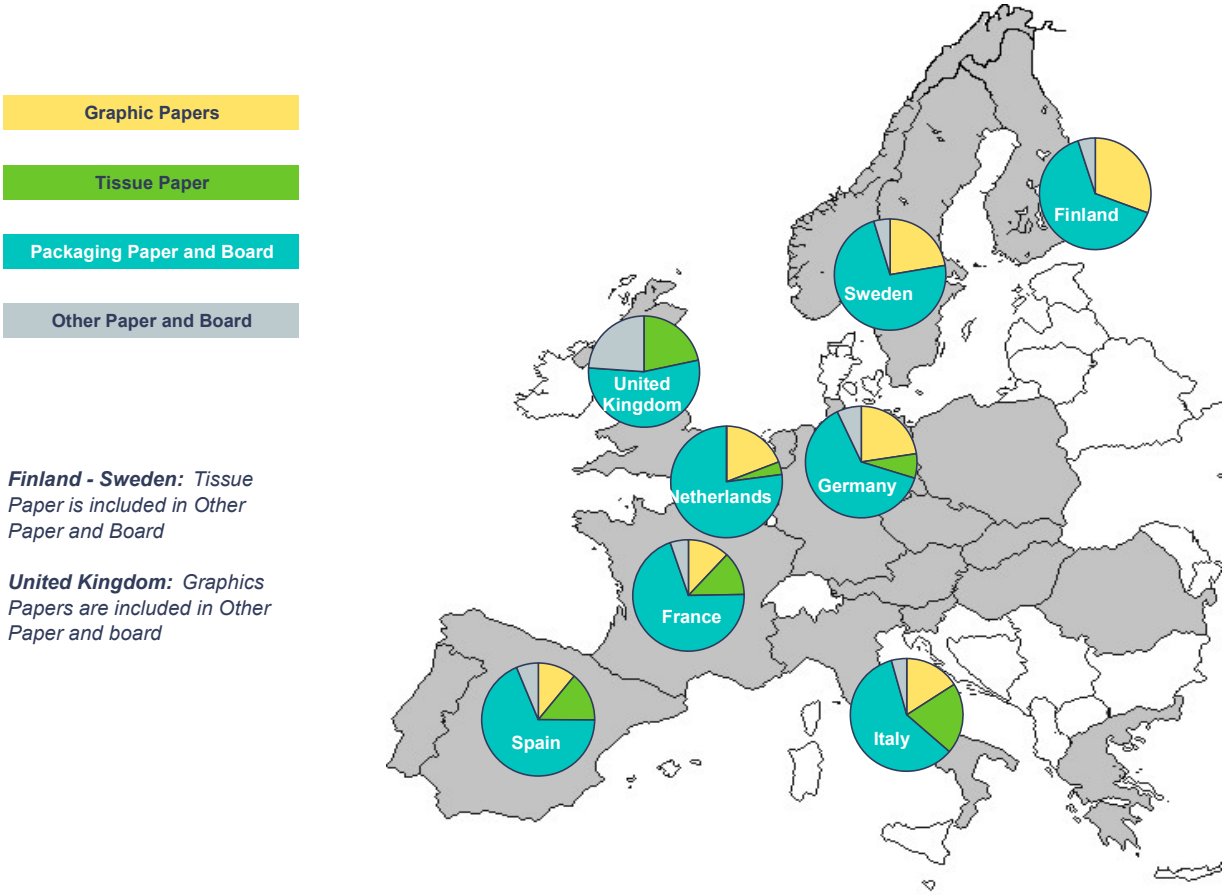
[2] ***Source:*** *Cepi, Fastmarkets.*

* ***Cepi Area*** *= production - exports to outside Cepi*

Paper and Board Production by Grade and by Country in 2024

'000 Tonnes	Graphic Papers	Tissue Paper	Packaging Paper and Board	Other Paper and Board	Total Paper and Board	% Change 2024/2023
Austria						
Belgium						
Czech Republic						
Finland						
France						
Germany						
Greece						
Hungary						
Italy						
Netherlands						
Norway						
Poland						
Portugal						
Romania						
Slovakia						
Slovenia						
Spain						
Sweden						
United Kingdom						
Other Cepi Countries						
Total Cepi						

n.a.: Due to transparency reasons, the figures cannot be published and are included in "Other Cepi Countries"

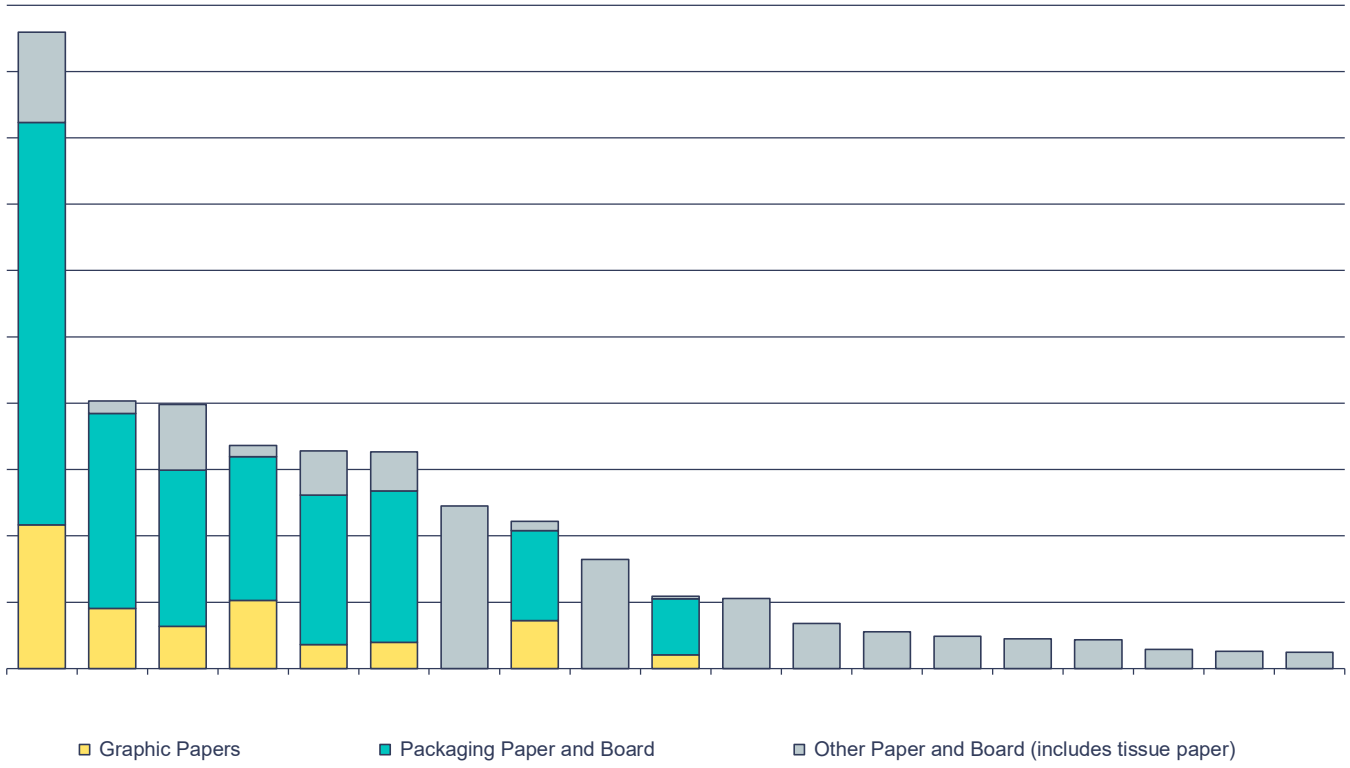


Finland - Sweden: *Tissue Paper is included in Other Paper and Board*

United Kingdom: *Graphics Papers are included in Other Paper and board*

Paper and Board Production by Grade and by Country in 2024

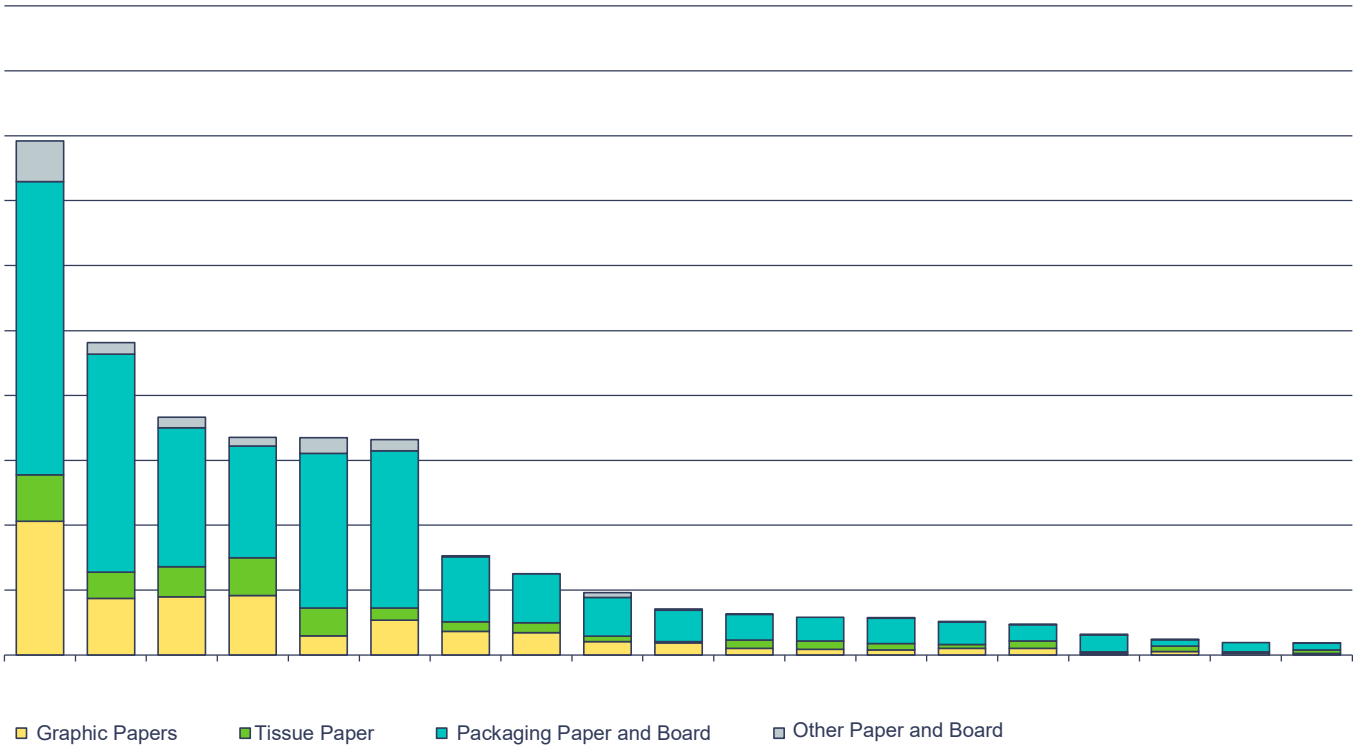
Paper and Board Production (Million Tonnes)



** Split within grades can't be shown due to transparency reasons*

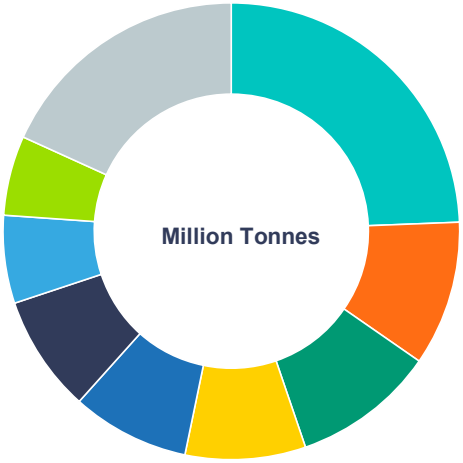
Paper and Board Consumption by Grade and by Country in 2024

Paper and Board Apparent Consumption (Million Tonnes)

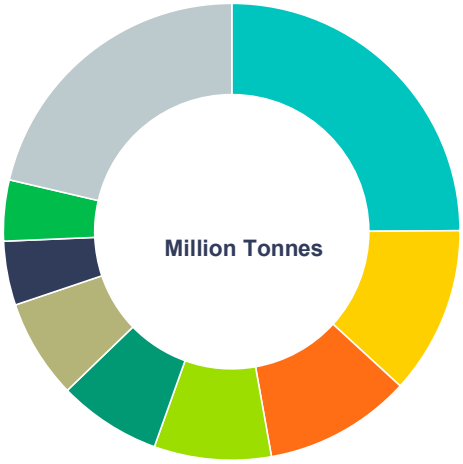


Paper and Board Production by Grade and by Country in 2024

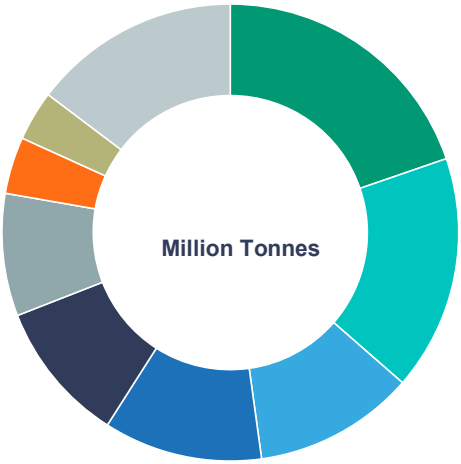
Total Paper and Board



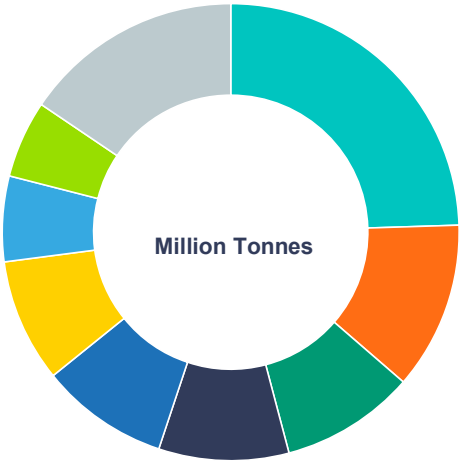
Total Graphic Papers



Tissue Paper

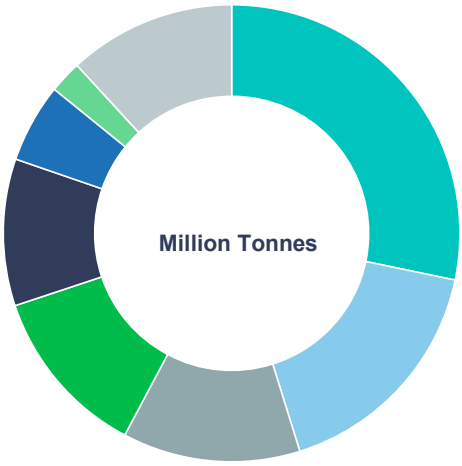


Total Packaging Paper and Board

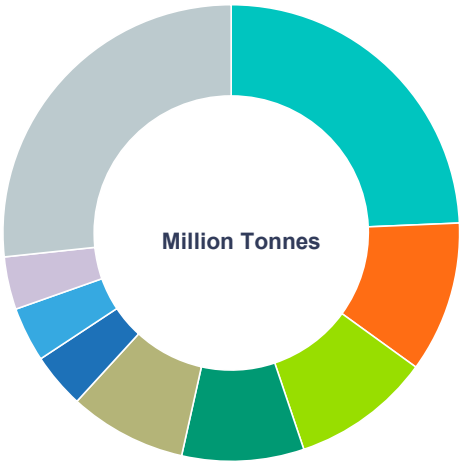


Paper and Board Production by Grade and by Country in 2024

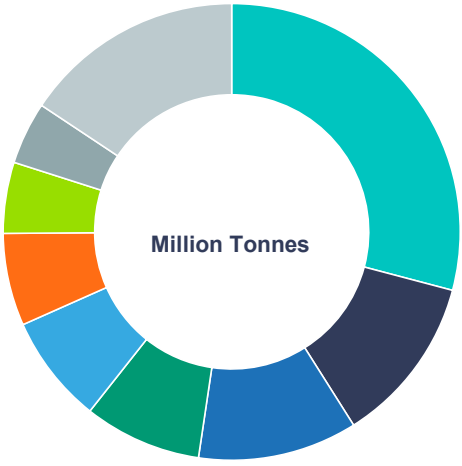
Newsprint



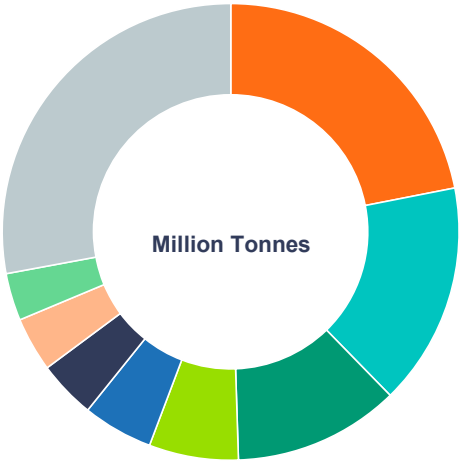
Printing and Writing Papers[1]



Containerboard



Other Packaging Paper and Board[2]



[1] *Printing and Writing Papers: Uncoated Mechanical, Coated Mechanical, Uncoated Woodfree, Coated Woodfree*

[2] *Other Packaging Paper and Board: Wrappings, Cartonboard and Other Paper and Board for Packaging.*

**Rest of Cepi Countries: including Finland - including Finland and Sweden for Newsprint*

Total Paper and Board in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption[1]	% Change 2024/2023
Austria									
Belgium									
Czech Republic									
Finland									
France									
Germany									
Greece									
Hungary									
Italy									
Netherlands									
Norway									
Poland									
Portugal									
Romania									
Slovakia									
Slovenia									
Spain									
Sweden									
United Kingdom									
Total Cepi[2]									

France: Domestic deliveries and total deliveries have been estimated by Cepi.

Greece, Hungary, Romania,Slovakia and Slovenia: Figures have been partly estimated by Cepi

[1] Some of the paper & board consumption figures reported here have been adjusted by the National Associations (see notes pages 97-98).
Paper & Board Apparent Consumption = Production + Imports - Exports

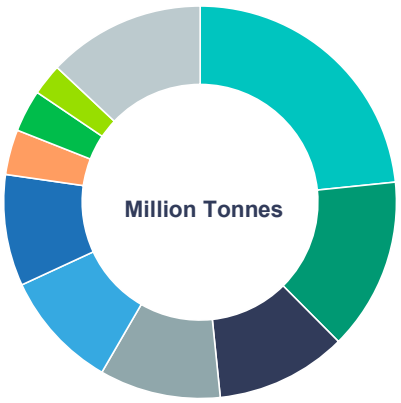
[2] Total Cepi Apparent Consumption = Production + Imports from outside Cepi - Exports to outside Cepi (see note page 101).

Per Capita Apparent Consumption in 2024[3]

Kgs	Population[4] ('000 persons)	Per Capita Consumption
Austria		
Belgium		
Czech Republic		
Finland		
France		
Germany		
Greece		
Hungary		
Italy		
Netherlands		
Norway		
Poland		
Portugal		
Romania		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Total Cepi		

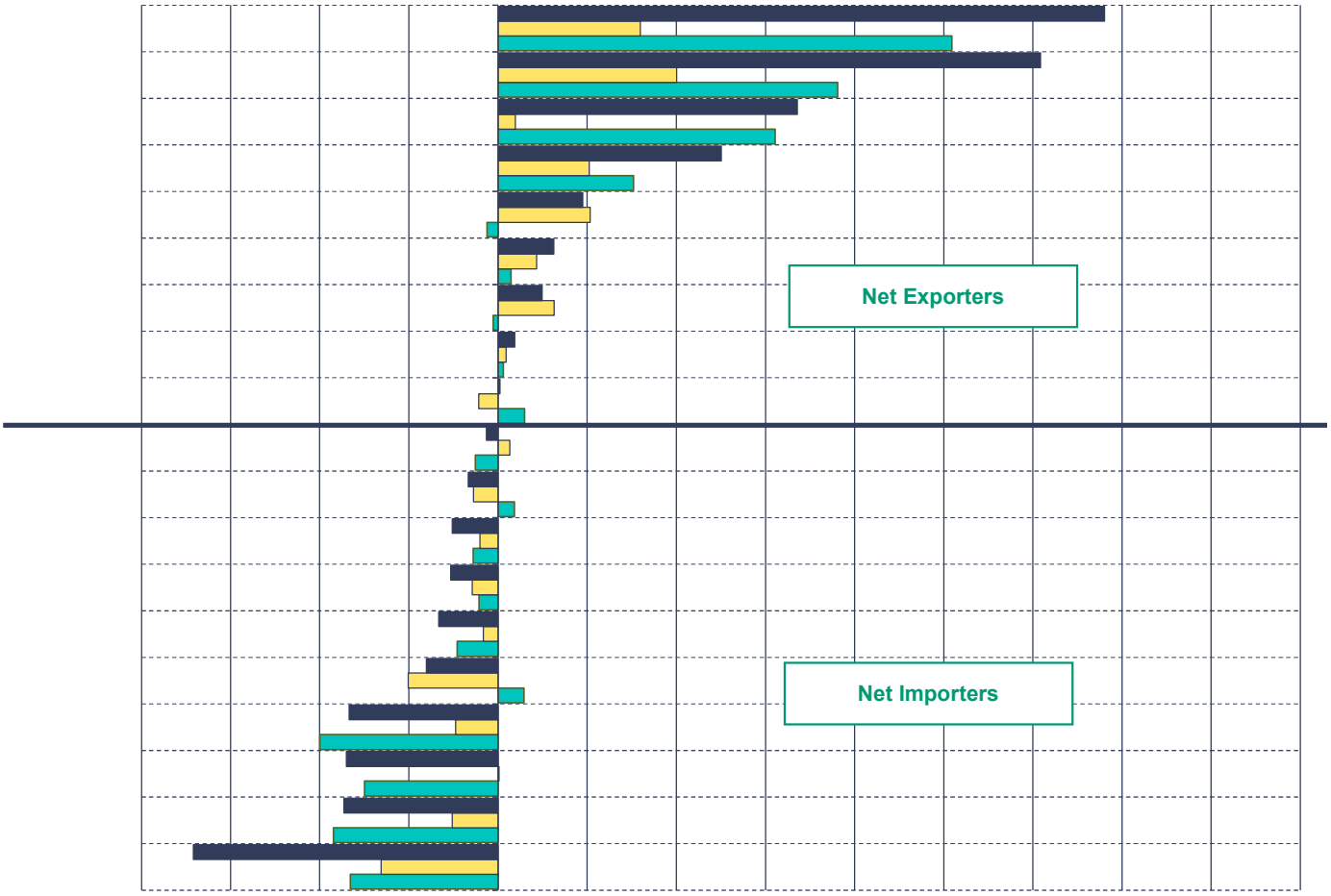
[4] Population on 1st January 2024 (Source: Eurostat)

Paper and Board Apparent Consumption in 2024



[3] Paper and Board Apparent Consumption
Per capita apparent consumption of paper and board is a calculation taking the amount of paper and board consumed in each country divided by the number of the population in that country. It cannot be assumed to be the average amount of finished paper and board or articles of paper and board used by an individual. Consumption by companies, and more broadly the whole economy, is included.

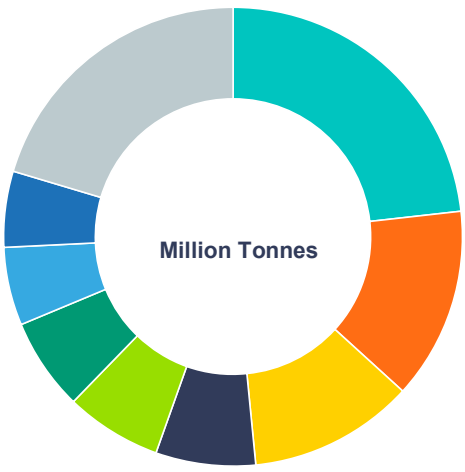
Net Trade of Paper and Board in 2024



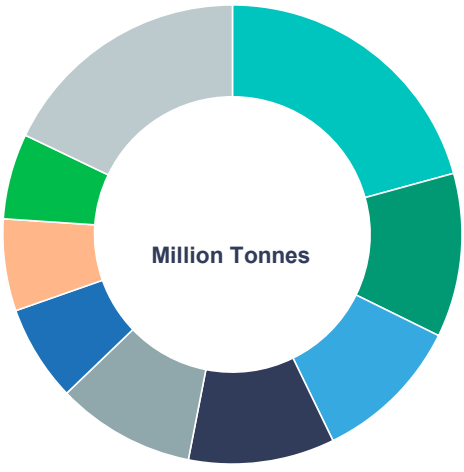
Trade Balance of Paper and Board (Million Tonnes)

■ Total Paper and Board ■ Graphic Papers ■ Packaging Paper and Board

Paper and Board Exports[1] by Country in 2024



Paper and Board Imports[1] by Country in 2024



[1] *Include exports and imports between Cepi countries*

Total Graphic Papers in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption	% Change 2024/2023
Austria									
France									
Germany									
Italy									
Netherlands									
Spain									
Sweden									
Other Cepi									
Total Cepi									

France: Domestic deliveries and total deliveries have been estimated by Cepi.

Greece, Hungary, Romania,Slovakia and Slovenia: Figures have been partly estimated by Cepi

Other Cepi: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Total Packaging Paper and Board in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption	% Change 2024/2023
Austria									
Czech Republic									
France									
Germany									
Italy									
Netherlands									
Poland									
Spain									
Sweden									
United Kingdom									
Other Cepi									
Total Cepi									

France: Domestic Deliveries and total deliveries have been estimated by Cepi.

Greece, Hungary, Romania,Slovakia and Slovenia: Figures have been partly estimated by Cepi

Other Cepi: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Containerboard in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption	% Change 2024/2023
Austria									
France									
Germany									
Italy									
Spain									
Sweden									
Other Cepi									
Total Cepi									

France: Domestic Deliveries and total deliveries have been estimated by Cepi.

Other Cepi: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Other Packaging Paper and Board* in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption	% Change 2024/2023
Austria									
France									
Germany									
Italy									
Spain									
Sweden									
Other Cepi									
Total Cepi									

** Wrappings, cartonboard and other paper & board for packaging*

France: Domestic Deliveries and total deliveries have been estimated by Cepi.

Other Cepi: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Tissue Paper in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption	% Change 2024/2023
France									
Germany									
Italy									
Netherlands									
Poland									
Spain									
United Kingdom									
Other Cepi									
Total Cepi									

France: Domestic deliveries and total deliveries have been estimated by Cepi.

Other Cepi: includes countries members of Cepi, that are not included in the table (see list of members page 1).

Other Paper and Board in 2024

'000 Tonnes	Production	Domestic Deliveries	Exports to Other Cepi Countries	Exports to Countries Outside Cepi	Total Deliveries	Imports from Other Cepi Countries	Imports from Countries outside Cepi	Apparent Consumption	% Change 2024/2023
France									
Germany									
Italy									
Spain									
Other Cepi									
Total Cepi									

France: Domestic Deliveries and total deliveries have been estimated by Cepi.

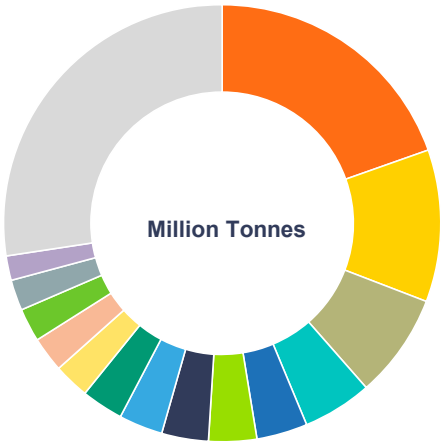
Other Cepi: includes countries members of Cepi, that are not included in the table (see list of members page 1).

EU Paper and Board Production, Trade and Consumption[1]

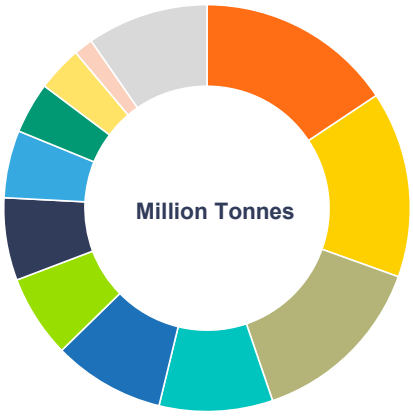
	A Production			B Exports[2]			C Imports[2]			D = A - B + C Consumption		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Newsprint												
Uncoated Mechanical												
Uncoated Woodfree												
Coated Mechanical												
Coated Woodfree												
Printing and writing Papers												
Total Graphic Papers												
Tissue Paper												
Containerboard												
Cartonboard												
Wrappings												
Other P&B for Packaging												
Total Packaging P&B												
Other Paper and Board												
Total Paper and Board												

EU Paper and Board Trade by Destination and Origin

Exports



Imports



[1] *Data for EU countries not members of Cepi has been estimated (Source: Fastmarkets - AFRY - see page 98).*

[2] *Exports and Imports to and from countries outside EU.*

Total Paper and Board Production by Grade and by Country[1]

Million Tonnes	Cepi		Brazil		Canada[3]		China	
	2024	% Chg*	2024	% Chg*	2024	% Chg*	2024	% Chg*
Newsprint[2]								
Uncoated Mechanical								
Uncoated Woodfree								
Coated Papers								
Printing and Writing Papers								
Total Graphic Papers								
Tissue Paper								
Containerboard								
Wrappings								
Other P&B for Packaging								
Total Packaging P&B								
Other Paper and Board								
Total Paper and Board[5]								

Million Tonnes	Japan		Russia		South Korea		USA[4]	
	2024	% Chg*	2024	% Chg*	2024	% Chg*	2024	% Chg*
Newsprint[2]								
Uncoated Mechanical								
Uncoated Woodfree								
Coated Papers								
Printing and Writing Papers								
Total Graphic Papers								
Tissue Paper								
Containerboard								
Wrappings								
Other P&B for Packaging								
Total Packaging P&B								
Other Paper and Board								
Total Paper and Board[5]								

* % change 2024/2023

[1] *Sources:*
USA: AF&PA - The American Forest & Paper Association / Canada: PPPC - Pulp and Paper Products Council / Japan: JPA - Japan Paper Association / South Korea: KPMA - Korea Paper Manufacturers' Association / Brazil: IBA - Indústria Brasileira de Árvores / China: CPA - China Paper Association / Russia: Fastmarkets and Cepi estimation.

[2] *USA Newsprint data are compiled by Pulp and Paper Products Council (PPPC).*

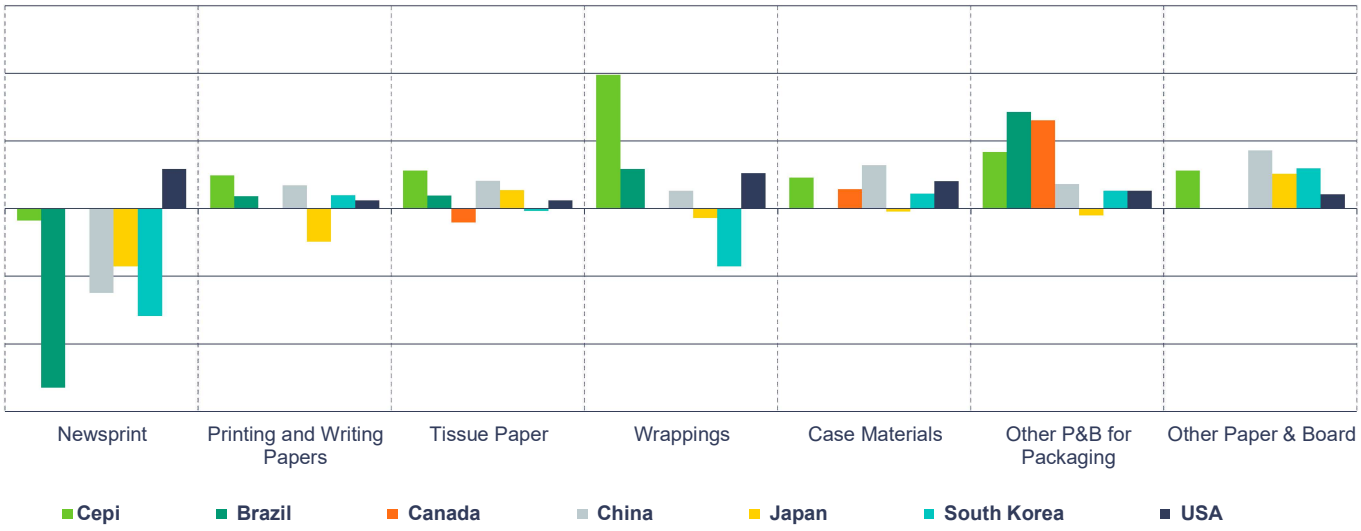
[3] *The sub-divisions of Printing & Writing papers in USA and Canada are indicating shipments.*

[4] *USA: Data is reported in million short tonnes.*

[5] *Total for these countries account for around 80% of total world paper and board production.*

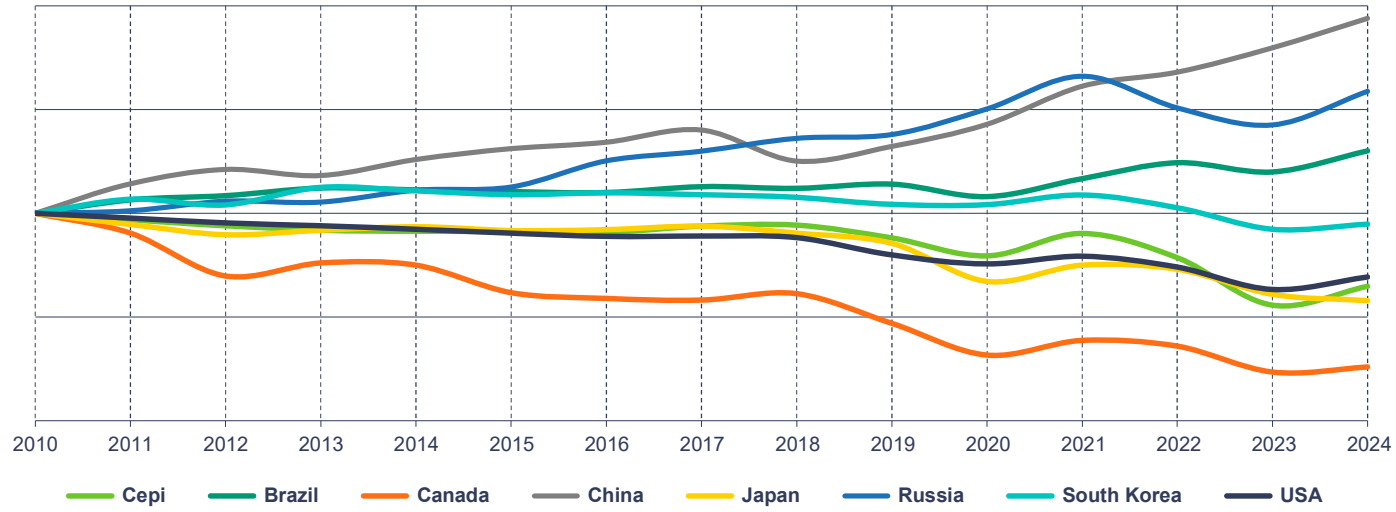
Change in Production by Grade and by Country

% change 2024/2023

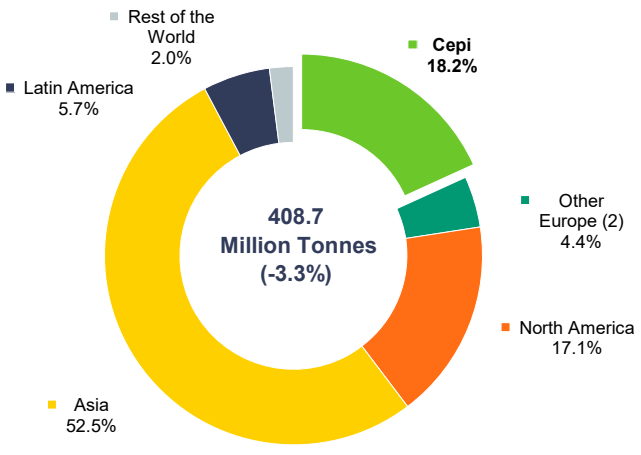


Indexed Growth in Paper & Board Production

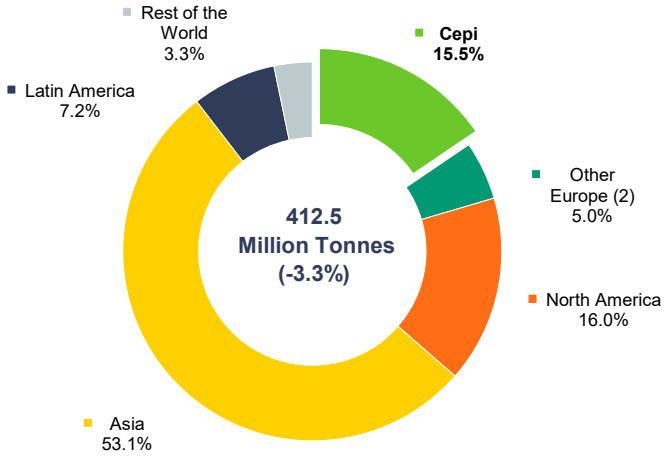
Index (2000 = 100)



Paper and Board Production by Region in 2023[1]



Paper and Board Consumption by Region in 2023[1]



[1] *Sources: Cepi, Fastmarkets.*

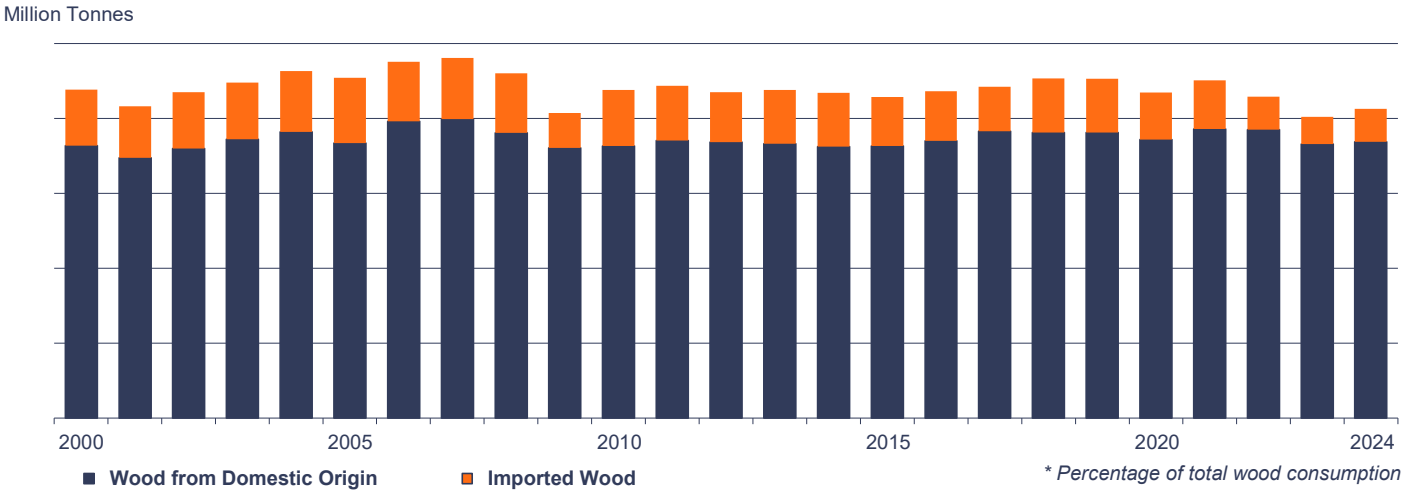
[2] *Other Europe: see nomenclature on page 110.*

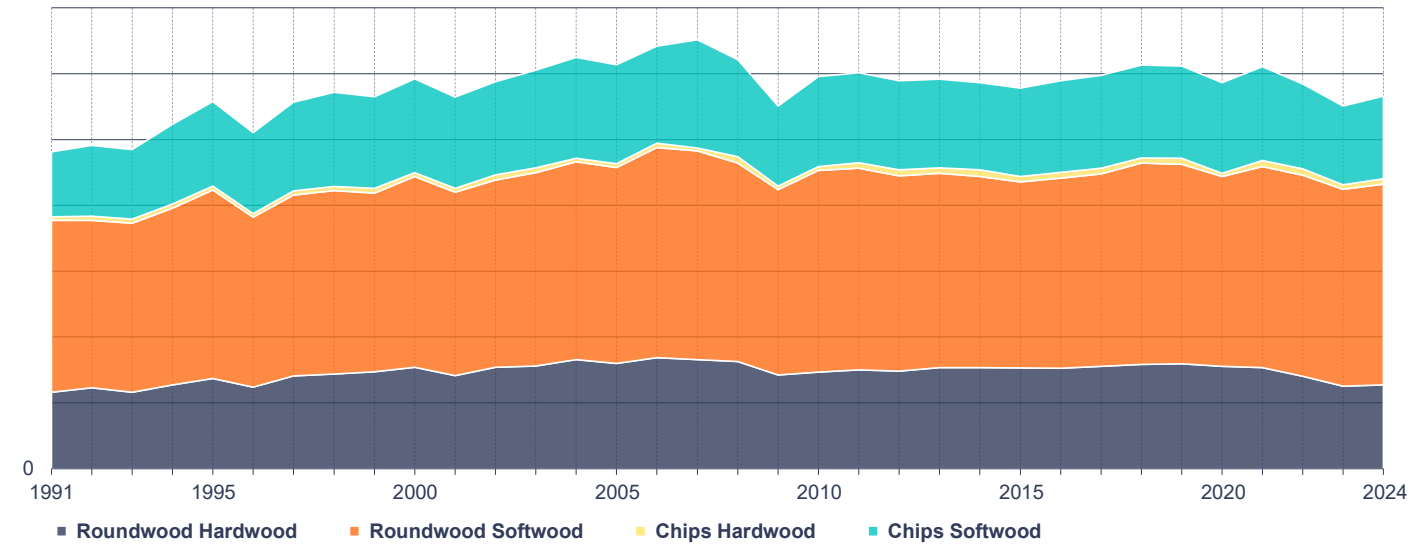
Wood Consumption

'000 m³	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Softwood Roundwood								
Softwood Chips								
Total Softwood								
Hardwood Roundwood								
Hardwood Chips								
Total Hardwood								
Total Roundwood								
Total Chips								
Total Wood	**120 274**	**148 093**	**148 901**	**146 515**	**137 756**	**141 436**		

Woodchips *used to produce pulp are residues from sawmills and woodworking industry, and are in fact an important contribution to circular economy through industrial symbiosis, although traditionally not reported by Cepi as recycling.*

Wood Consumption by Origin and Assortment





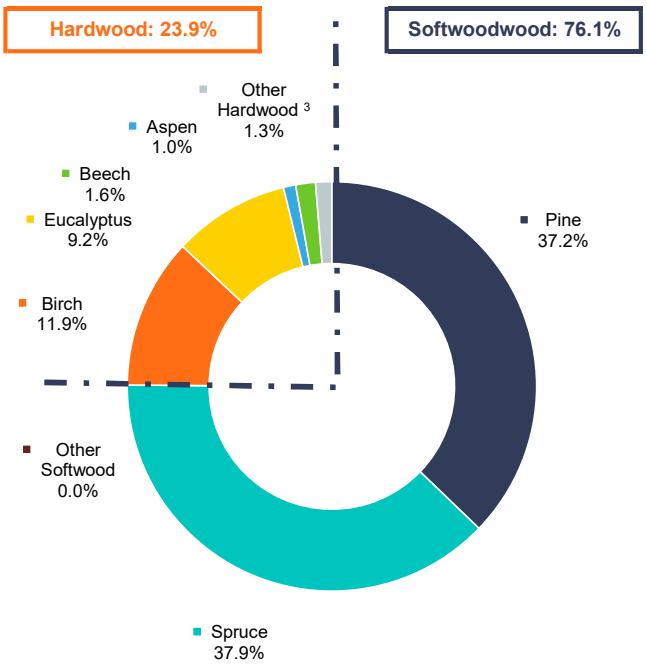
Sources: Cepi, Eurostat

Wood Consumption by Origin

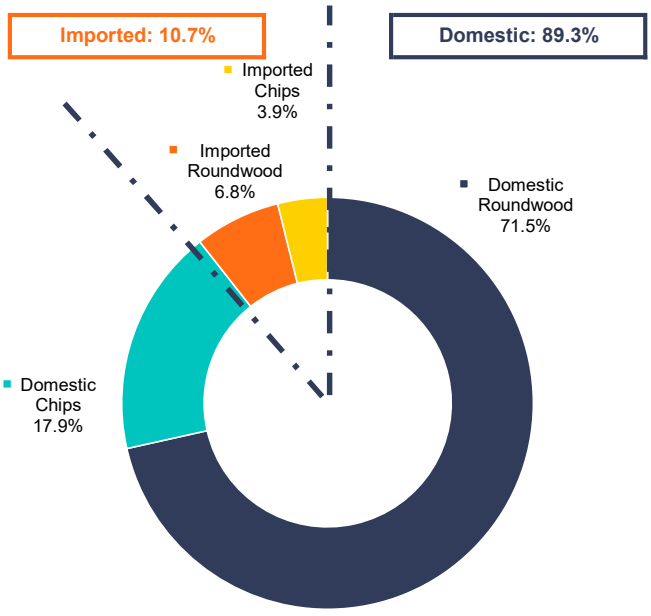
'000 m³	From Domestic Origin (within the country)			From Imports and internal deliveries[1]			Total Wood Consumption		
	2023	2024	% Chg	2023	2024	% Chg	2023	2024	% Chg
Softwood Roundwood									
Softwood Chips									
Total Softwood									
Hardwood Roundwood									
Hardwood Chips									
Total Hardwood									
Total Roundwood									
Total Chips									
Total Wood									

Share in Wood Consumption in 2024

By Species [2]



By Origin



Total Wood Consumption: 141.4 Million m³

[1] *Include imports between Cepi countries*

[2] *Based on a sample representing 90% of total Cepi consumption*

[3] *Other Hardwood = hornbeam, ash, maple, accacia, quercus-cerris, oak, alder, poplar, willow, chesnut.*

Wood Trade and Consumption in 2024

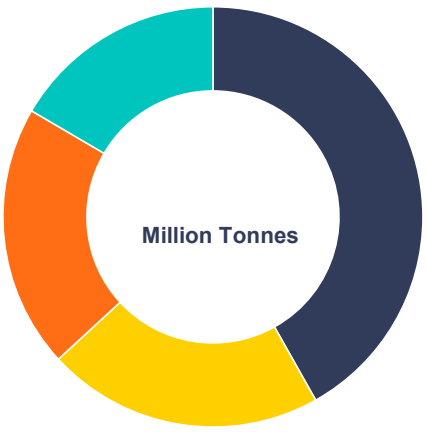
'000 Tonnes	Exports[1]			Imports[1]			Consumption	
	To Other Cepi Countries	To outside Cepi	**Total Exports**	From Other Cepi Countries	From outside Cepi	**Total Imports**	**Total**	**Share of imports***
Softwood Roundwood								
Softwood Chips								
Total Softwood								
Hardwood Roundwood								
Hardwood Chips								
Total Hardwood								
Total Roundwood								
Total Chips								
Total Wood								

Source: Cepi, Eurostat

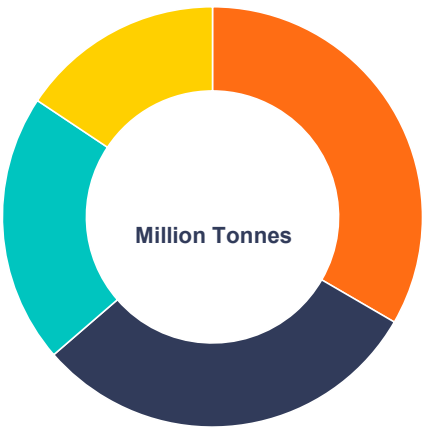
** Imports from outside Cepi*

Wood Trade by Assortment in 2024

Imports[2]



Exports[2]



Source: Eurostat

[1] CN codes included in wood trade figures: see note page 109.

[2] Imports and exports from and to outside Cepi

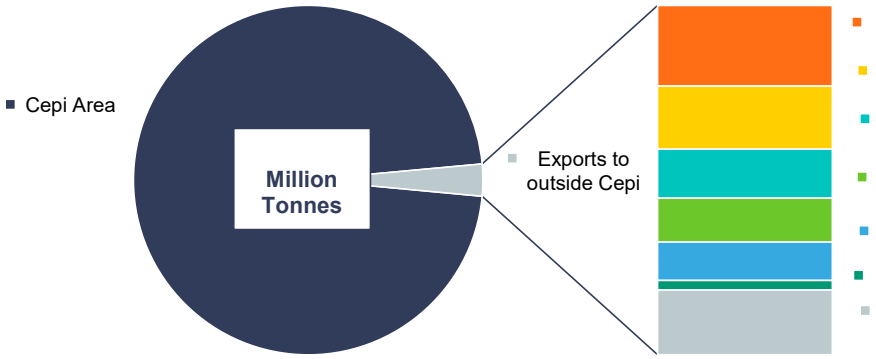
Exports of Wood by Region and by Country of Destination

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]							
Latin America							
North America							
Asia							
Rest of the World							
Total							

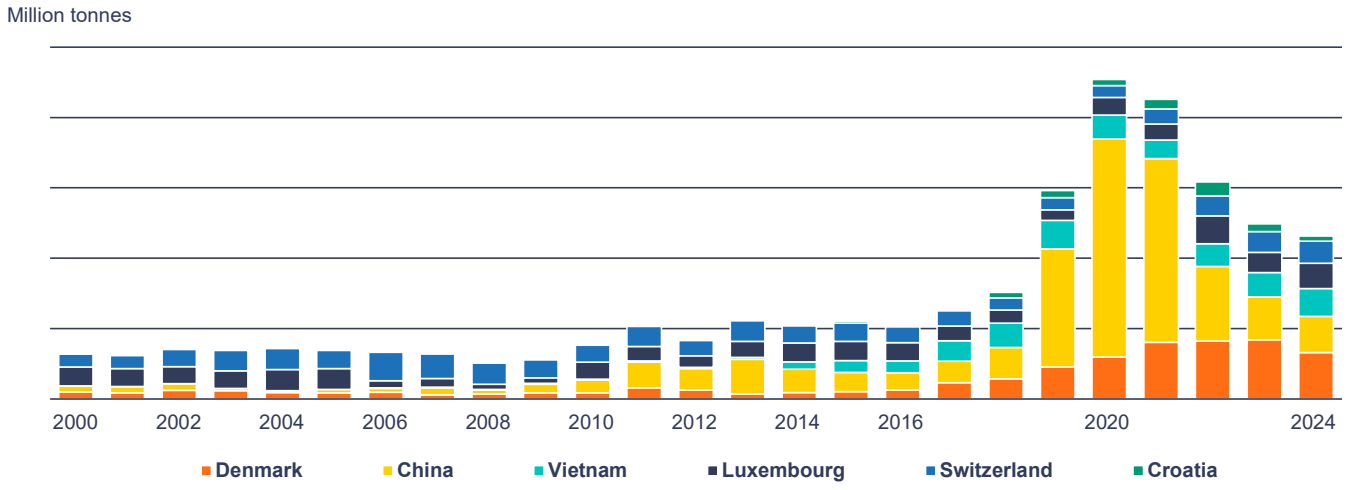
[1] *Other Europe than Cepi: see nomenclature on page 110.*

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Denmark							
China							
Vietnam							
Luxembourg							
Switzerland							
Croatia							
Rest of the World							
Total							

Wood deliveries by destination in 2024



Evolution of Wood Exports by Destination



Source: Eurostat

CN codes included in wood trade figures: see note page 109.

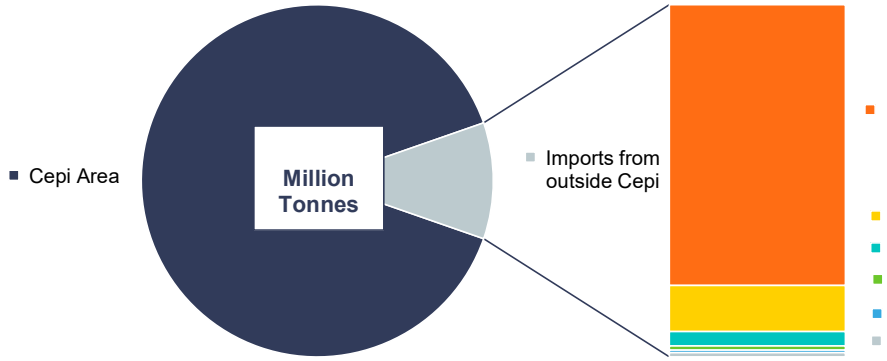
Imports of Wood by Region and by Country of Origin

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]							
Latin America							
North America							
Asia							
Rest of the World							
Total							

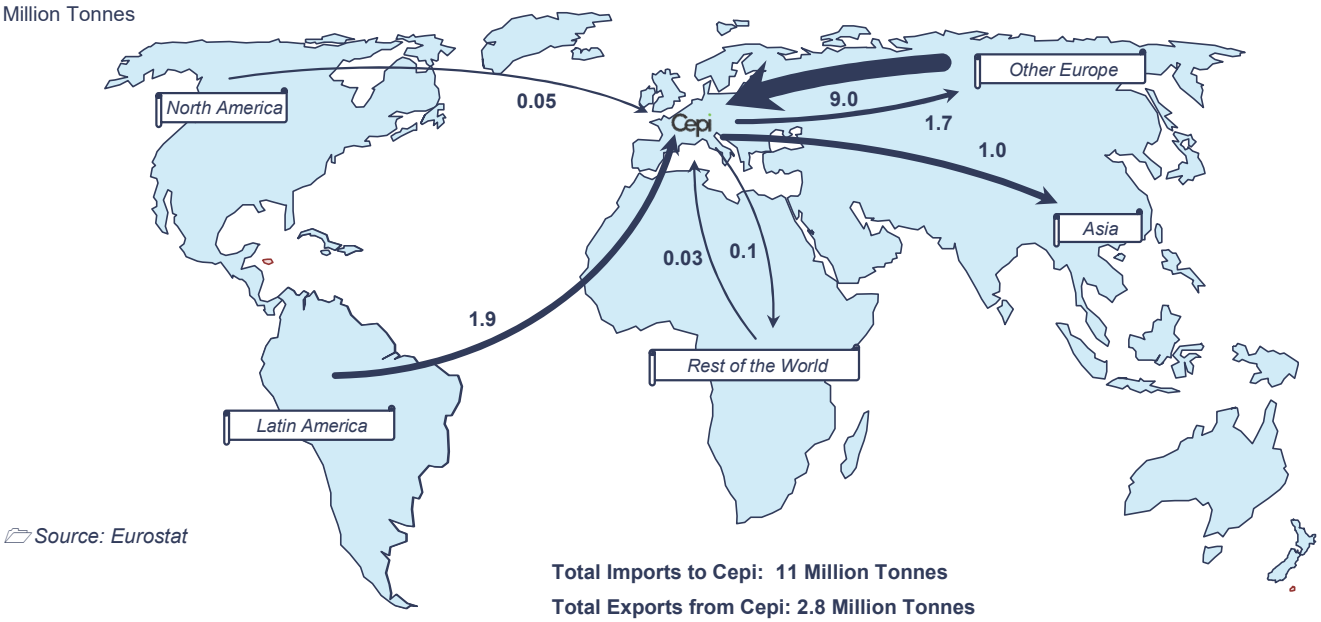
[1] *Other Europe than Cepi: see nomenclature on page 106.*

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Latvia							
Estonia							
Brazil							
Lithuania							
Uruguay							
Croatia							
Luxembourg							
Rest of the World							
Total							

Wood Consumption Origin in 2024



Trade Flows of Wood in 2024



Source: Eurostat

Total Imports to Cepi: 11 Million Tonnes

Total Exports from Cepi: 2.8 Million Tonnes

CN codes included in wood trade figures: see note page 106.

Wood Consumption in 2024

'000 m³	Roundwood			Chips			Total			% Change 2024/2023
	HW	SW	Total	HW	SW	Total	HW	SW	Total	
Austria										
Belgium										
Czech Republic										
Finland										
France										
Germany										
Norway										
Poland										
Portugal										
Spain										
Sweden										
United Kingdom										
Other Cepi Countries[1]										
Total Cepi										

HW = Hardwood - SW=Softwood

n.a. : Figures can't be published due to transparency reasons and have been added to "Other Cepi Countries".

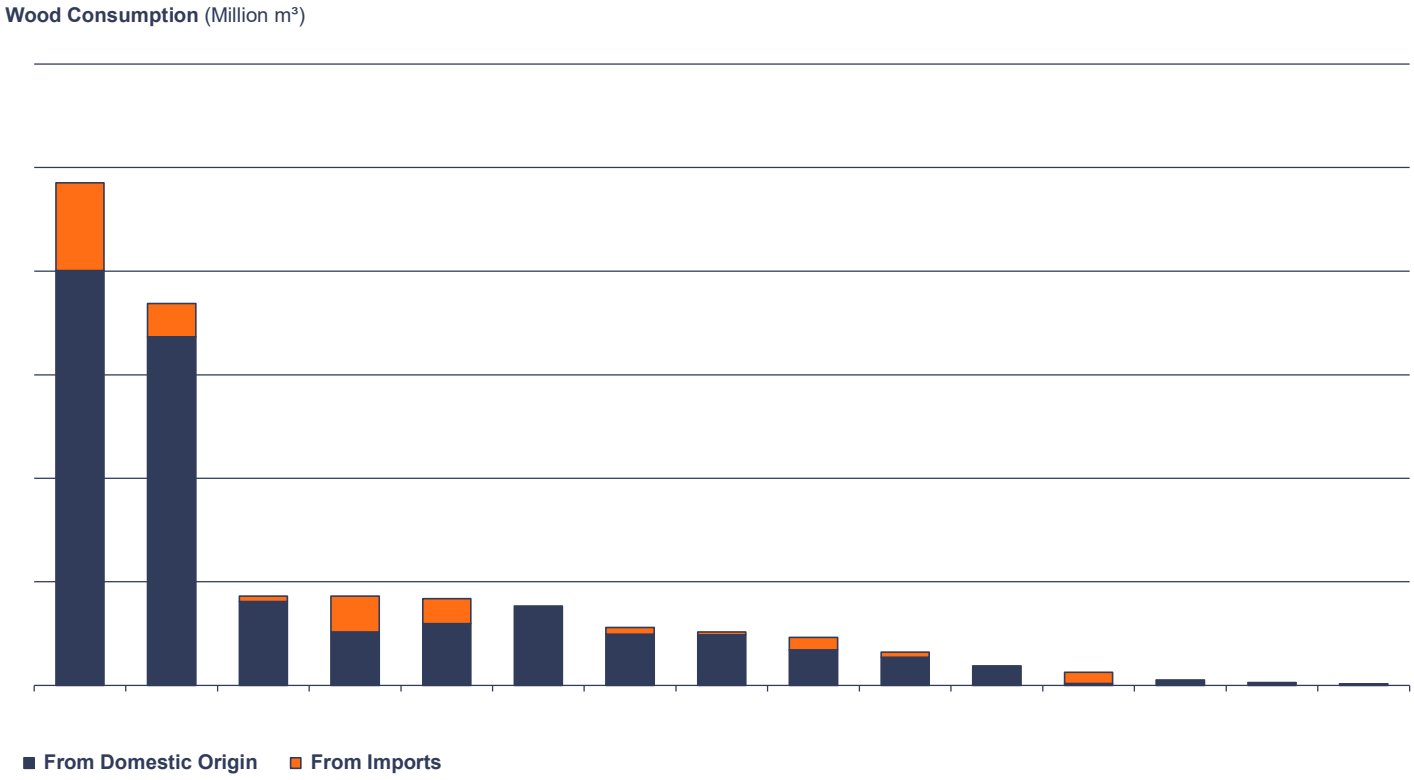
[1] Don't include Germany for total roundwood, total chips and total wood.
Austria, Portugal: data has been estimated by Cepi

… of which Domestic Wood Consumption

'000 m³	Roundwood			Chips			Total			% Change 2024/2023
	HW	SW	Total	HW	SW	Total	HW	SW	Total	
Austria										
Belgium										
Czech Republic										
Finland										
France										
Norway										
Poland										
Portugal										
Spain										
Sweden										
United Kingdom										
Other Cepi Countries										
Total Cepi										

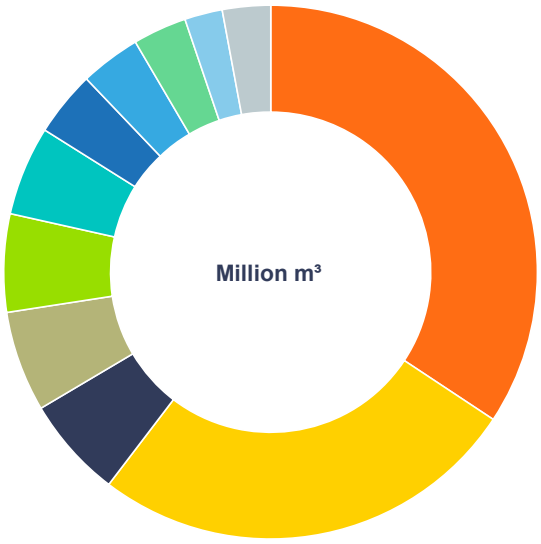
HW = Hardwood - SW=Softwood
Austria, Portugal: data has been estimated by Cepi

Wood Consumption by Origin in 2024



**Germany: total wood data (domestic + imports)*

Wood Consumption by Country in 2024



Wood Trade in 2024

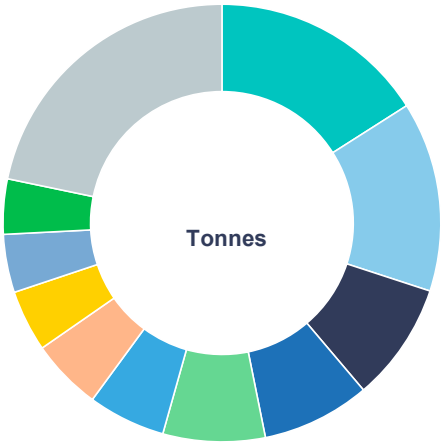
'000 Tonnes	Exports[1]			Imports[1]		
	To Other Cepi Countries	To outside Cepi Countries	**Total Exports**	From Other Cepi Countries	From outside Cepi Countries	**Total Imports**
Austria						
Belgium						
Czech Republic						
Finland						
France						
Germany						
Greece						
Hungary						
Italy						
Netherlands						
Norway*						
Poland						
Portugal						
Romania						
Slovakia						
Slovenia						
Spain						
Sweden						
United Kingdom*						
Total Cepi						

**Norway and United Kingdom: imports and exports outside EU-27 are not included.*

Source: Eurostat

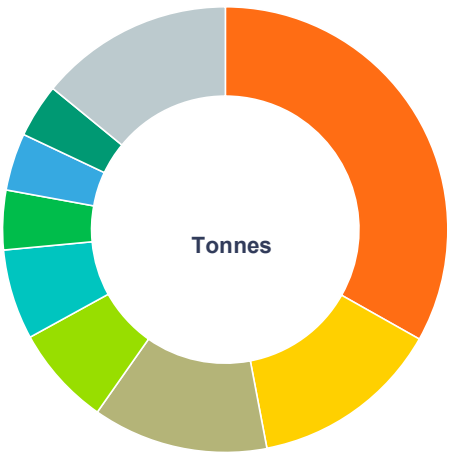
Wood Trade by Country in 2024

Exports[1]



Source: Eurostat

Imports[1]



Source: Eurostat

**Norway and United Kingdom: imports and exports outside EU-27 are not included.*

[1] CN codes included in wood trade figures: see note page 109.

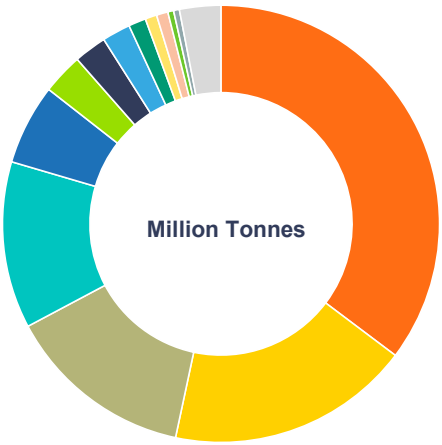
[2] Include exports and imports between Cepi countries

EU Wood Trade

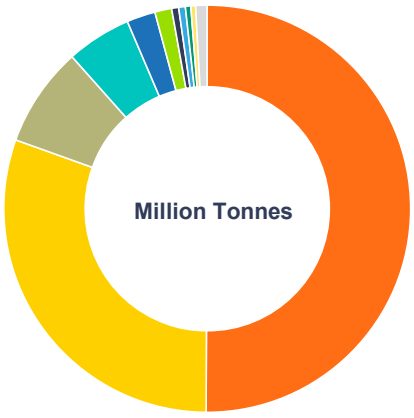
'000 Tonnes	Imports[1]			Exports[1]			Consumption[2]		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Softwood Roundwood									
Softwood Chips									
Total Softwood									
Hardwood Roundwood									
Hardwood Chips									
Total Hardwood									
Total Roundwood									
Total Chips									
Total Wood									

EU Wood Trade by Destination and Origin

Exports



Imports



[1] *Source: Eurostat - Exports and Imports to and from outside the EU-27 region.*
[2] *Non-Cepi EU Countries: data estimated by Cepi (Source: Fastmarkets).*

Utilisation of Paper for Recycling by Grade

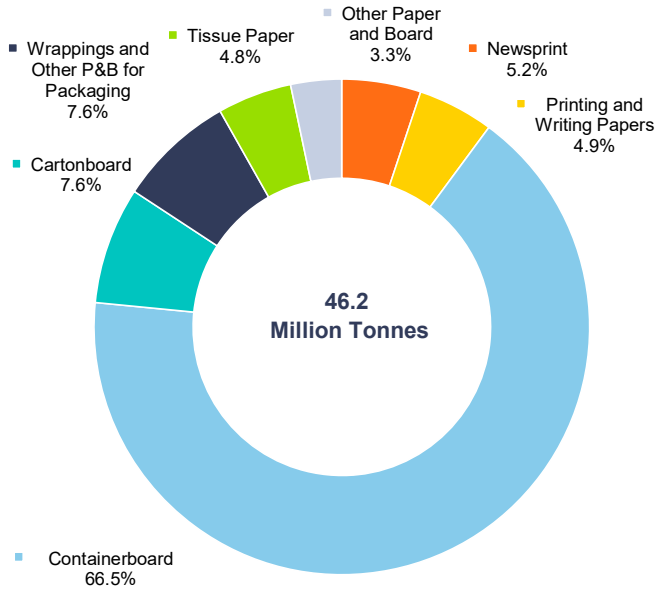
'000 Tonnes	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Mixed Grades								
Corrugated and Kraft								
Newspapers and Magazines								
Other Grades								
Total Paper for Recycling								

Utilisation of Paper for Recycling by Paper and Board Sector

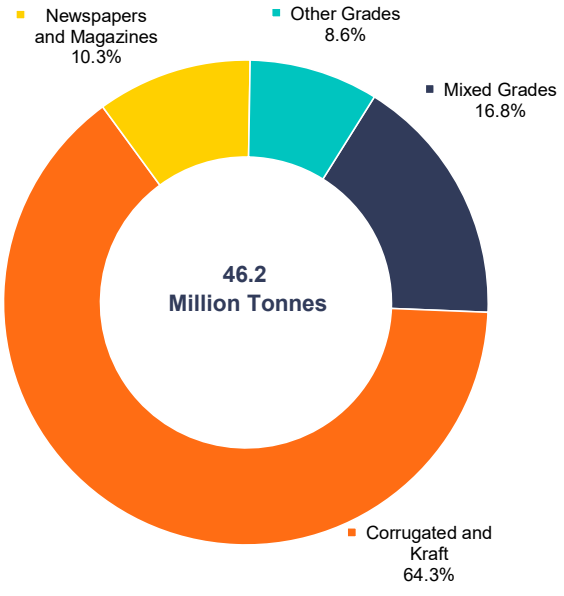
'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Newsprint							
Printing and Writing Papers							
Containerboard							
Cartonboard							
Wrappings and Other P&B for Packaging							
Tissue Paper							
Other Paper & Board							
Total Paper for Recycling							

Utilisation of Paper for Recycling in 2024

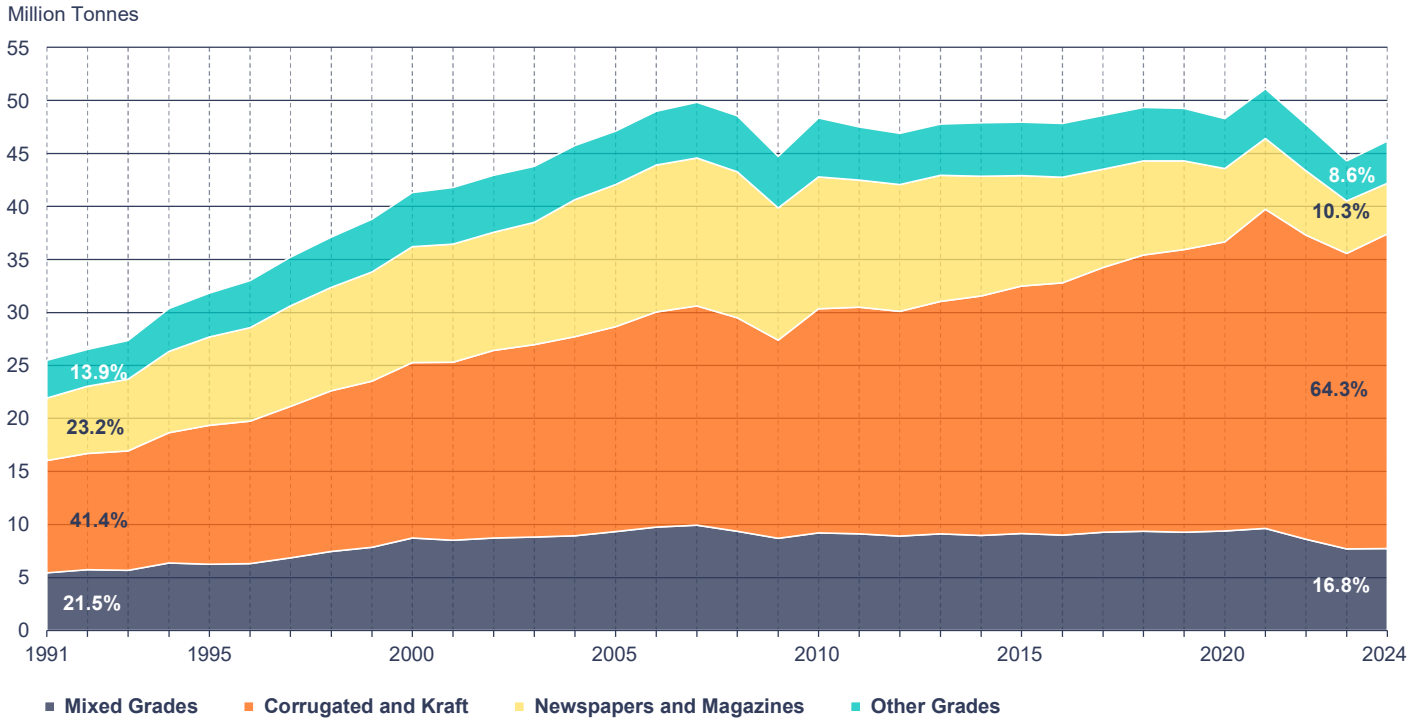
Utilisation by Paper and Board Sector



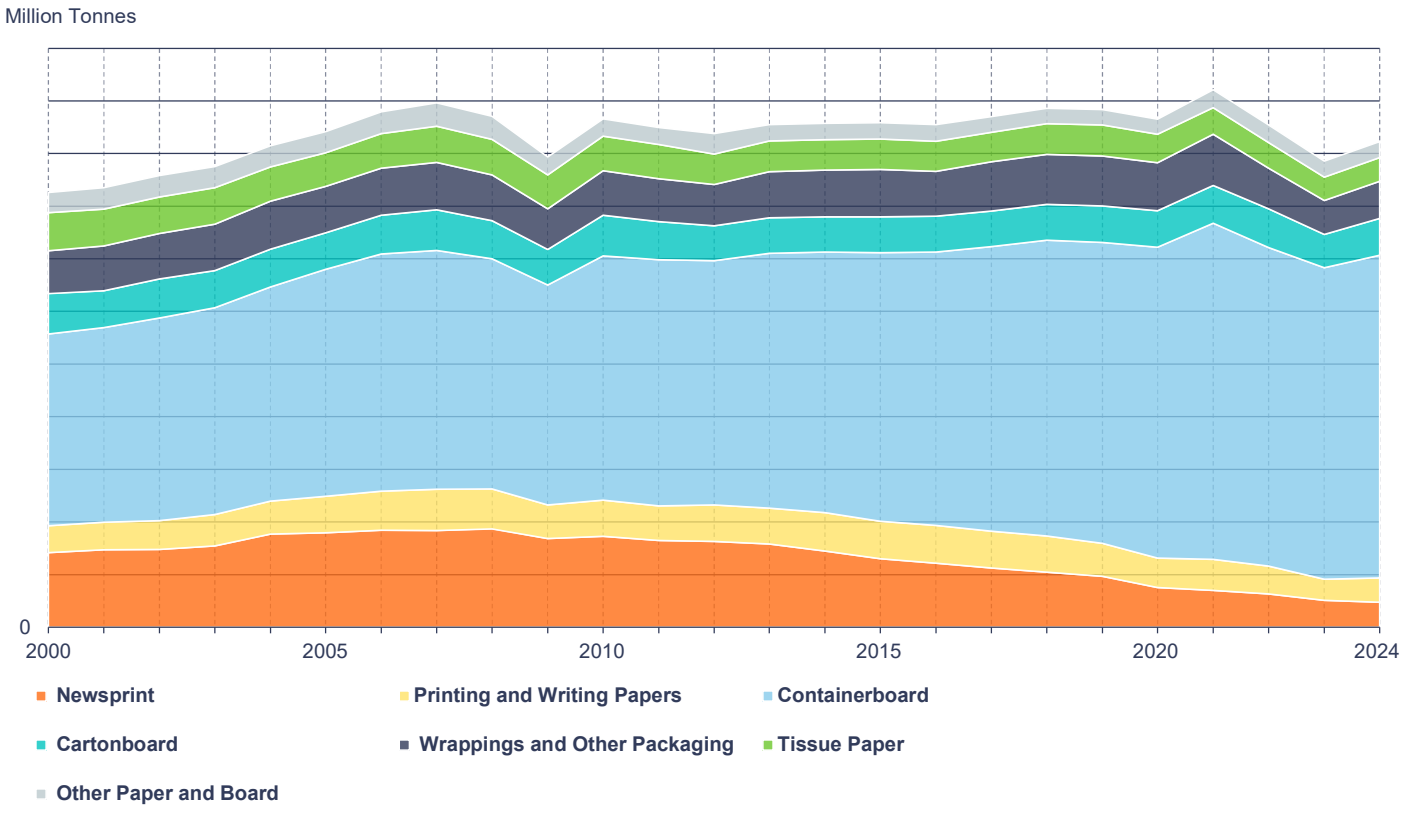
Utilisation by Grade



Utilisation of Paper for Recycling by Grade

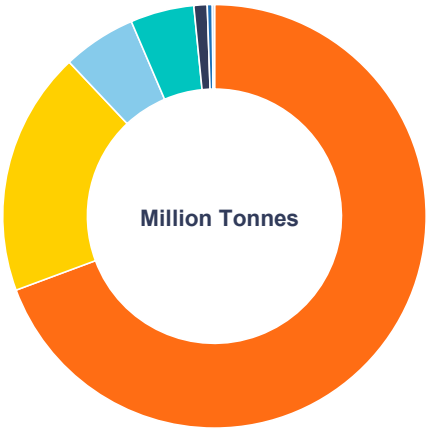


Utilisation of Paper for Recycling by Paper and Board Sector

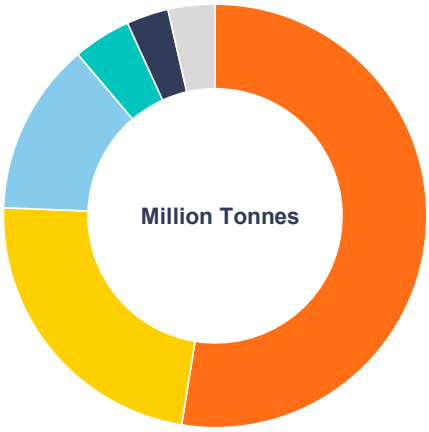


Utilisation of Paper for Recycling by EN643 Grade[1]

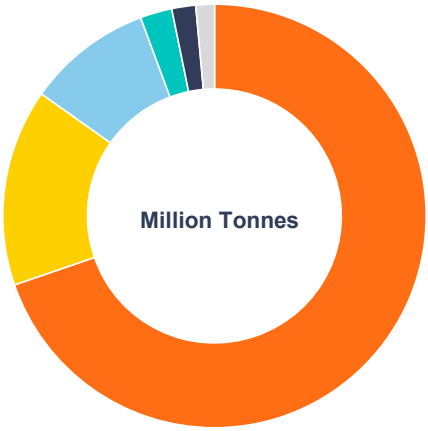
Class I - Mixed Grades



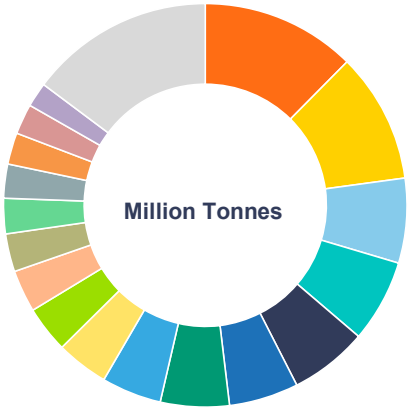
Class II - Corrugated and Kraft



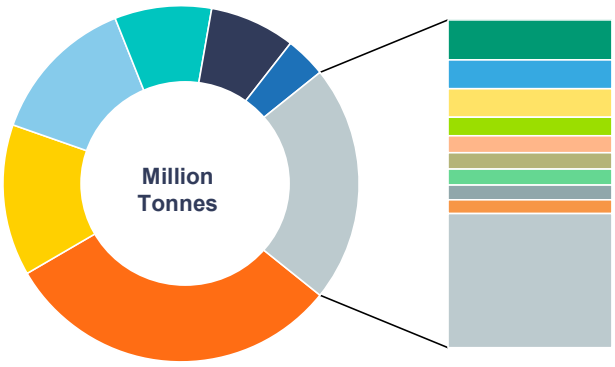
Class III - Newspapers and Magazines



Class IV - Other Grades



Total Paper for Rceycling



[1] *Based on a sample representing 65% of total Cepi paper for recycling utilisation - share by grade based on 2023 data.*

EN643 grades - See classifications page 107. **1.04 includes 1.04.00, 1.04.01 and 1.04.02*

Utilisation, Trade and Collection of Paper for Recycling by Grade

'000 Tonnes	A Utilisation			B Exports to Other Cepi Countries[3]			C Exports to Countries Outside Cepi[3]		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Mixed Grades									
Corrugated and Kraft									
Newspapers and Magazines									
Other Grades									
Total Paper for Recycling									
EU-27 Countries[2]									

'000 Tonnes	D Imports from Other Cepi Countries[3]			E Imports from Countries Outside Cepi[3]			A + C - E Collection[1]		
	2023	2024	% chg	2023	2024	% chg	2023	2024	% chg
Mixed Grades									
Corrugated and Kraft									
Newspapers and Magazines									
Other Grades									
Total Paper for Recycling									
EU-27 Countries[2]									

Trade and Collection of Paper for Recycling by Grade



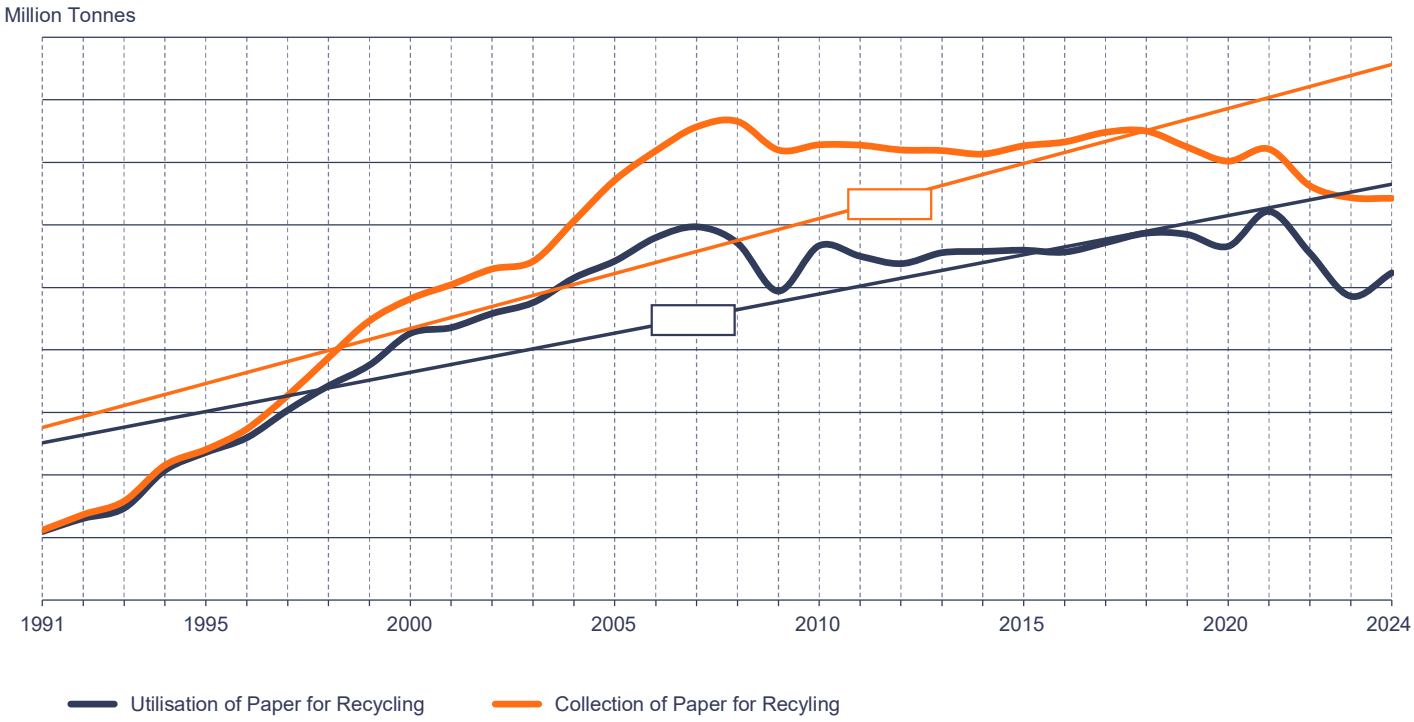
[1] *Cepi Collection: see note page 103.*

[2] *Data for EU countries not members of Cepi has been estimated (Sources: AFRY, Fastmarkets, Eurostat - See page 98).*

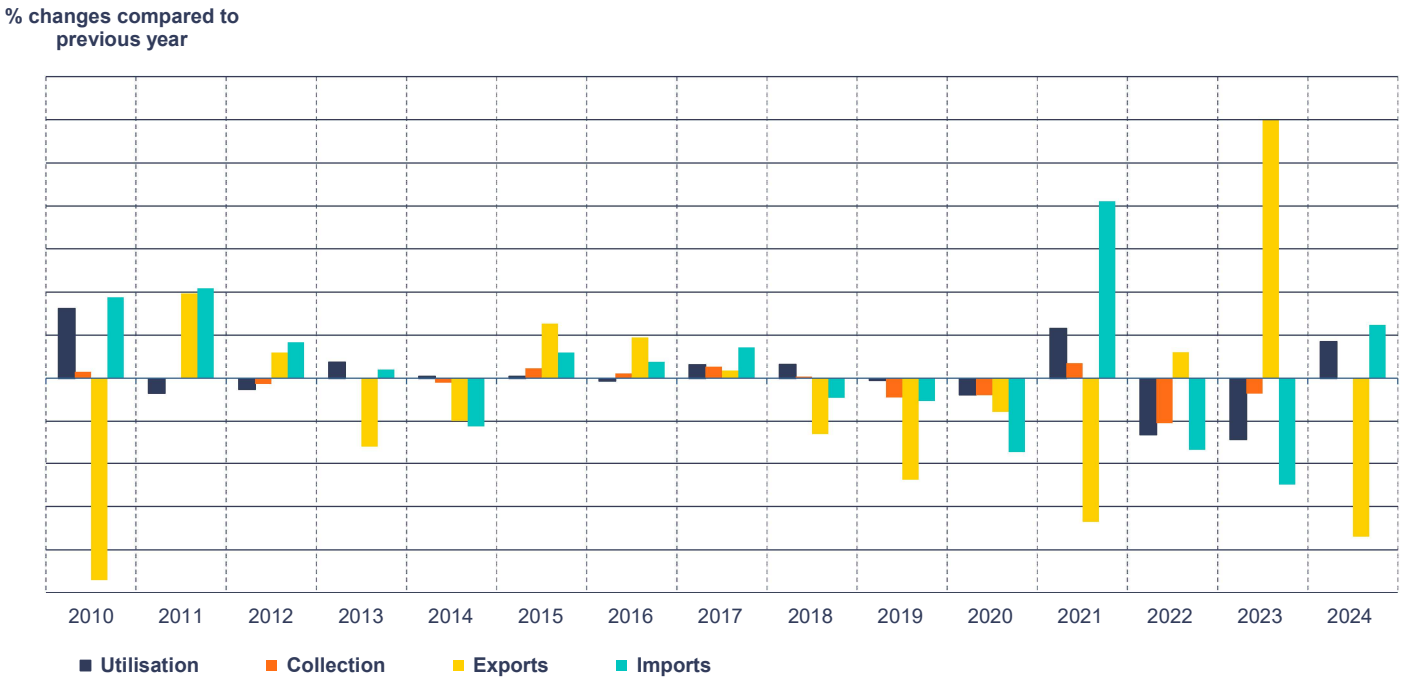
More data related to EU-27 area can be found on page 78.

[3] *For the line related to EU countries: exports or imports to and from other EU countries, or to and from outside EU.*

Utilisation and Collection of Paper for Recycling



Utilisation, Trade and Collection of Paper for Recycling



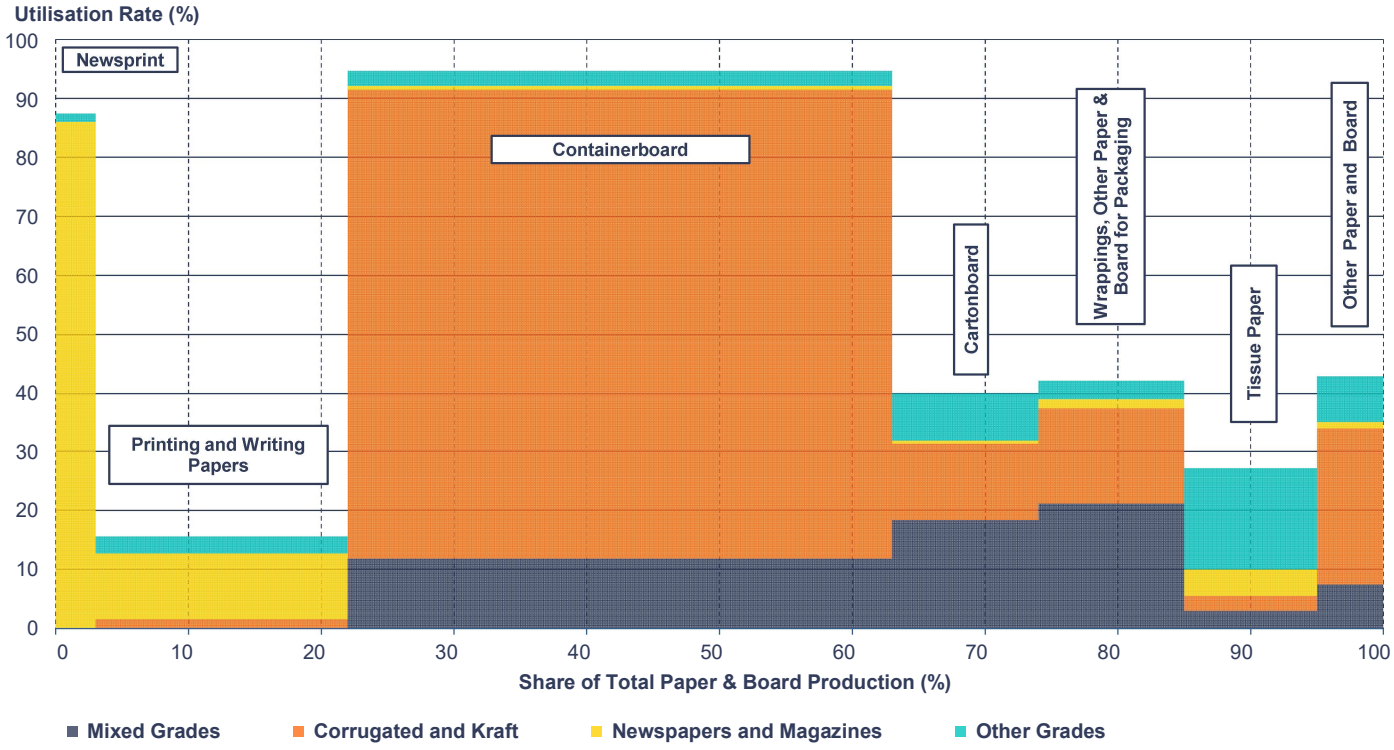
Utilisation of Paper for Recycling by Paper and Board Sector in 2024

'000 Tonnes	Grades of Paper for Recycling							
	A	B	C	D	E	F	G	E/G
Paper and Board Sector	Mixed Grades	Corrugated and Kraft	Newspapers & Magazines	Other Grades	Total Use of Paper for Recycling	Utilisation by Sector[1] %	Total P&B Production	Utilisation Rate [2] %
Newsprint	1	1	2 344	38	**2 384**	5.2	**2 727**	87.4
Printing and Writing Papers	14	216	1 629	423	**2 282**	4.9	**14 633**	15.6
Total Graphic Papers	**15**	**217**	**3 973**	**461**	**4 666**	**10.1**	**17 360**	**26.9**
Containerboard	3 829	25 799	215	831	**30 674**	66.4	**32 395**	94.7
Cartonboard	1 613	1 144	41	720	**3 517**	7.6	**8 786**	40.0
Wrappings & Other Packaging	1 772	1 350	143	260	**3 526**	7.6	**8 370**	42.1
Total Packaging Paper and Board	**7 214**	**28 292**	**399**	**1 811**	**37 716**	**81.7**	**49 552**	**76.1**
Tissue paper	**242**	**217**	**363**	**1 417**	**2 238**	**4.8**	**8 237**	**27.2**
Other Paper and Board	**268**	**950**	**39**	**286**	**1 543**	**3.3**	**3 593**	**42.9**
Total Paper and board	**7 738**	**29 676**	**4 774**	**3 975**	**46 163**	**100.0**	**78 742**	**58.6**
Share of Total	***16.8%***	***64.3%***	***10.3%***	***8.6%***	***100.0%***			

[1] Utilisation by paper and board sector: total use of paper for recycling in a sector as % of the total paper for recycling used by the industry

[2] Utilisation rate: use of paper for recycling in a sector as % of total paper & board production in that sector (See note below)

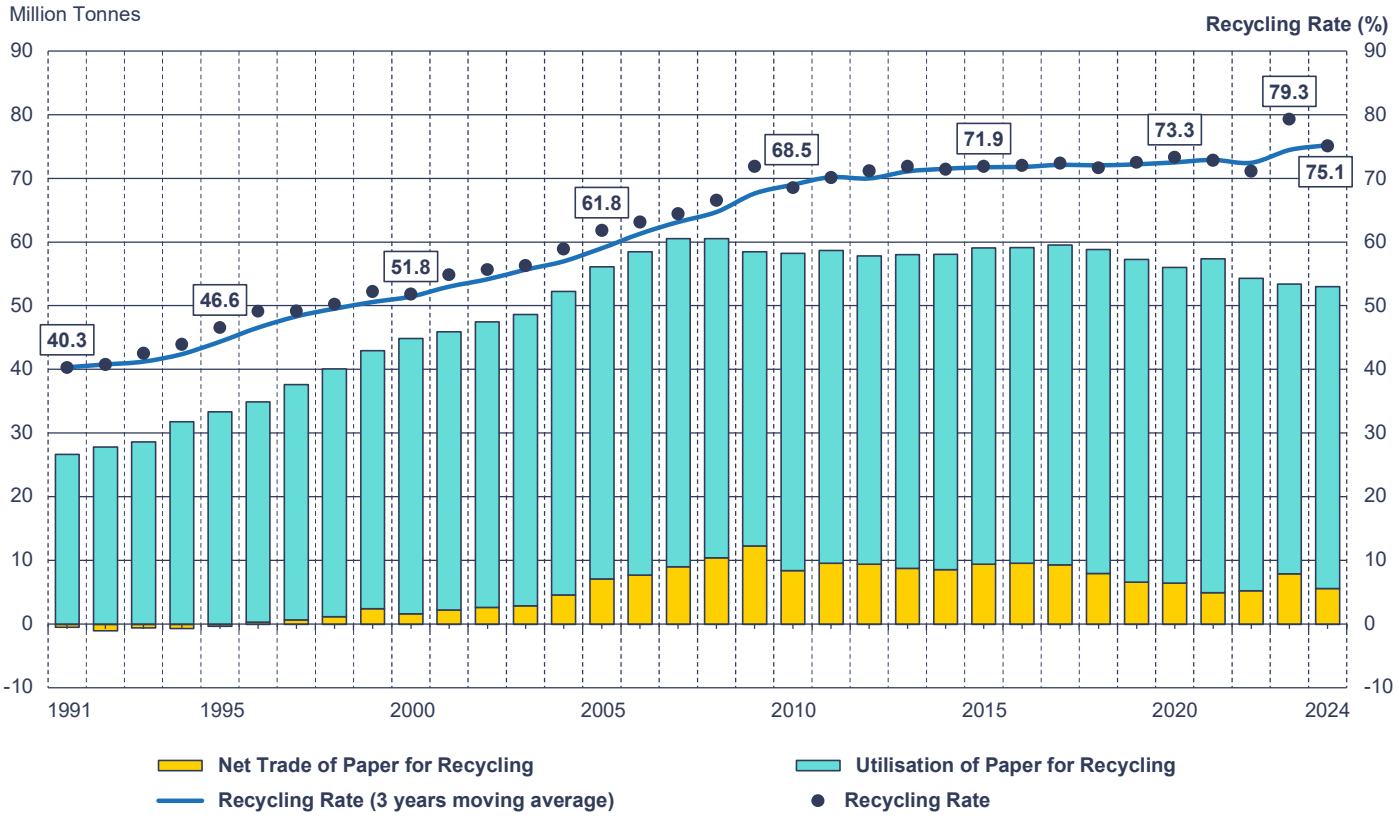
Utilisation of Paper for Recycling by Paper and Board Sector in 2024



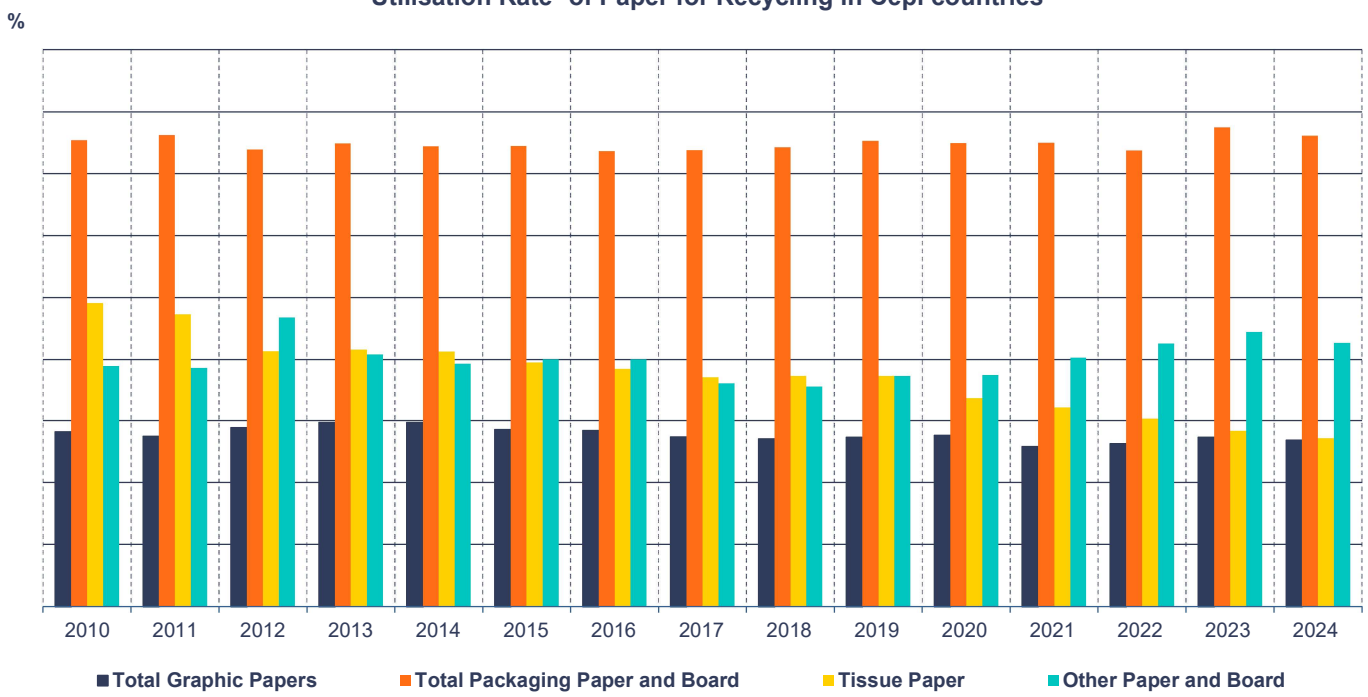
For instance: containerboard represent 41% of total paper and board production, have an utilisation rate of 95% and use 66% of total paper for recycling volumes used by the industry.

Important Note : Paper for recycling is composed of fibres but also unusable materials - non-paper components as well as paper and board detrimental to production. The share of unusable materials depends on the actual sorting and collection of used paper. It varies according to grades of paper for recycling and countries. The volume of recycled fibres actually used to produce new paper is therefore lower than the volume of paper for recycling considered. The utilisation rate compares utilisation of paper for recycling to paper & board production.

Utilisation, Net Trade and Recycling Rate[1] of Paper for Recycling in Europe[2]



Utilisation Rate[3] of Paper for Recycling in Cepi countries



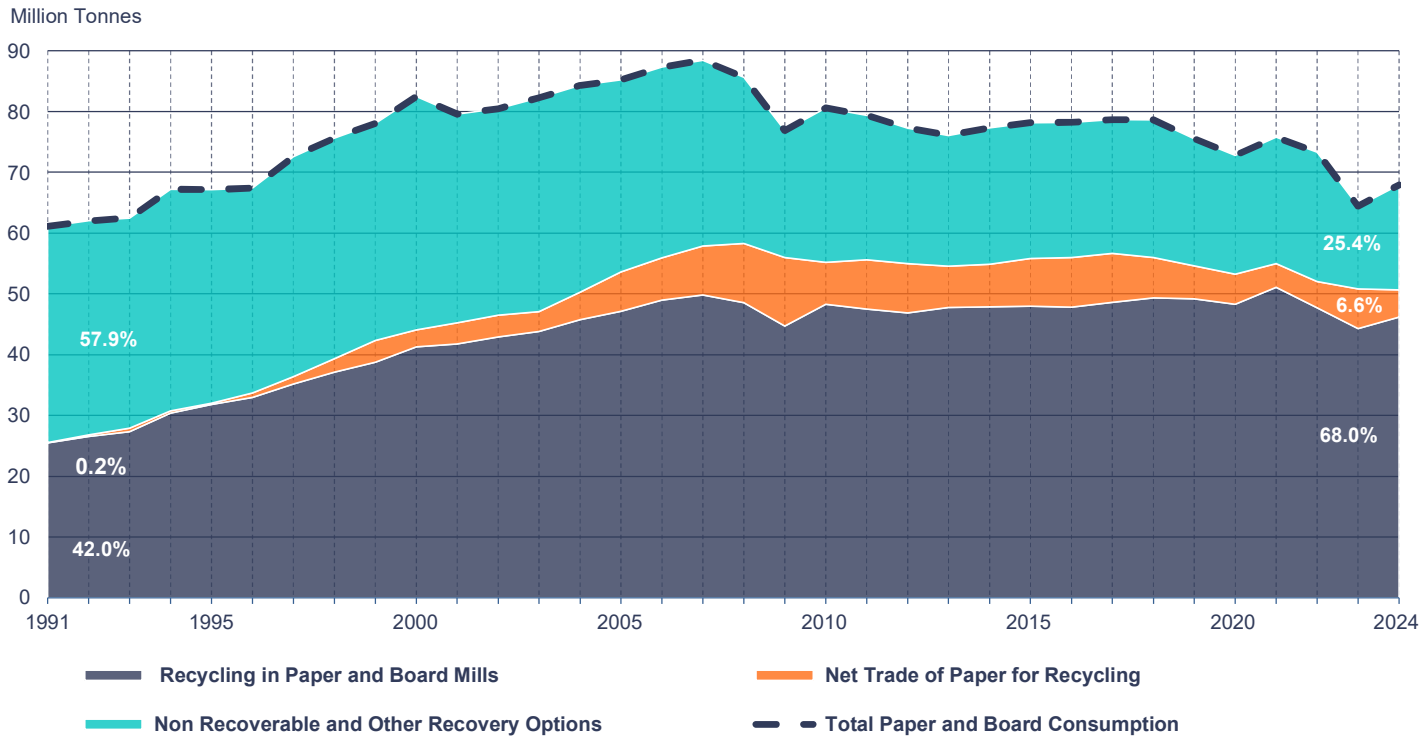
[1] *Recycling Rate :* $\frac{\text{Utilisation of Paper for Recycling + Net Trade}}{\text{Paper \& Board Consumption}}$

Important Note : The paper recycling rate has decreased compared to 2023. However it should be noted that the paper recycling rate was exceptionally high in 2023, due to the relatively low level of the apparent consumption. Looking at a three year rolling average and the long term trend, the 2024 rate confirms the paper recycling value chain is on track to reach its target of 76% paper recycling rate by 2030.

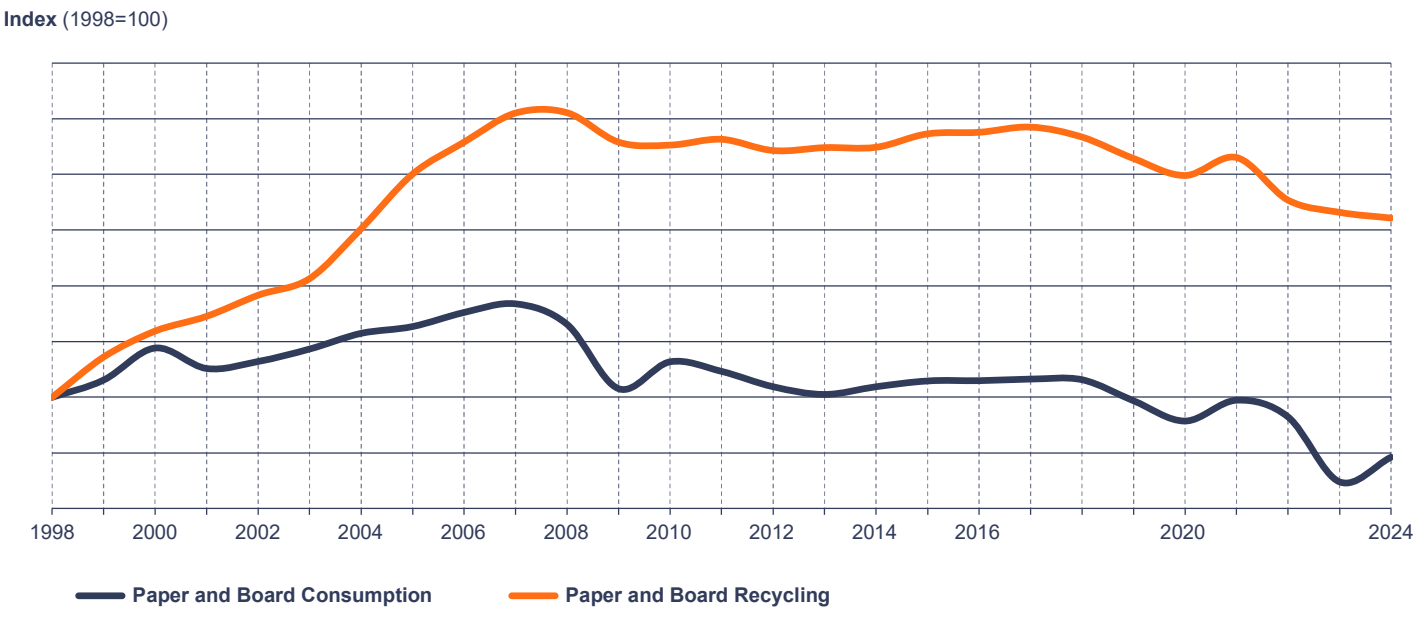
[2] *Europe: EU-27 countries plus Norway, Switzerland and the United Kingdom*

[3] *Utilisation rate: use of paper for recycling in a sector as % of total paper & board production in that sector.*

Paper and Board Consumption and Recycling



Paper and Board Consumption and Recycling



Exports of Paper for Recycling to Other Regions

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]	720	458	1 813	1 103	**1 374**	24.6	17.4
North America	47	27	2	1	**1**	-10.3	0.0
Latin America	7	21	43	27	**33**	20.9	0.4
Asia	2 894	9 355	6 806	8 503	**6 430**	-24.4	81.6
Rest of the World	127	14	16	31	**40**	31.8	0.5
Total	**3 795**	**9 875**	**8 679**	**9 664**	**7 878**	**-18.5**	**100.0**

Imports of Paper for Recycling from Other Regions

'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Other Europe[1]	738	1 598	1 487	1 503	**1 594**	6.0	83.4
North America	266	184	323	243	**271**	11.7	14.2
Latin America	0	3	11	17	**10**	-42.5	0.5
Asia	10	6	10	5	**11**	112.5	0.6
Rest of the World	7	8	30	30	**24**	-19.1	1.3
Total	**1 021**	**1 799**	**1 862**	**1 799**	**1 911**	**6.2**	**100.0**

Trade Balance of Paper for Recycling with Other Regions

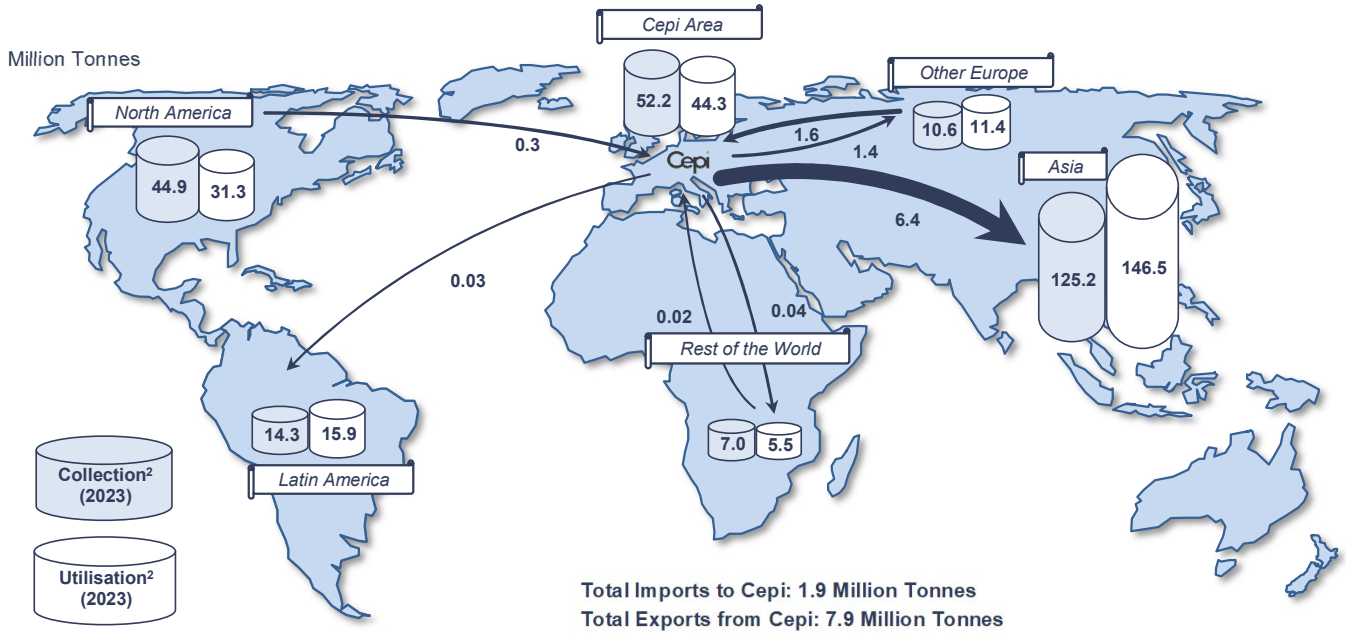
'000 Tonnes	2000	2010	2020	2023	2024	% Change 2024/2023
Other Europe[1]	-17	-1 139	326	-401	**-220**	45.1
North America	-219	-157	-321	-241	**-270**	-11.8
Latin America	7	18	31	10	**23**	132.7
Asia	2 884	9 349	6 796	8 497	**6 418**	-24.5
Rest of the World	120	6	-15	1	**16**	-
Total	**2 775**	**8 076**	**6 817**	**7 866**	**5 967**	**-24.1**

[1] *Other Europe: see nomenclature on page 110.*

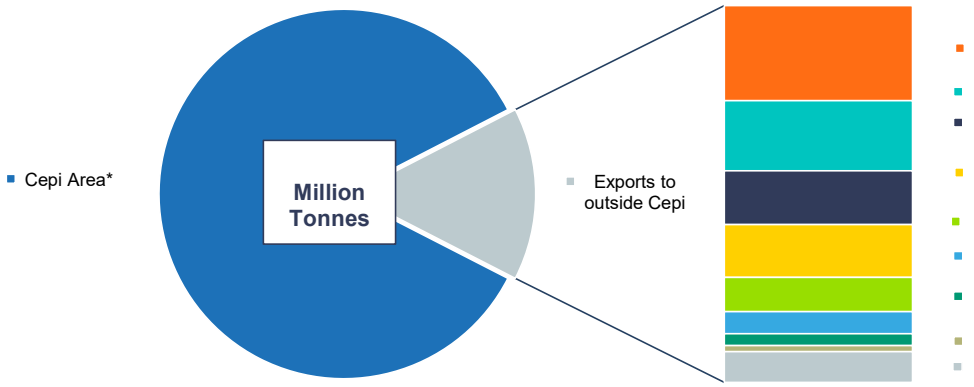
Paper for Recycling Exports, Imports and Trade Balance



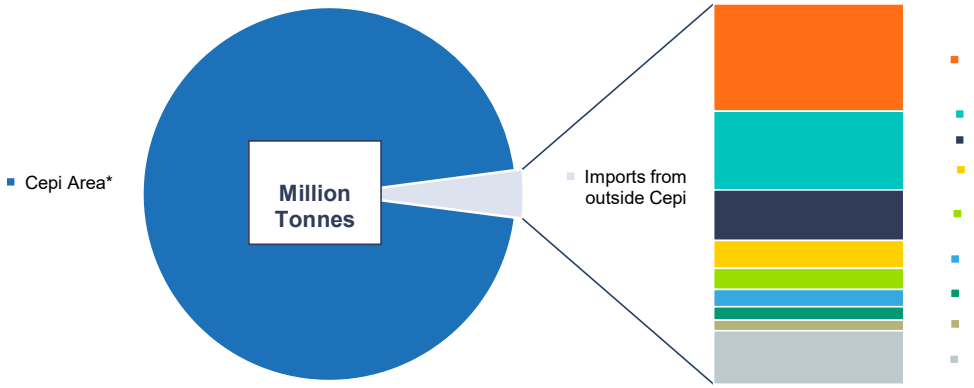
Trade Flows of Paper for Recycling in 2024



Destination of Collection of Paper for Recycling in 2024



Origin of Utilisation of Paper for Recycling in 2024



[1] *Other Europe: see nomenclature on page 110.*

[2] *Sources: Cepi, Fastmarkets Fastmarkets.*

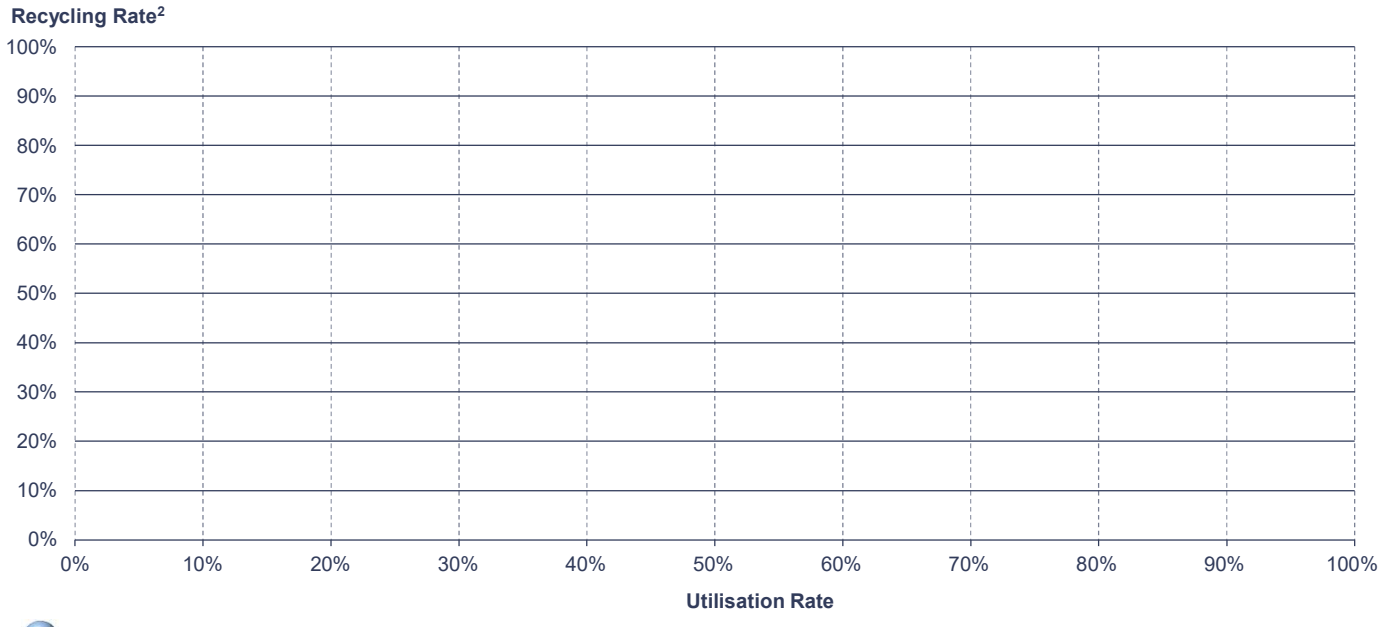
**Cepi Area = production - exports to outside Cepi*

Utilisation of Paper for Recycling by Grade in 2024

'000 Tonnes	Mixed Grades	Corrugated & Kraft	Newspapers & Magazines	Other Grades	Total	% Change 2024/2023	Utilisation Rate %	Recycling Rate[2] %
Austria								
Czech Republic								
Finland								
France								
Germany								
Greece								
Italy								
Netherlands								
Poland								
Portugal								
Romania								
Slovenia								
Spain								
Sweden								
United Kingdom								
Other Cepi Countries								
Total Cepi								
Europe[1] non-Cepi								
Total Europe[1]								

n.a.: Due to transparency reasons, the figures cannot be published and are included in "Other Cepi Countries"
Austria: The recycling rate is preliminary and has been estimated by Austropapier.
Greece, Romania and Slovakia: Figures have been estimated by Cepi.

Recycling Rate, Utilisation Rate and Utilisation of Paper for Recycling in 2024



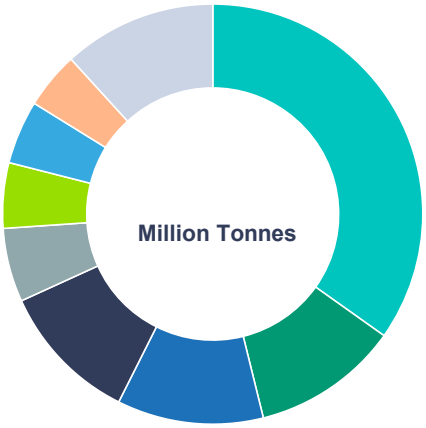
Bubble size is proportional to Paper for Recycling Utilisation

[1] *Total Europe: EU-27 countries plus Norway,Switzerland and the United Kingdom*

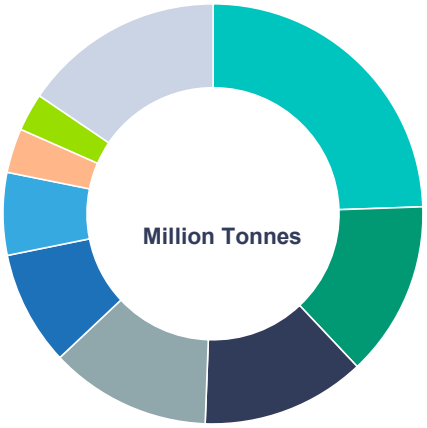
[2] *Recycling Rate :* $\frac{\text{Utilisation of Paper for Recycling + Net Trade}}{\text{Paper \& Board Consumption}}$

Greece, Romania and Slovakia: Figures have been estimated by Cepi

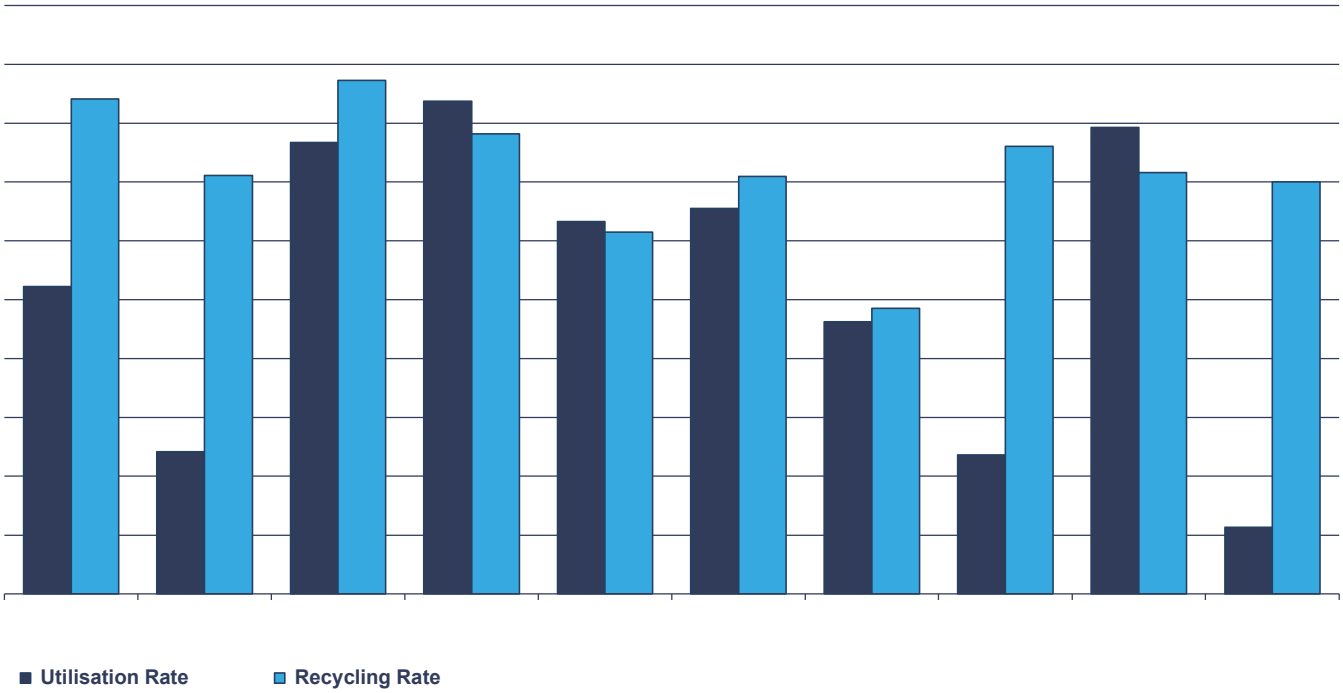
Utilisation of Paper for Recycling in 2024



Collection of Paper for Recycling in 2024



Utilisation Rate and Recycling Rate by Country in 2024



Recycling Rate : $\frac{\textit{Utilisation of Paper for Recycling + Net Trade}}{\textit{Paper \& Board Consumption}}$

Greece, Romania and Slovakia: Figures have been partly estimated by Cepi

Key Figures on Paper and Board and Paper for Recycling in 2024

'000 Tonnes	Paper and Board Production	Paper and Board Consumption[1]	Paper and Board Net Trade[2]	Paper for Recycling Utilisation	Paper for Recycling % Chg 24/23	Paper for Recycling Net Trade[2]	Paper for Recycling % Chg 24/23	Paper for Recycling Collection[3]	Paper for Recycling % Chg 24/23
Austria									
Czech Republic									
Finland									
France									
Germany									
Italy									
Netherlands									
Poland									
Portugal									
Romania									
Slovenia									
Spain									
Sweden									
United Kingdom									
Total Cepi									

[1] *Some of the paper & board consumption figures reported here have been adjusted by the National Associations (see notes page 97). These figures have been used to calculate the recycling rate of paper for recycling.*

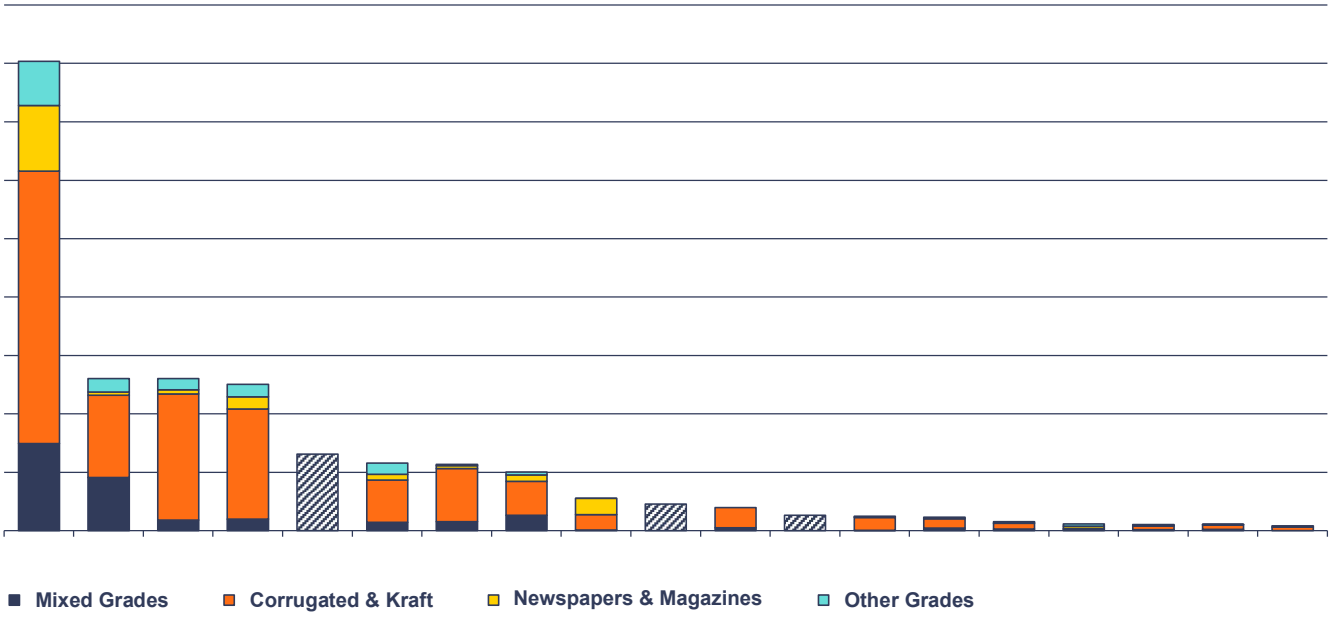
[2] *Net Trade = Total Exports - Total Imports*

[3] *Some of the collection figures reported here have been adjusted by the National Associations (see notes page 97).*

Greece, Romania, Slovakia and Slovenia: Figures have been partly estimated by Cepi

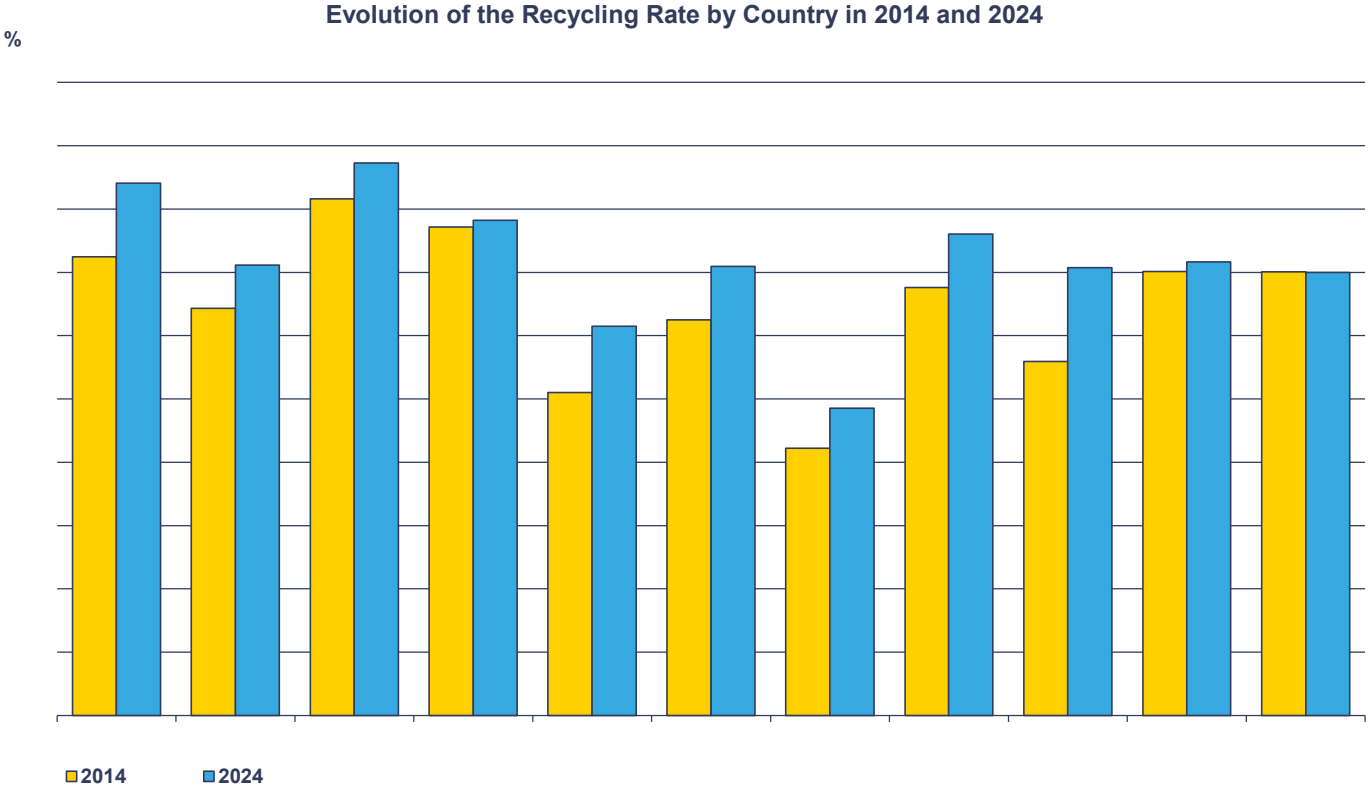
Utilisation of Paper for Recycling by Class and by Country in 2024

Utilisation of Paper for Recycling (Million Tonnes)

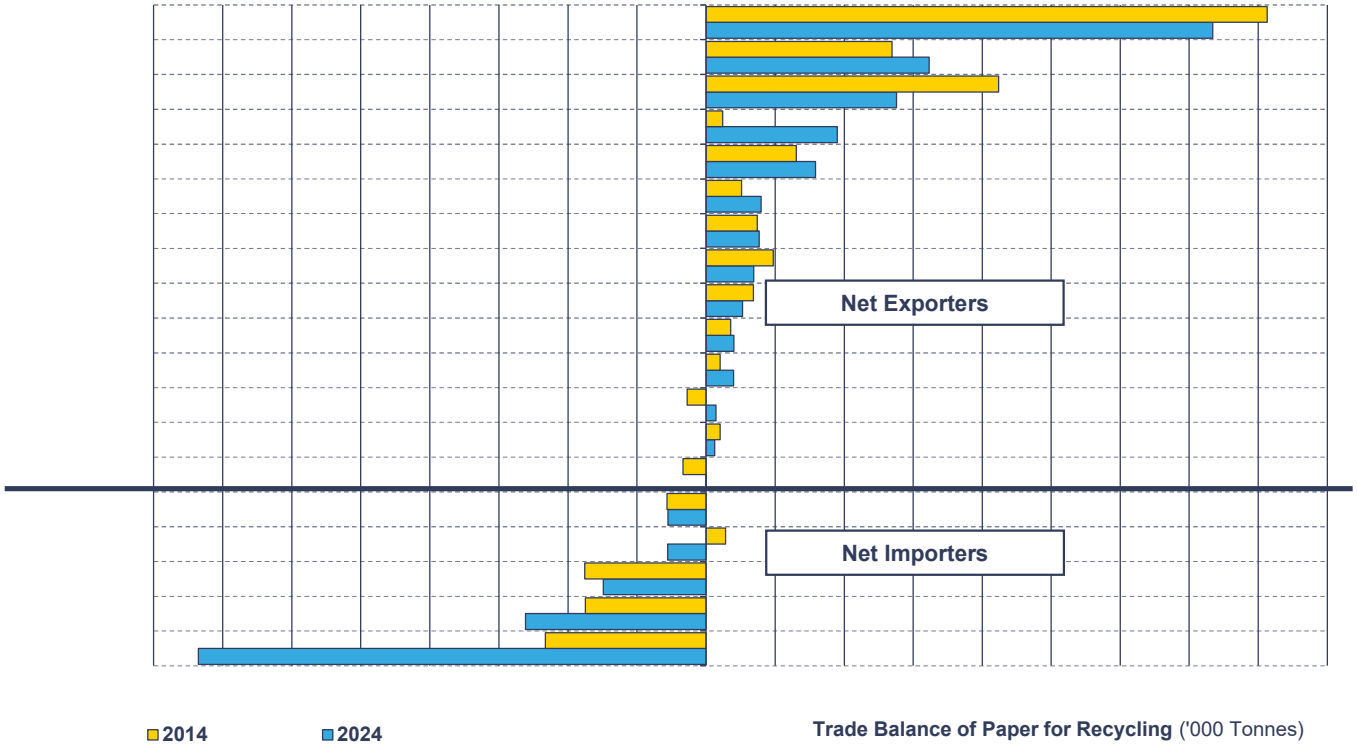


**RO-SE-UK: figures by class can't be published for transparency reasons*

Evolution of the Recycling Rate by Country in 2014 and 2024



Net Trade of Paper for Recycling by Country in 2014 and 2024



Trade Balance of Paper for Recycling ('000 Tonnes)

Recycling Rate : $\frac{\text{Utilisation of Paper for Recycling + Net Trade}}{\text{Paper \& Board Consumption}}$

Greece, Romania, Slovakia and Slovenia: Figures have been partly estimated by Cepi

Utilisation, Trade and Collection of Paper for Recycling in 2024

'000 Tonnes	A Utilisation	B Exports to Other Cepi Countries	C Exports to Countries outside Cepi	D Imports from Other Cepi Countries	E Imports from Countries outside Cepi	A+B+C-D-E Collection[1]
Austria						
Czech Republic						
Finland						
France						
Germany						
Greece						
Italy						
Netherlands						
Poland						
Portugal						
Romania						
Slovenia						
Spain						
Sweden						
United Kingdom						
Other CEPI Countries						
Total Cepi						

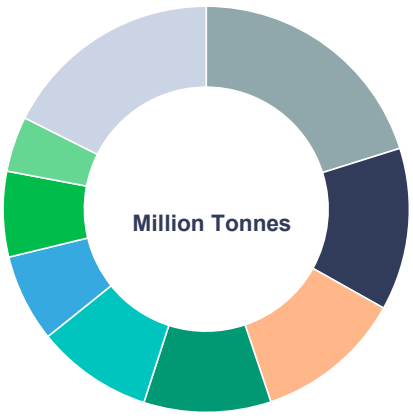
[1] *Collection of Paper for Recycling = Utilisation + Exports - Imports (Total Cepi Collection: see note page 101).*

Some of the collection figures reported here have been adjusted by the National Associations (see notes page 97).

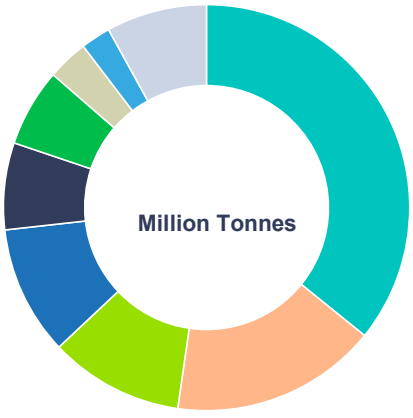
Greece, Romania, Slovakia and Slovenia: Figures have been partly estimated by Cepi

Trade of Paper for Recycling in 2024

Exports[2]



Imports[2]



[2] *Include exports and imports between Cepi countries*

**Netherlands: includes paper for recycling transit in Rotterdam harbour*

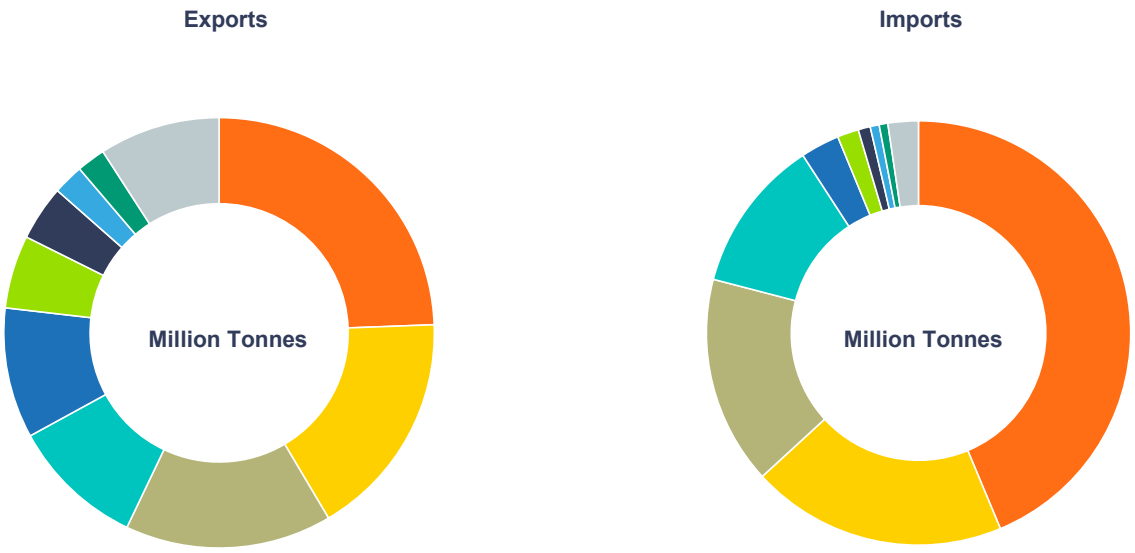
EU Utilisation, Trade and Collection[1] of Paper for Recycling

'000 Tonnes	A Utilisation			B Exports[2]			C Imports[2]			D = A + B - C Collection		
	2023	2024	% Chg	2023	2024	% Chg	2023	2024	% Chg	2023	2024	% Chg
Mixed Grades												
Corrugated and Kraft												
Newspapers and Magazines												
Other Grades												
Total Paper for Recycling	**41 989**	**43 815**										

EU Trade of Paper for Recycling by Grade in 2024



EU Trade of Paper for Recycling by Destination and Origin in 2024



[1] *Data for EU countries not members of Cepi has been estimated (Source: Fastmarkets, AFRY - see page 98).*

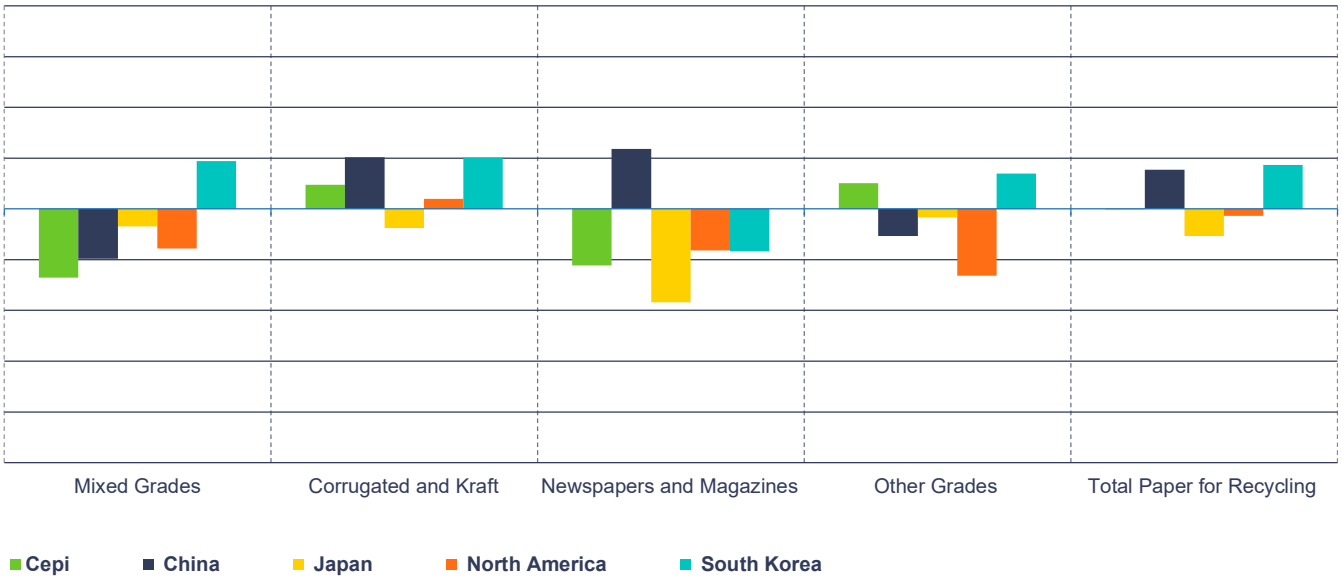
[2] *Exports and Imports to and from countries outside EU.*

Collection by Grade and by Country[1]

Million Tonnes	Cepi		China		Japan		North America		South Korea	
	2024	% Chg*	2024	% Chg*	2024	% Chg*	2024	% Chg*	2024	% Chg*
Mixed Grades										
Corrugated and Kraft										
Newspapers and Magazines										
Other Grades										
Total Paper for Recycling[2]										

* % change 2024/2023

% change 2024/2023

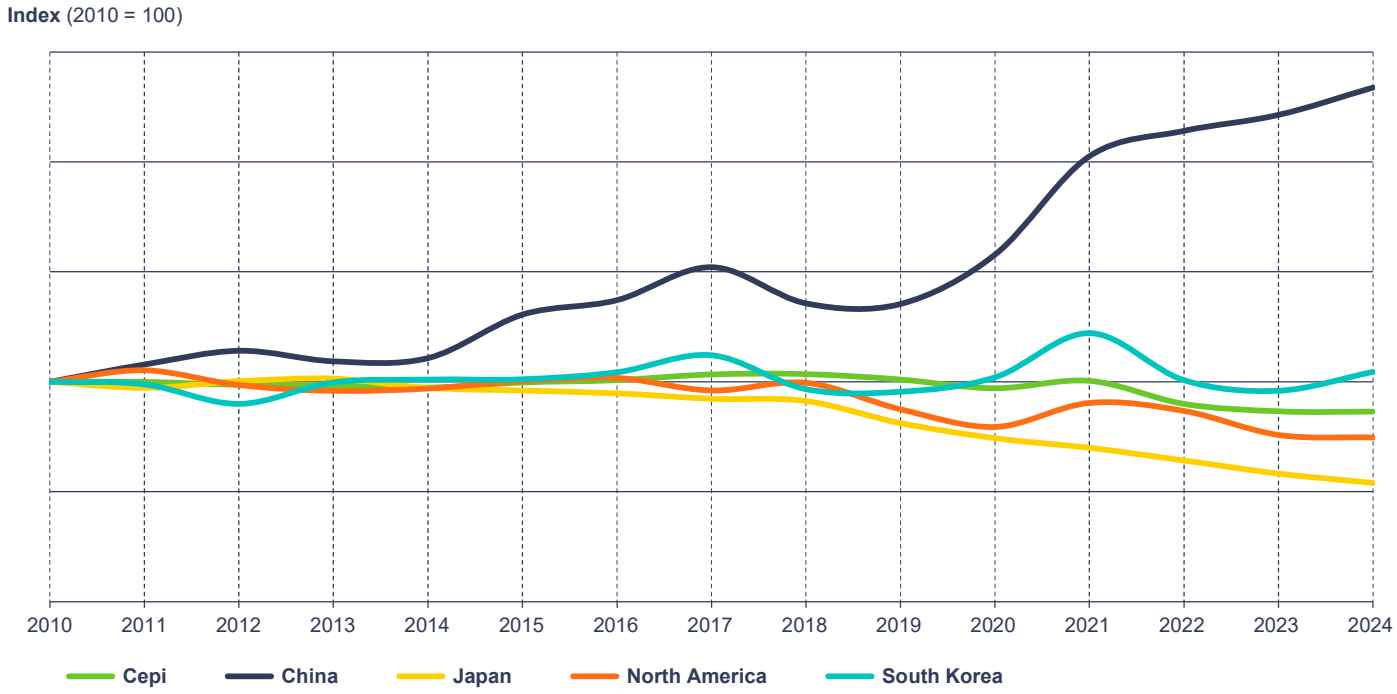


[1] *Sources:*

North America: PPPC - Pulp and Paper Products Council / Japan: JPA - Japan Paper Association / South Korea: KPMA - Korea Paper Manufacturers' Association / China: CPA - China Paper Association

[2] *Total for these countries account for around 75% of total world collection of paper for recycling.*

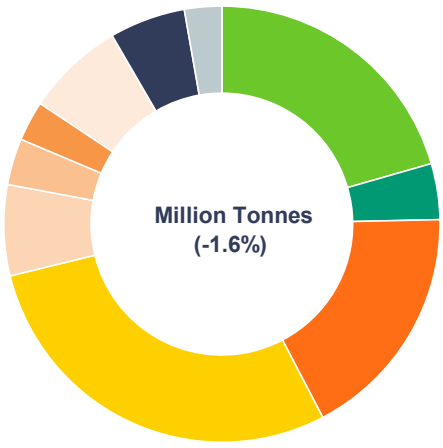
Indexed Growth in Collection of Paper for Recycling[1]



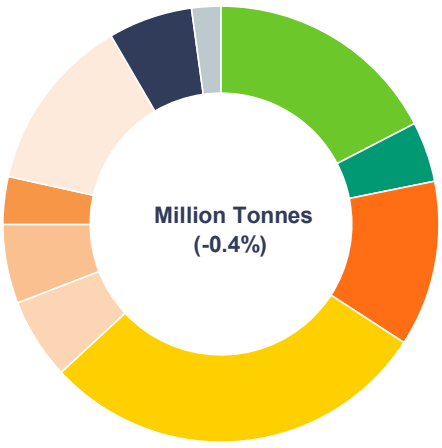
[1] *Sources:*

North America: PPPC - Pulp and Paper Products Council / Japan: JPA - Japan Paper Association / South Korea: KPMA - Korea Paper Manufacturers' Association / China: CPA - China Paper Association

Collection of Paper for Recycling by Region in 2023[2]



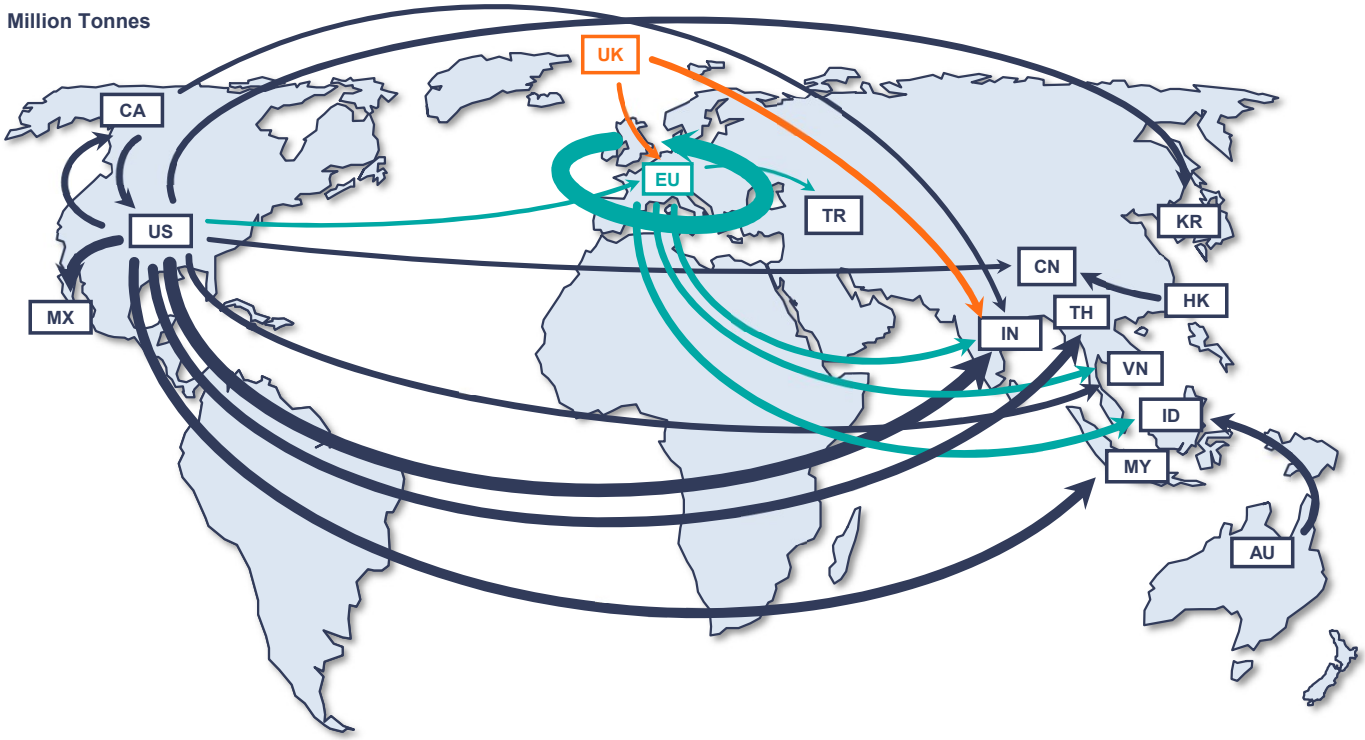
Utilisation of Paper for Recycling by Region in 2023[2]



[2] *Sources: Cepi, Fastmarkets.*

[3] *Other Europe: see nomenclature on page 110.*

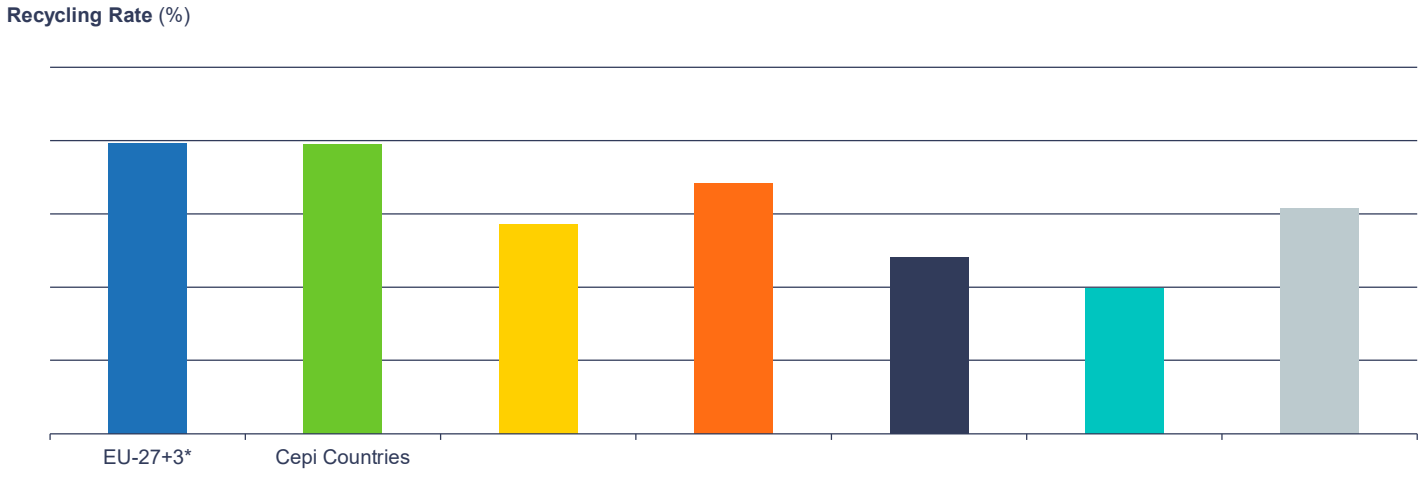
Major Global Trade Flows of Paper for Recycling in 2024



CA: Canada - US: United States - MX: Mexico - JP: Japan - AU: Australia - ID: Indonesia - IN: India - HK: Hong-Kong - KR: South Korea - CN: China MY: Malaysia

Sources: Trade Data Monitor - Eurostat

Recycling Rate in World Regions in 2023[1]



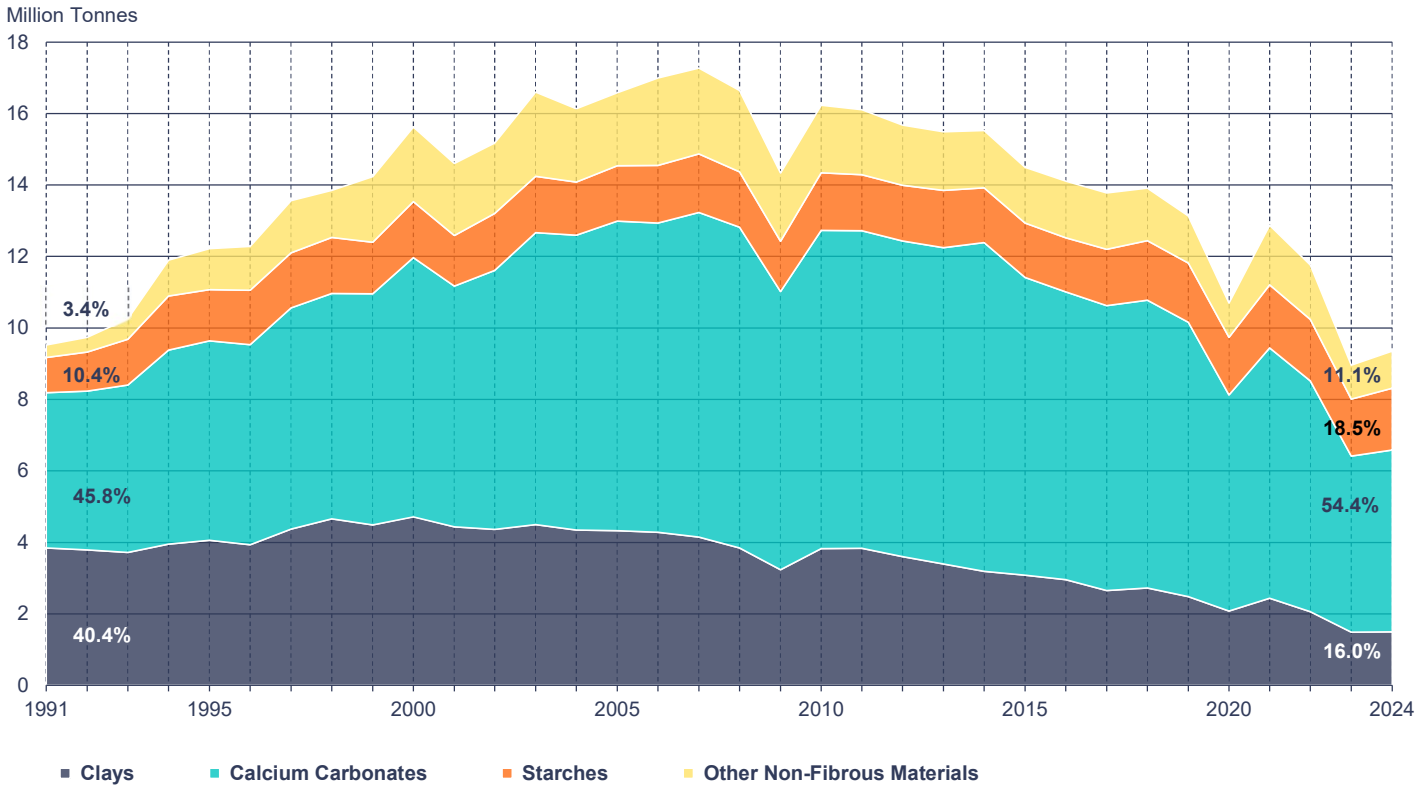
[1] *Source: Cepi, Fastmarkets*

**EU-27+3 : EU-27 + Norway, Switzerland and the United Kingdom*

Non-Fibrous Materials[1] Consumption

'000 Tonnes	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Clays (coating and filler)	3 842	4 719	3 828	2 081	1 488	**1 494**	0.4	16.0
Calcium Carbonates (coating and filler)	4 349	7 250	8 906	6 044	4 930	**5 086**	3.2	54.4
Starches (native and modified)	989	1 561	1 603	1 619	1 595	**1 731**	8.6	18.5
Other Non-Fibrous Materials	341	2 095	1 897	957	947	**1 042**	10.1	11.1
Non Fibrous Materials	**9 521**	**15 626**	**16 235**	**10 701**	**8 959**	**9 353**	**4.4**	**100.0**

Non-Fibrous Materials[1] Consumption



[1] *See Definitions page 104.*

Non-Fibrous Materials Consumption in 2024

'000 Tonnes	Clays[1]	Calcium Carbonates[1]	Starches[2]	Others	Total
Austria					
Belgium					
Czech Republic					
Finland					
France					
Germany					
Italy					
Netherlands					
Norway					
Poland					
Spain					
Sweden					
United Kingdom					
Other CEPI Countries					
Total Cepi					

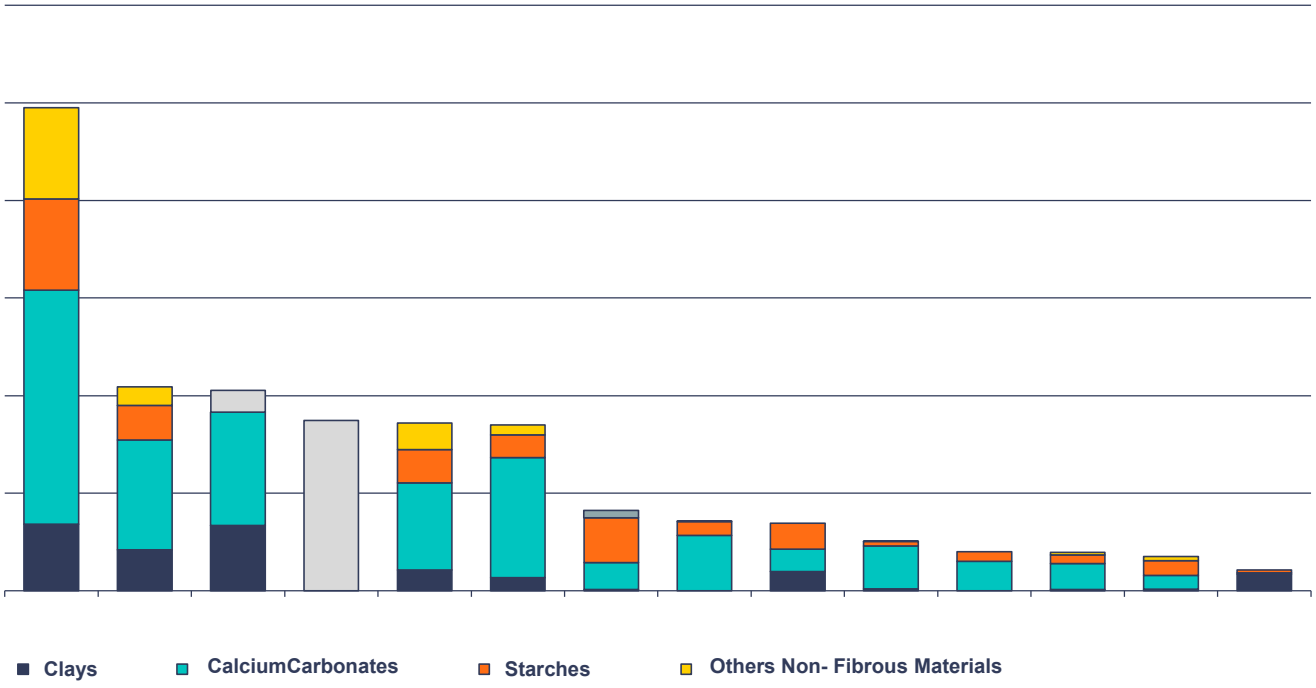
n.a. : Figures have been estimated by Cepi and are included in Total Cepi.

Finland: total includes only filling and coating pigments.
Austria, Norway, Poland: data has been estimated by cepi

[1] *Clays and Calcium Carbonates total (coating and filler)*
[2] *Starches total (native and modified).*

Non-Fibrous Materials Consumption by Grade and by Country in 2024

Million Tonnes

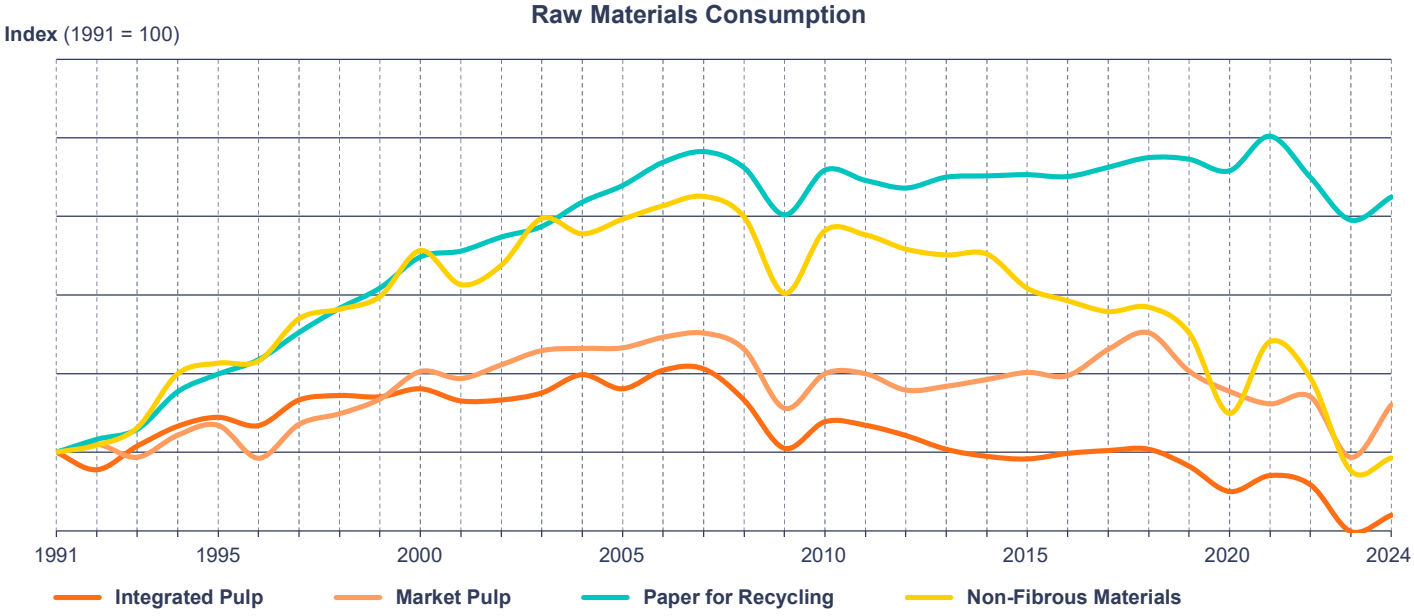


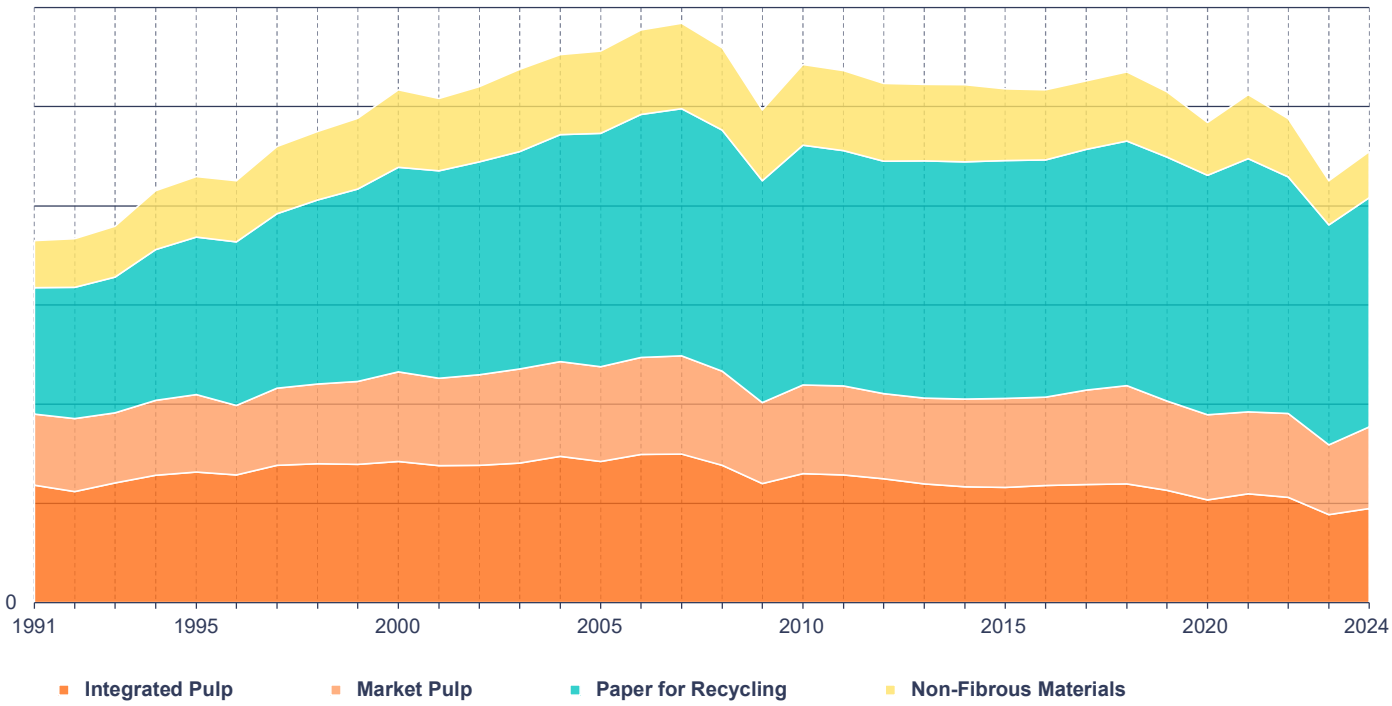
** Spain: split within grades has been estimated by Cepi.*

Raw Materials Consumption

'000 Tonnes	1991	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Integrated Pulp								
Market Pulp								
Paper for Recycling								
Non-Fibrous Materials								
Total Raw Materials								

Raw Materials Consumption



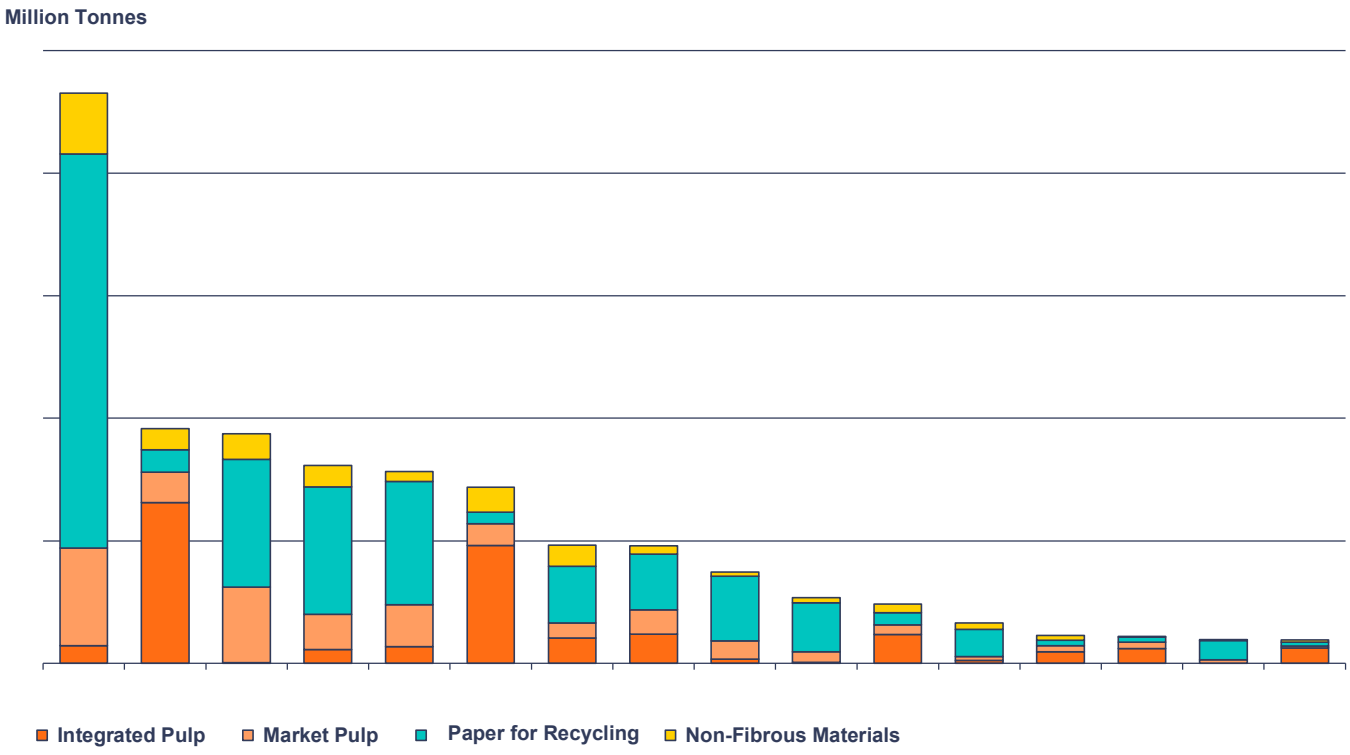


Raw Materials Consumption in 2024

'000 Tonnes	Integrated Pulp	Market Pulp	Paper for Recycling	Non-Fibrous Materials	Total
Austria					
Belgium					
Czech Republic					
Finland					
France					
Germany					
Greece					
Hungary					
Italy					
Netherlands					
Norway					
Poland					
Portugal					
Romania					
Slovakia					
Slovenia					
Spain					
Sweden					
United Kingdom					
Total Cepi					

n.a.: Due to transparency reasons, the figures cannot be published or have been estimated by Cepi, and are included in Total Cepi.

Raw Materials Consumption by Country in 2024



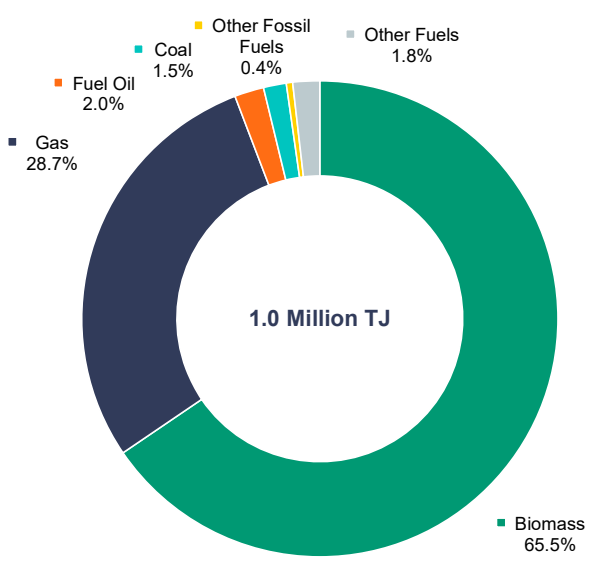
Primary Energy and Electricity Consumption[1]

Primary Energy Consumption TJ	1991	2000	2010	2020	2022	2023	% Change 2023/2022	% Share of Total[3]
Gas	259 593	404 946	489 565	373 840	354 446	**298 712**	-15.7	25.7
Fuel Oil	129 461	90 914	37 856	17 292	20 119	**20 575**	2.3	1.8
Coal	113 867	59 304	53 280	31 930	25 263	**16 103**	-36.3	1.4
Other Fossil Fuels	10 134	19 052	14 529	8 925	9 253	**4 533**	-51.0	0.4
Biomass	413 248	562 865	677 569	694 243	700 498	**681 288**	-2.7	58.6
Others	3 560	4 151	8 948	23 116	12 822	**19 085**	48.8	1.6
Total Fuels Consumption	**929 863**	**1 141 232**	**1 281 746**	**1 149 346**	**1 122 401**	**1 040 297**	**-7.3**	**89.5**
Net Bought Electricity	**205 852**	**246 864**	**202 945**	**148 251**	**140 113**	**122 053**	**-12.9**	**10.5**
Total Primary Energy Consumption	**1 135 715**	**1 388 096**	**1 484 691**	**1 297 596**	**1 262 514**	**1 162 350**	**-7.9**	**100.0**
Fraction of Biomass in Total Fuels Consumption	**44.4%**	**49.3%**	**52.9%**	**60.4%**	**62.4%**	**65.5%**	**3.1**	

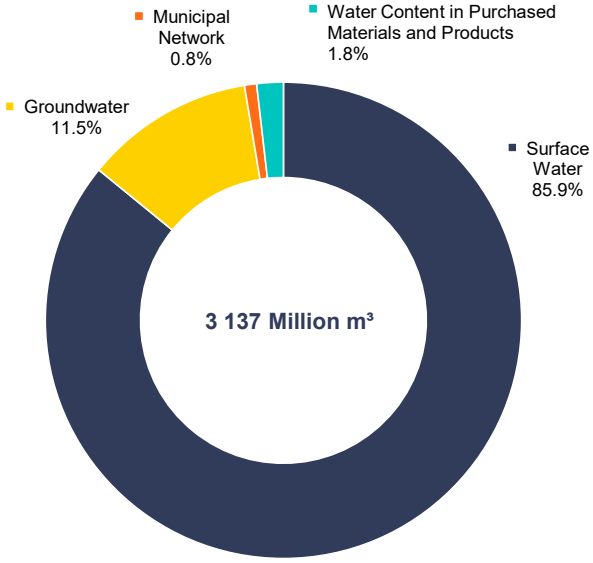
Electricity Consumption GWh	1991	2000	2010	2020	2022	2023	% Change 2023/2022	% Share of Total
Total Electricity Produced at Site	29 416	41 930	56 780	49 900	47 820	**42 257**	-11.6	55.5
Purchased Electricity	59 045	72 255	67 567	52 485	49 231	**43 629**	-11.4	57.3
Sold Electricity	-1 864	-3 681	-11 193	-11 305	-10 311	**-9 725**	-5.7	12.8
Total Electricity Consumption	**86 597**	**110 504**	**113 153**	**91 081**	**86 741**	**76 160**	**-12.2**	**100.0**
% of Electricity produced through CHP[2]	**88.0%**	**90.4%**	**95.4%**	**95.7%**	**95.5%**	**95.4%**	**0.0**	

In 2023, 65% of fuels used in the pulp and paper industry came from biomass; large amount of that is process residues.

Fuels Consumption in 2023



Sources of Water Intake in 2023



[1] *Excluding Greece, Hungary , Romania and Slovenia - excluding Poland before 2003. 2024 data will be available in 2026.*

[2] *CHP: combined heat and power (compared to total on-site electricity generation).*

[3] *Share of total primary energy consumption (including net bought electricity).*

In 2023, around 90% of water abstracted to produce paper and board has been returned to its source after treatment.

Key Figures on Energy and Environment[1]

	1991	2000	2010	2020	2022	2023	% Change 2023/2022	% Change 2023/1991
Energy Consumption								
Production of Market Pulp and Paper & Board ('000 Tonnes)	71 971	98 691	106 084	98 098	96 696	**86 118**	-10.9	19.7
Specific Primary Energy Consumption (Tj/kt)	15.78	14.07	14.00	13.23	13.06	**13.50**	3.4	-14.5
Specific Electricity Consumption (GWh/kt)	1.20	1.12	1.07	0.93	0.90	**0.88**	-1.4	-26.4
Direct CO_2 Emissions [2]								
Absolute (Mega Tonnes)	39.05	41.94	37.99	29.00	26.54	**22.47**	-15.3	-42.5
Specific (kt CO_2 / kt of product)	0.54	0.42	0.35	0.29	0.27	**0.25**	-5.1	-53.6
Indirect CO_2 Emissions[3]								
Absolute (Mega Tonnes)	13.88	14.33	11.59	8.27	10.09	**8.69**	-13.8	-37.4
Specific (kt CO_2 / kt of product)	0.19	0.15	0.11	0.08	0.10	**0.10**	-3.3	-47.7
Water Specific Emissions								
COD (kg / T of product)	23.36	9.08	6.32	5.34	4.92	**4.96**	0.9	-78.8
AOX (kg / T of product)	0.433	0.049	0.030	0.023	0.021	**0.021**	2.5	-95.1
Air Specific Emissions								
SO_2 (kg S / T of product)	1.32	0.40	0.24	0.10	0.07	**0.07**	-3.5	-94.6
NOx (kg NOx / T of product)	1.31	0.90	0.85	0.66	0.62	**0.65**	5.5	-50.0

[1] *Excluding Greece, Hungary , Romania & Slovenia - excluding Poland before 2003. 2024 data will be available in 2026.*

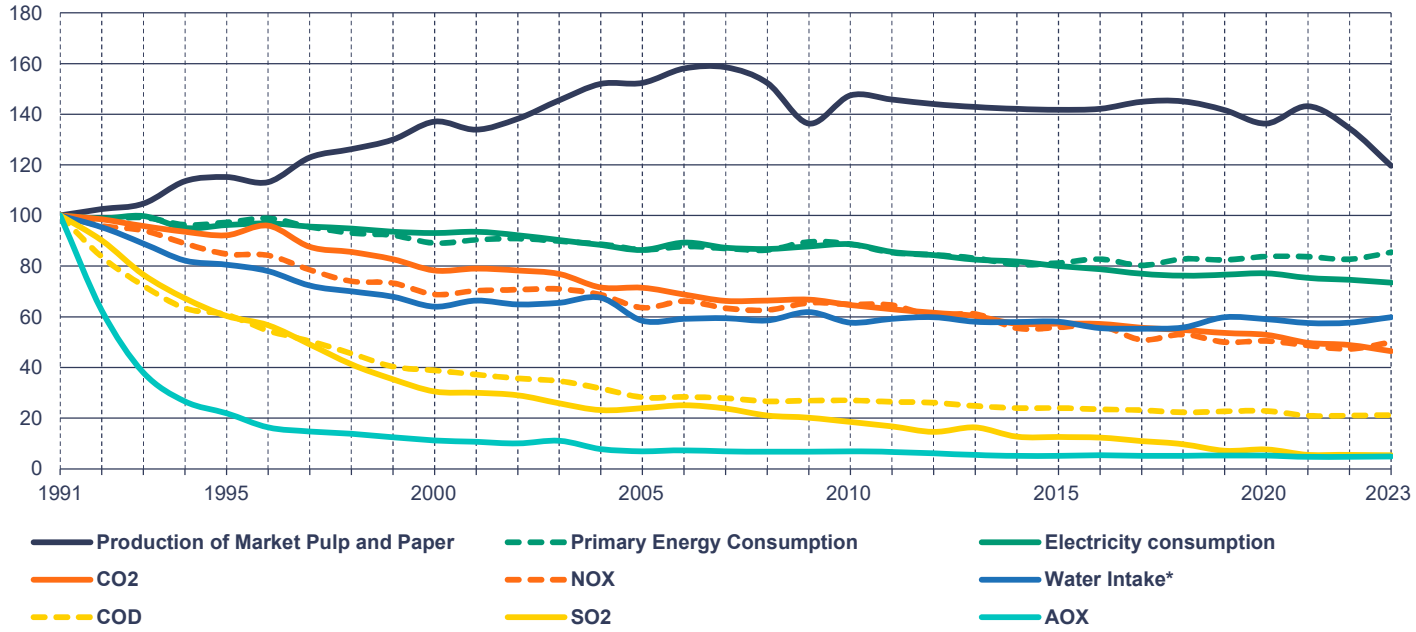
[2] *Including all Cepi countries from 2005.*

Direct CO_2 Emissions: fossil emissions produced by the pulp and paper mills and connected energy plants.

[3] *Indirect CO_2 emissions: CO_2 emissions from net bought electricity, calculated as "net bought electricity" multiplied by the "electricity emissions factor" applied in each country.*

Evolution of Environmental Impacts

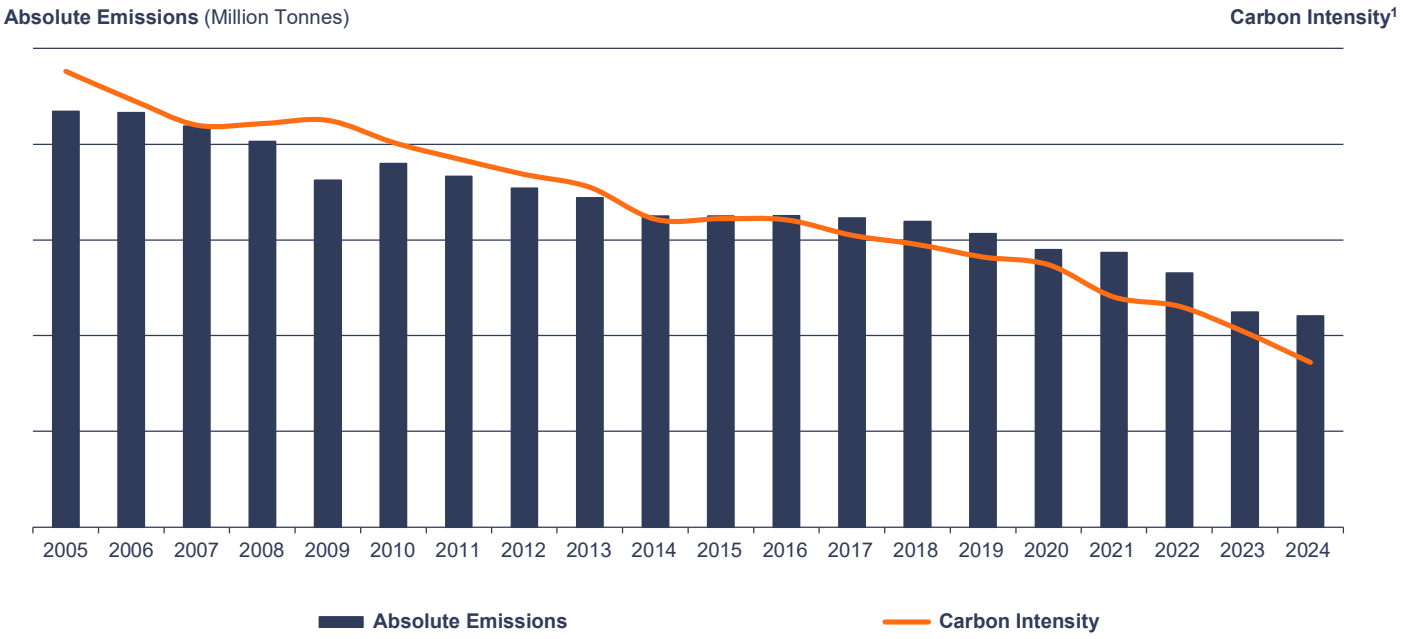
Index of Specific Values (1991 = 100)



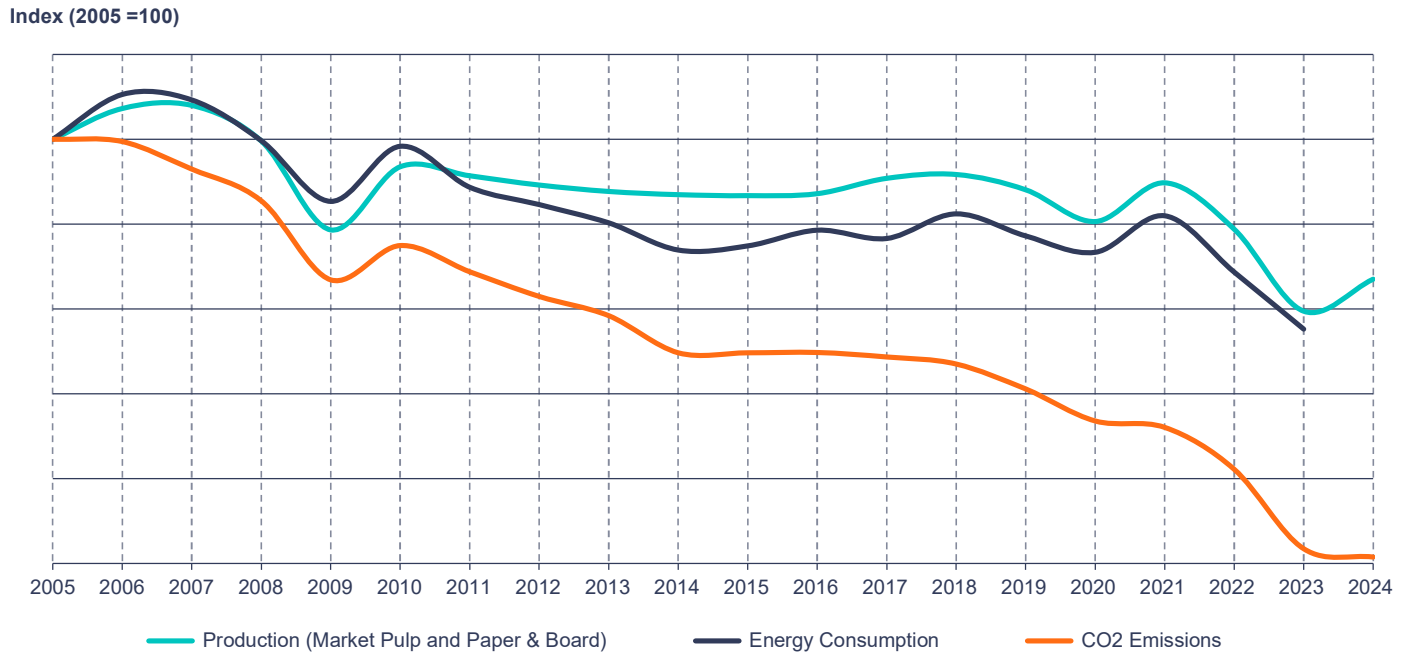
Water Emissions: COD (Chemical Oxygen Demand) - AOX *Air Emissions: CO_2 - NOX (Azote Oxydes) - SO_2*

**Water Intake: Due to the change in data collection system in one country, 2019 data on water can't be compared to 2018 data.*

CO_2 Emissions in Cepi Countries

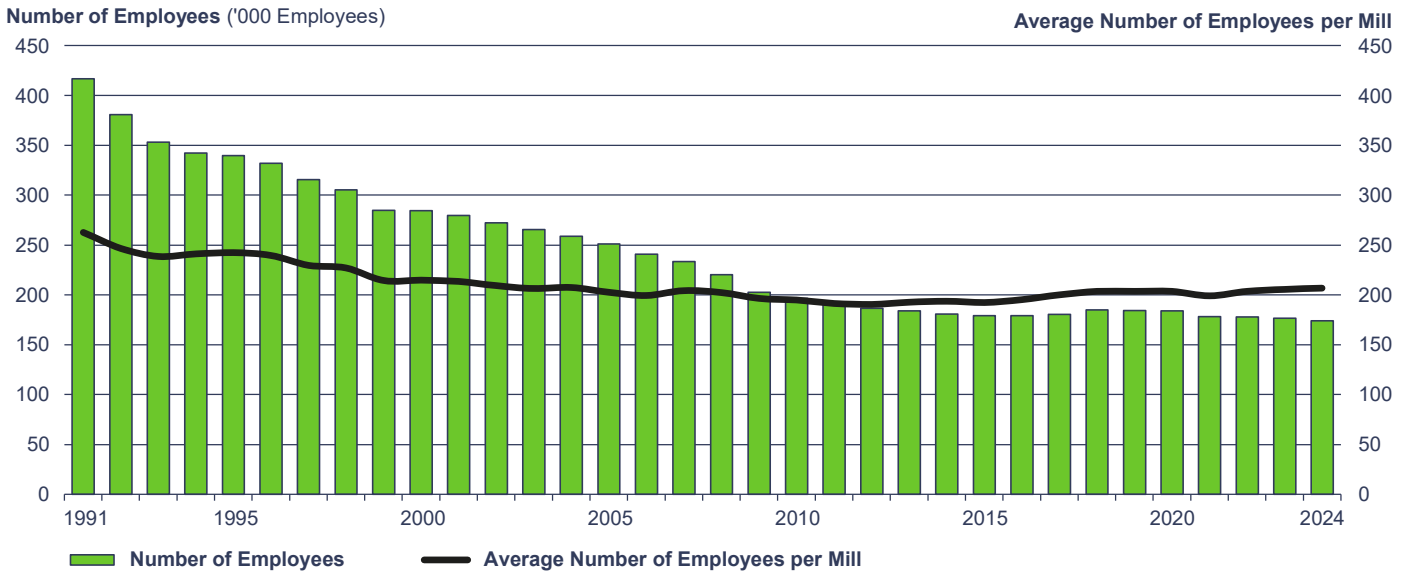


Indexes in Production, Energy Consumption and CO_2 Emissions in Cepi Countries



[1] *Carbon Intensity: Specific CO_2 emissions (kt CO2 / kt of product)*

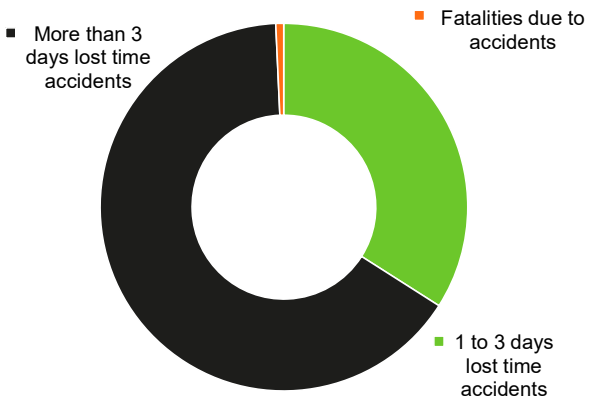
Employment Evolution



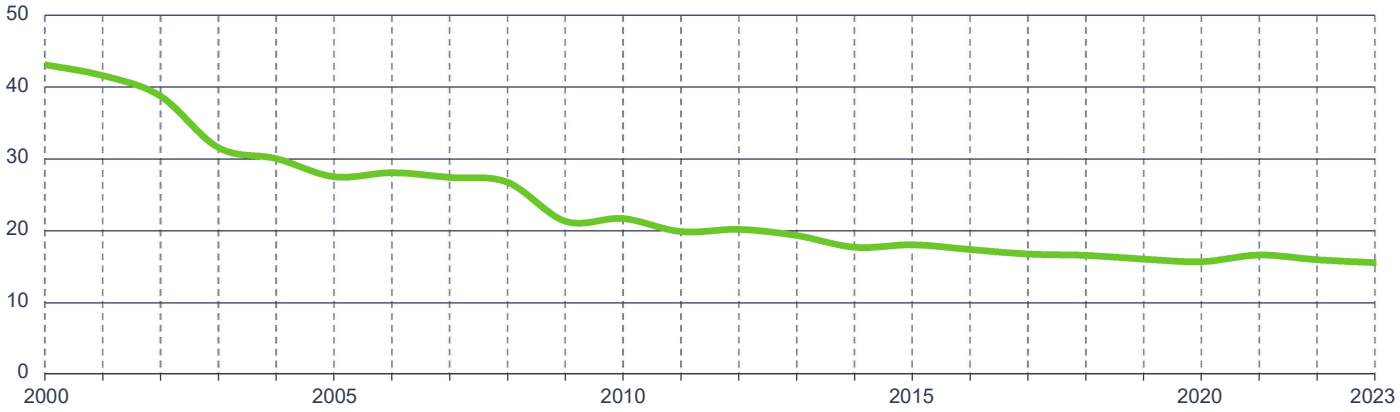
Employment by Gender[2] in 2023[3]



Number of Accidents in 2023[3]



Accident Rate[1]



[1] *Accident rate: Number of accidents (fatal and non-fatal) x 1000/number of employees (absence of more than 3 days) Include Austria, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom*

[2] *Based on a sample representing 60% of total employment - Include Austria, Finland, Germany, Portugal, Spain and Sweden.*

[3] *Data for 2024 will be available in 2026.*

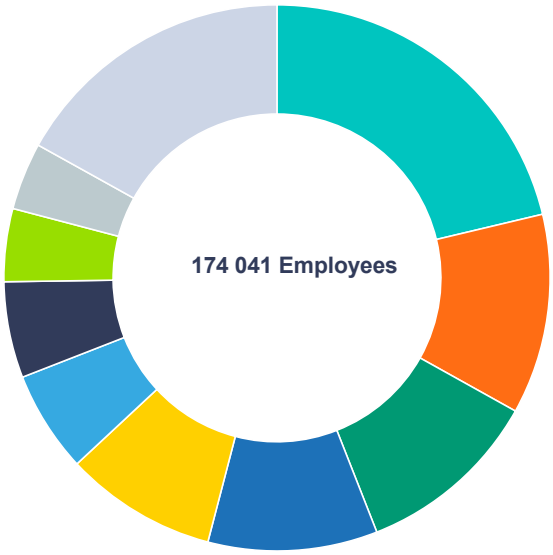
Employment by Country

Employment by Country

Persons	2000	2010	2020	2023	2024	% Change 2024/2023	% Share of Total
Austria							
Belgium							
Czech Republic							
Finland							
France							
Germany							
Greece							
Hungary							
Italy							
Netherlands							
Norway							
Poland							
Portugal							
Romania							
Slovakia							
Slovenia							
Spain							
Sweden							
United Kingdom							
Total Cepi							

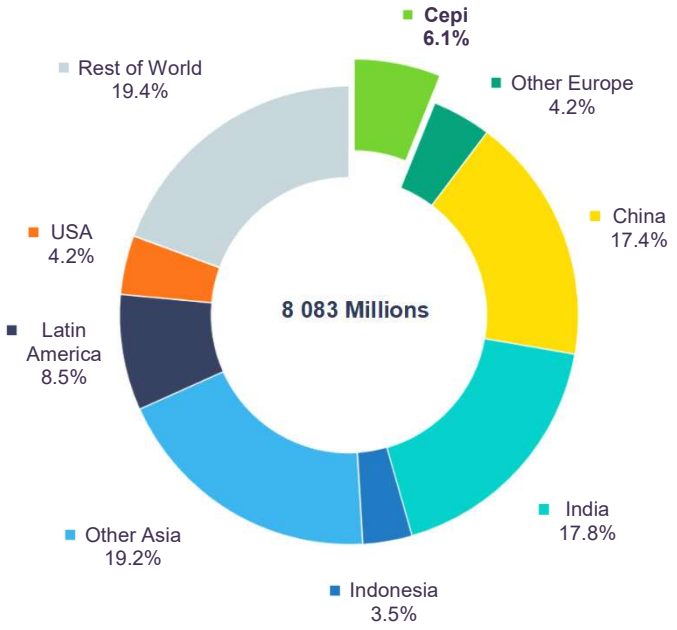
n.a. : Figures have been estimated by Cepi and are included in Total Cepi.

Employment by Country in 2024



Population

World Population in 2024



Source: Eurostat - PRB (Population reference Bureau)

Other Europe: see nomenclature on page 109.

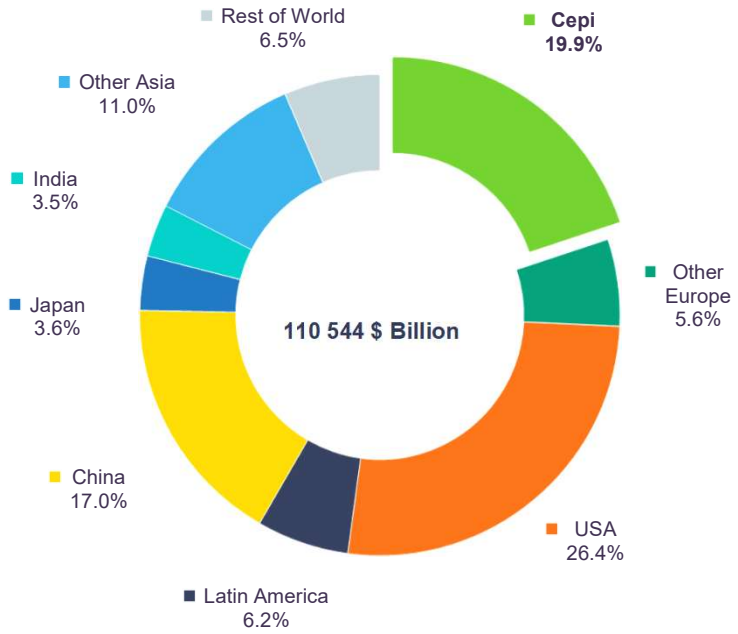
European Population in 2024

	Millions	% Chg 2024/2023
Austria		
Belgium		
Czech Republic		
Finland		
France		
Germany		
Greece		
Hungary		
Italy		
Netherlands		
Norway		
Poland		
Portugal		
Romania		
Slovak Republic		
Slovenia		
Spain		
Sweden		
United Kingdom		
Total Cepi		
Total EU-27		

Population on 1st January 2024

Gross Domestic Product

World Gross Domestic Product in 2024



Sources: Eurostat - IMF

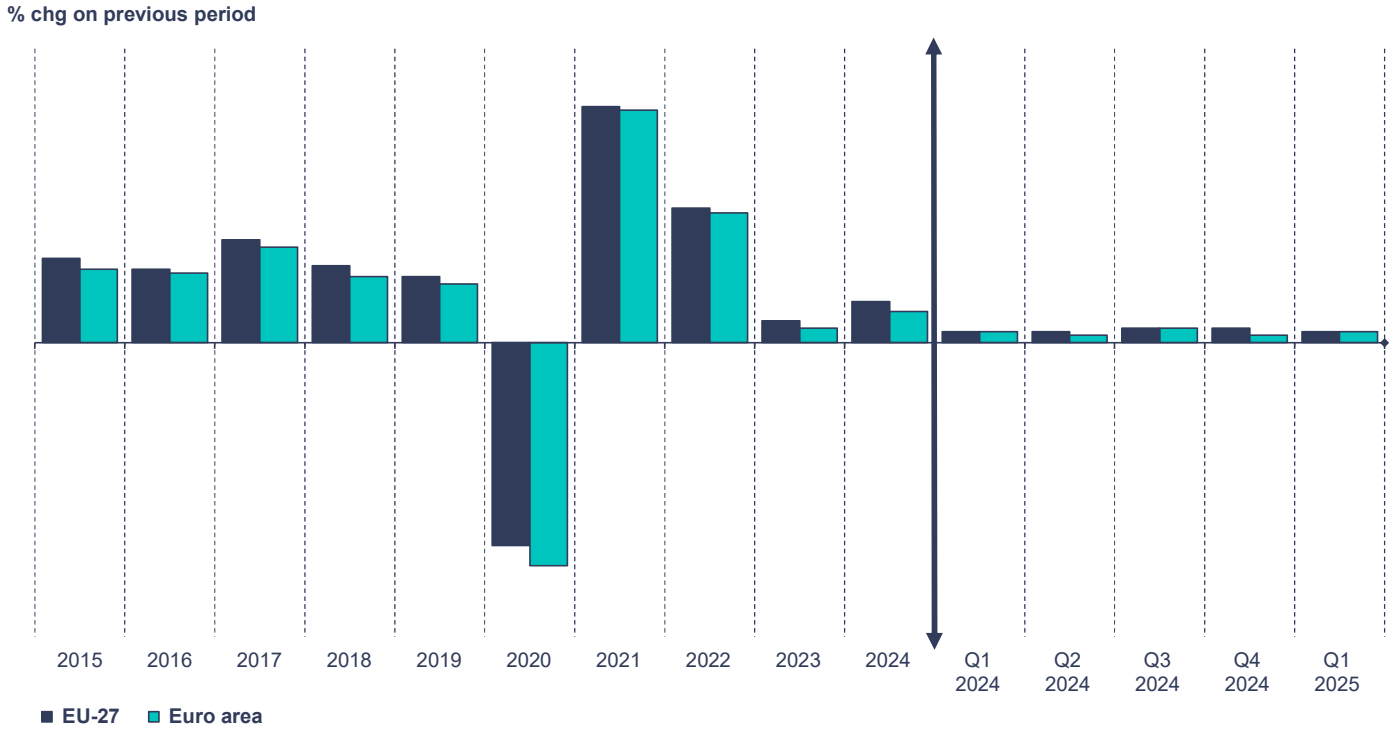
Other Europe: see nomenclature on page 110.

Gross Domestic Product in 2024

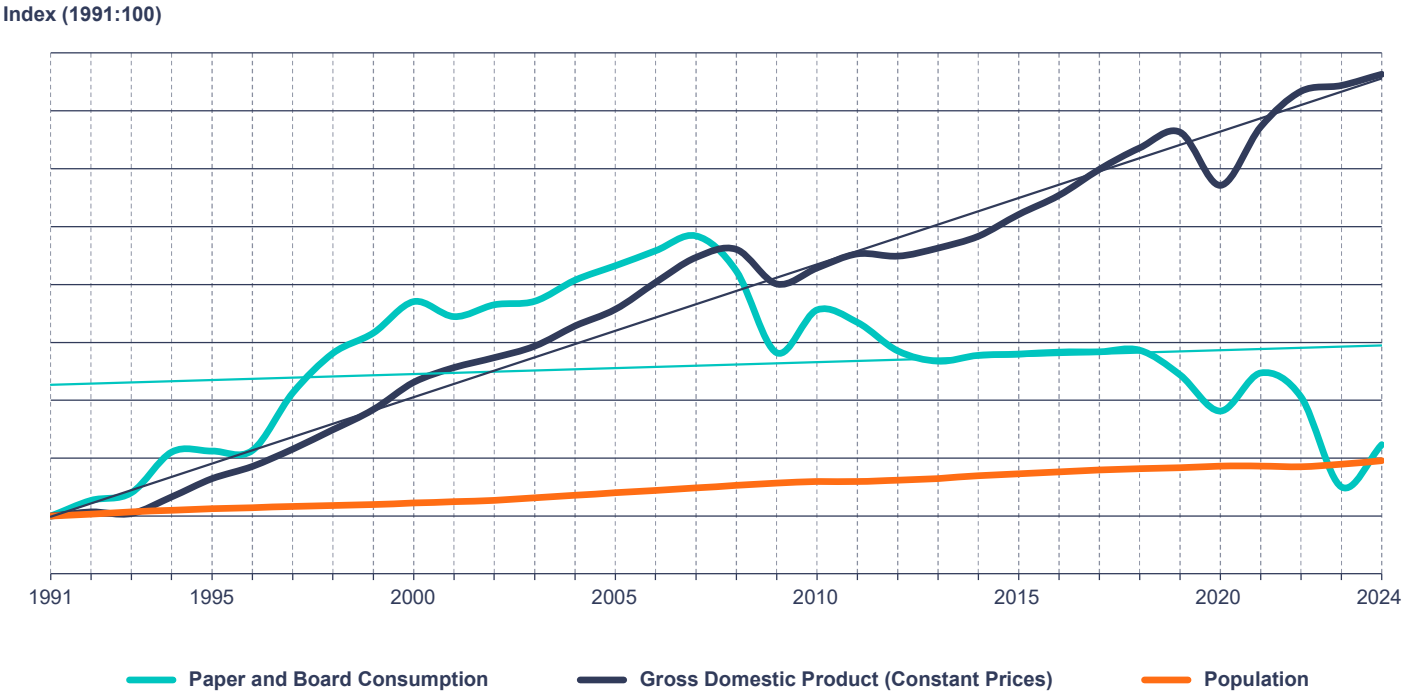
	Billion Euros	% Chg* 2024/2023
Austria		
Belgium		
Czech Republic		
Finland		
France		
Germany		
Greece		
Hungary		
Italy		
Netherlands		
Norway		
Poland		
Portugal		
Romania		
Slovakia		
Slovenia		
Spain		
Sweden		
United Kingdom		
Total Cepi		
Total EU-27		

** % change GDP constant price (source: IMF)*

Gross Domestic Product at Constant Prices in Europe



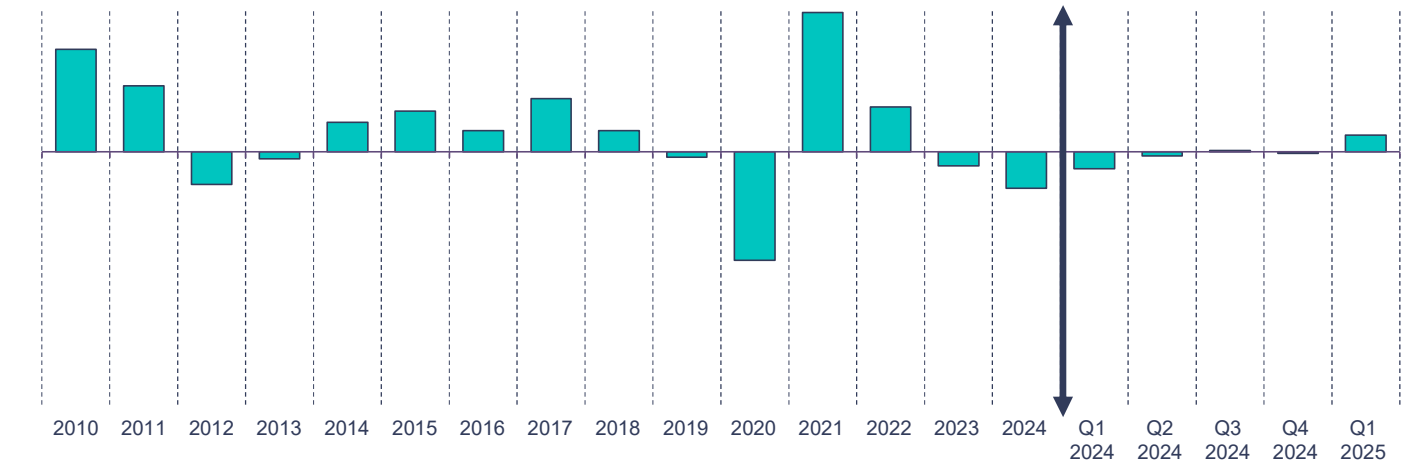
Gross Domestic Product and Paper and Board Consumption



Source: Cepi - Eurostat - IMF

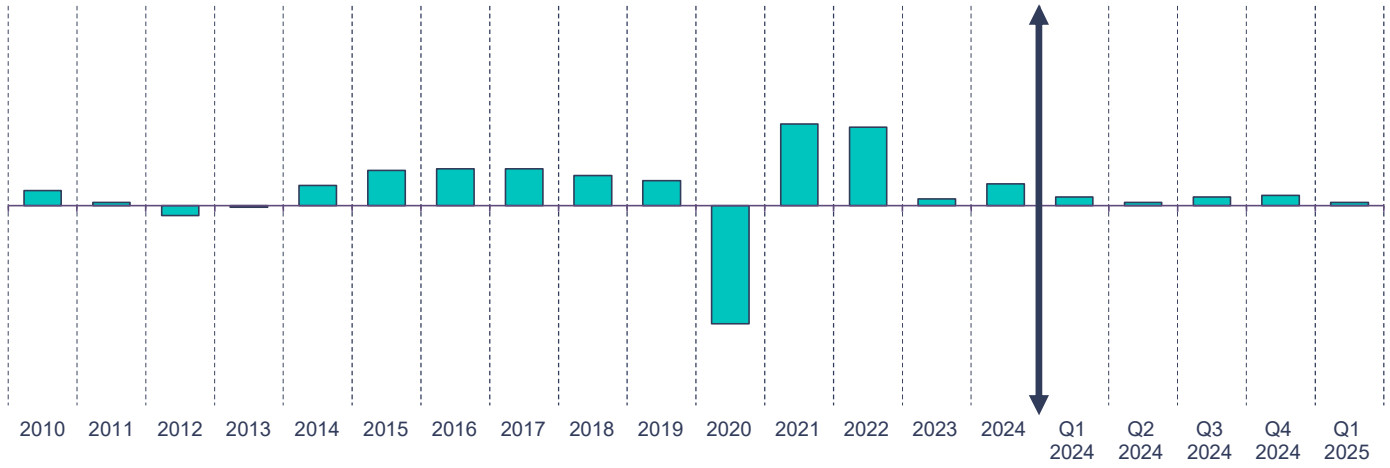
EU-27 Industrial Production (Manufacturing)

% chg on previous period



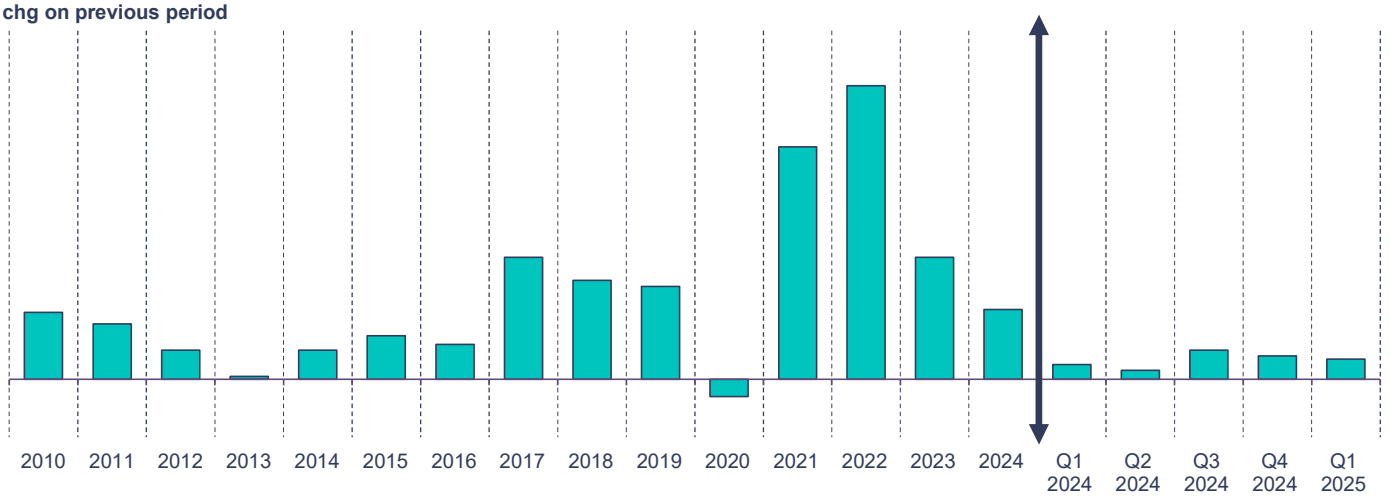
EU-27 Private Final Consumption[1]

% chg on previous period



EU-27 Retail Trade deflated Turnover[1]

% chg on previous period

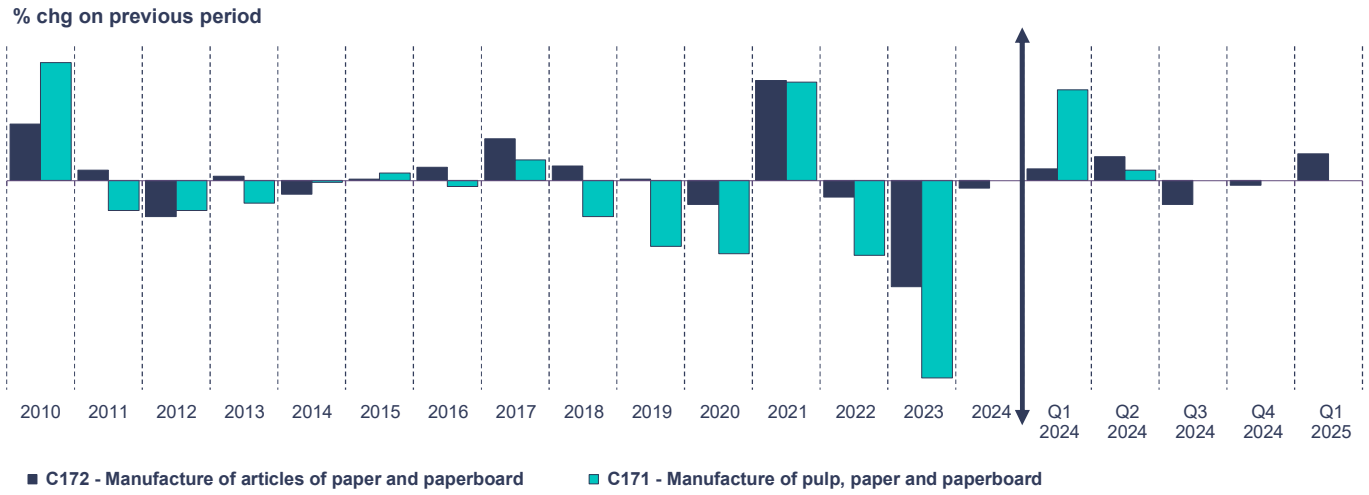


Source: Eurostat - % change on previous year / quarter (seasonally adjusted)

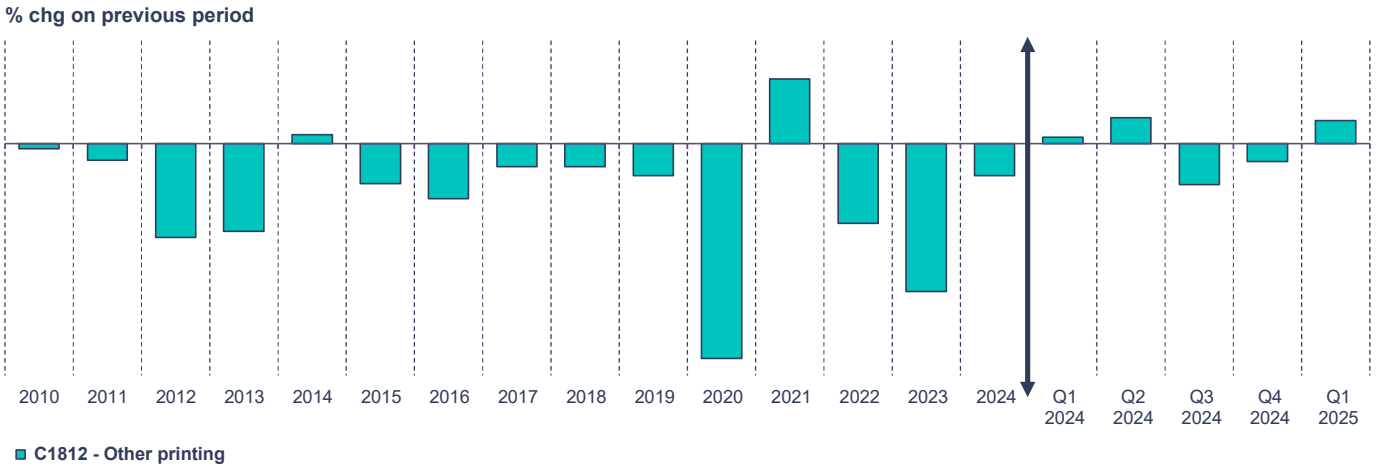
[1] *See Definitions on page 106.*

Customers' Activity - Industrial Production

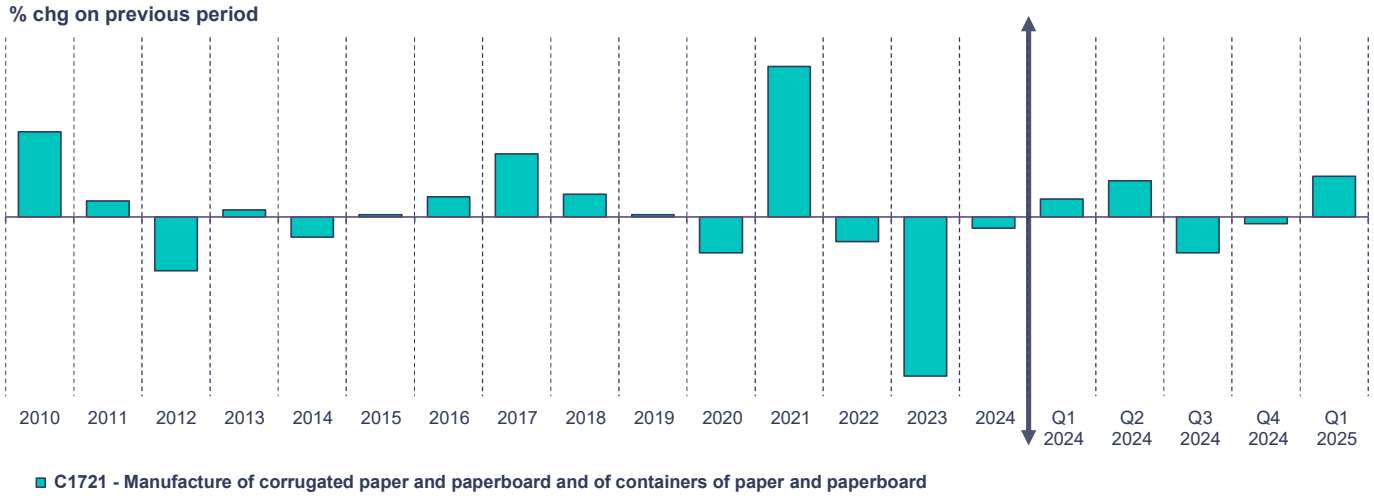
EU-27 Manufacture of Pulp, Paper and Paperboard and Articles of Paper and Paperboard



EU-27 Graphic Paper Customers



EU-27 Packaging Paper and Board Customers



Sources: Eurostat - EU-27 Volume index of production, % change on previous year / quarter (seasonally adjusted) .

General Notes

Definitions

More information and details related to the definitions and descriptions of terms and categories used in the European Paper Industry can be found in the new Cepi booklet "Pulp and Paper Industry - Definitions and Concepts".

https://www.cepi.org/definitions-and-concepts-in-the-pulp-and-paper-industry-statistics/

General Notes

Unless another source is indicated, all the figures are taken from returns to Cepi by member associations.

In view of problems in the official 2023 intra-EU statistics, where these are known to be deficient and respondents could provide more truly representative data, they were asked to do so.

The term “paper” covers paper and board of all grammages.

Where figures are not available “n.a.” is indicated.

Some totals may not add up due to rounding.

In many cases, 2023 figures have been revised and therefore differ from those reported in the previous edition.

Graphs

All graphs represent total Cepi unless otherwise indicated.

Because of small percentages represented some pie charts may not add up to 100%.

Please note that for clearer representation purposes, for some graphs the vertical axis does not start at zero.

Glossary

AF&PA: The American Forest & Paper Association
Cepi: Confederation of European Paper Industries
FAO: Food and Agriculture Organization of the United Nations
IBA: Indústria Brasileira de Árvores
IMF: International Monetary Fund
JPA: Japan Paper Association
KPMA: Korea Paper Manufacturers' Association
PPPC: Pulp and Paper Products Council
TDM: Trade Data Monitor

Country Coding (ISO Standard 3166)

Austria: AT
Belgium: BE
Czech Republic: CZ
Finland: FI
France: FR
Germany: DE
Greece: GR
Hungary: HU
Italy: IT
Netherlands: NL
Norway: NO
Poland: PL
Portugal: PT
Romania: RO
Slovakia: SK
Slovenia: SI
Spain: ES
Sweden: SE
United Kingdom: UK

Notes related to countries

Cepi Countries

Austria (AT)

Annual data for Austria has been provided by AUSTROPAPIER.
Paper & Board: consumption figure has been adjusted to 1.760 million tonnes. This figure has been used to calculate the recycling rate of paper for recycling.
Paper for Recycling: collection figure has been adjusted to 1.480 million tonnes.This figure has been used to calculate the recycling rate of paper for recycling.
Capacities, Wood consumption, Pulp data, Non-Fibrous Materials: figures have been estimated by Cepi.

Belgium (BE)

Annual data for Belgium has been provided by INDUFED.
Paper & Board: consumption figure has been adjusted to 2.363 million tonnes, leading to a recycling rate closer to the reality. This figure has been used to calculate the recycling rate of paper for recycling.
Wood: figures have been provided in raw tonnes and converted into m³ by Cepi.

Czech Republic (CZ)

Annual data for Czech Republic has been provided by ACPP.

Finland (FI)

Annual data for Finland has been provided by FFIF.
Paper & Board: consumption figure has been adjusted to 0.529 million tonnes to take into account trade of converted and printed materials. This figure has been used to calculate the recycling rate of paper for recycling.
Paper for Recycling: collection figure has been adjusted to 0.550 million tonnes, to include usage for other than paper making, ie for insulation materials. This figure has been used to calculate the recycling rate of paper for recycling.

France (FR)

Annual data for France has been provided by COPACEL.
Pulp: domestic deliveries are not available and these have been estimated by Cepi.
Paper & Board: domestic deliveries have been estimated by Cepi for all grades.
Paper for Recycling: collection figure has been adjusted to 6.399 million tonnes, taking into account the stocks variations. This figure has been used to calculate the recycling rate of paper for recycling.
Wood: figures have been provided in tonnes and converted into m³ by Cepi.

Germany (DE)

Annual data for Germany has been provided by DIE PAPIERINDUSTRIE.

Greece (GR)

All figures of the Greek pulp & paper industry reported in this document have been estimated by Cepi.
Sources: Trade Data Monitor, Eurostat, Fastmarkets.

Hungary (HU)

All figures of the Hungarian pulp & paper industry reported in this document have been estimated by Cepi.
Sources: Hamburger recycling mill, Trade Data Monitor, Eurostat, Fastmarkets.

Italy (IT)

Annual data for Italy has been provided by ASSOCARTA
Wood consumption: figures have been estimated by Cepi.

Netherlands (NL)

Annual data for The Netherlands has been provided by Royal VNP.

Norway (NO)

Annual data for Norway has been provided by NORSK INDUSTRI.

Poland (PL)

Annual data for Poland has been provided by SPP.
Capacities, Non-Fibrous Materials, Turnover and Employment: figures have been estimated by Cepi.

Notes related to countries

Cepi Countries

Portugal (PT)

Annual data for Portugal has been provided by BIOND.
Paper and Board: production for some grades has been estimated by Cepi.
Paper for Recycling: paper for recycling utilisation has been partly estimated by Cepi.
Wood, Turnover and Employment: figures have been estimated by Cepi.

Romania (RO)

Annual data for Romania since 2004 have been provided by ROMPAP.
Figures from 1991 to 2003 have been estimated by Cepi. Sources: Pöyry, Fastmarkets.
Paper for Recycling Utilisation by sector: figures have been estimated by Cepi.
Non-Fibrous Materials, Paper and Board Trade, Paper for Recycling Trade and Pulp Trade: figures have been estimated by Cepi.
Sources: Eurostat, Trade Data Monitor, Fastmarkets.

Slovakia (SK)

Annual data for Slovakia has been provided by ZCPP SR.
Paper for Recycling Utilisation by sector: figures have been estimated by Cepi.
Non-Fibrous Materials, Structure, Paper and Board Trade, Paper for Recycling Trade and Pulp Trade: figures have been estimated by Cepi. Sources: Eurostat, Trade Data Monitor, Fastmarkets.

Slovenia (SI)

Annual data for Slovenia since 2009 have been provided by GZS
Figures from 1991 to 2008 have been estimated by Cepi. Sources: Pöyry, Fastmarkets.
Paper for Recycling Utilisation by sector: figures have been estimated by Cepi.
Non-Fibrous Materials, Structure, Paper and Board Trade, Paper for Recycling Trade and Pulp Trade: figures have been estimated by Cepi. Sources: Eurostat, Trade Data Monitor, Fastmarkets.

Spain (ES)

Annual data for Spain has been provided by ASPAPEL.
Paper & Board: consumption figure has been adjusted to 6.221 million tonnes to take into account trade of converted materials to better reflect the reality. This figure has been used to calculate the recycling rate of paper for recycling
Non-Fibrous Materials: split within grades has been estimated by Cepi.

Sweden (SE)

Annual data for Sweden has been provided by SFIF.
Paper & Board: consumption figure has been adjusted to 1.305 million tonnes, using calculation "domestic deliveries + imports", to better reflect the reality. This figure has been used to calculate the recycling rate of paper for recycling.
Paper for Recycling: collection figure has been adjusted to 0.913 million tonnes, taking into account the changes in inventories at mills and recycling paper merchants. This figure has been used to calculate the recycling rate of paper for recycling.
Paper and Board Capacities, Employment and Turnover: figures have been estimated by Cepi.

United Kingdom (UK)

Annual data for United Kingdom has been provided by CPI.
Paper & Board: consumption figure has been adjusted to 6.779 million tonnes, using more accurate imports figures from other sources. This figure has been used to calculate the recycling rate of paper for recycling.
Turnover: figures have been estimated by Cepi.

EU Countries not members of Cepi

Bulgaria, Croatia Cyprus, Denmark, Estonia, Ireland, Latvia, Lithuania, Luxembourg, Malta.

Data for EU countries not members of Cepi has been estimated.
Sources used
Paper and board production and Paper for Recycling Utilisation: Fastmarkets, AFRY, Cepi.
Pulp production: Fastmarkets, Cepi.
Trade of paper for recycling, pulp and paper & board: Eurostat.

Industry Structure

Group or Corporation

Association of companies located in one or several EU countries and bound together by legal and/or financial links. A group of companies can have more than one decision-making centre, especially for policy on production, sales and profit. It may centralise certain aspects of financial management and taxation. It constitutes an economic entity which is empowered to make choices, particularly concerning the units which it comprises.

Companies

Pulp and paper manufacturing companies or firms formed in accordance with the law of a Cepi member country. Company means a separate legal unit (limited, GmbH, S.A., AB. A/S, etc.) even if it is part of a bigger group, holding, etc.
The figure for the number of pulp and papermaking companies in all Cepi countries is an aggregate of all the companies from each individual country. If those companies with operations in more than one country are only counted once then it is estimated that the number of companies operating in the pulp and papermaking industry in Cepi countries is approximately 505 (Group or Corporation).

Number of Mills (Pulp and Paper & Board)

The number of mills producing pulp and/or paper as recorded by Cepi member associations as being in production during the year concerned (includes mills which have ceased/commenced production during the year).

Number of Paper Machines

The number of machines producing paper as recorded by Cepi member associations as being in production during the year concerned (includes machines which have ceased/commenced production during the year).

Capacity

Practical maximum capacity is the tonnage of paper, paperboard or pulp of normal commercial quality that could be produced per year with full use of equipment and adequate supplies of raw materials and labour, and assuming full demand. No allowance is made for losses due to unscheduled shut downs, strikes, temporary lack of power, etc., which cause decreases in actual production, but not in production capacity. Capacity of paper machines that produce more than one grade is apportioned in accordance with actual production patterns or plans for future operation.
Capacity is reported in metric tons of net finished paper and paperboard, and air-dry (10 percent moisture content) pulp.
(Source: FAO)

Average size of mills (Pulp or Paper and Board)

Total production divided by the total number of mills.

Operating Rate (Pulp or Paper and Board)

The amount of pulp or paper and board produced annually compared to the amount of capacity available to produce pulp or paper.

Employment

The number of employees concerned with the manufacture of pulp and/or paper as recorded by Cepi member associations at a specific point during the year concerned. Includes all full-time and part-time employees in what might be classed as blue-collar and white-collar occupations.Employment figures reported in Cepi annual statistics don’t include employees in converting operations. However, employees of integrated converting operations (within the producing mill) and those of headquarters are included.

Investments

Investments made during the reference period in all tangible goods. Included are new and existing tangible capital goods, whether bought from third parties or produced for own use (i.e. Capitalised production of tangible capital goods), having a useful life of more than one year including non-produced tangible goods such as land. The threshold for the useful life of a good that can be capitalised may be increased according to company accounting practices where these practices require a greater expected useful life than the 1 year threshold indicated above. All investments are valued prior to (i.e. gross of) value adjustments, and before the deduction of income from disposals. Purchased goods are valued at purchase price, i.e. transport and installation charges, fees, taxes and other costs of ownership transfer are included. Own produced tangible goods are valued at production cost. Goods acquired through restructurations (such as mergers, take-overs, break-ups, split-off) are excluded. Purchases of small tools which are not capitalised are included under current expenditure. Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of capital goods.
(Source: Eurostat)

Pulp

Pulp

This report includes statistics on pulp production, trade and consumption within the Cepi countries. The report shows figures for total pulp production, i.e. both integrated pulp and market pulp. However, market pulp production and deliveries are shown separately.

Integrated Pulp Production

Integrated pulp is produced for use as raw material in the production of paper at the same mill, or for shipment by a producing mill to other mills, which it owns, controls or with which it is affiliated within the same country and therefore not sold on the open market.

Market Pulp Production

Pulp for sale in the open market and does not include pulp used in own plant or shipped to wholly owned or associated companies within the country. All pulp moving outside the producing country is considered to be market pulp.

Pulp Internal Deliveries

Integrated production + domestic deliveries + internal trade within Cepi

Pulp Total Deliveries

Integrated production + domestic deliveries + exports

Pulp Consumption

The apparent consumption of pulp by country is calculated as "production + imports from other Cepi Countries + imports from outside Cepi – exports to other Cepi Countries – exports to outside Cepi". The pulp consumption for Cepi region as a whole is calculated as "production + imports from outside Cepi – exports to outside Cepi". Therefore the total Cepi consumption doesn't add up with the sum of consumptions by country.

Pulp Grades

Pulp grades are classified according to their production process.

Mechanical Pulp

Mechanical Pulp: woodpulp, including reject pulp, obtained by grinding or milling into their relatively short fibres, coniferous or non-coniferous rounds, quarters, billets, etc., or through refining coniferous or non-coniferous chips. Called stone groundwood pulp and refiner groundwood pulp can include pre-treatment with chemical as in chemi-mechanical pulp. It can be bleached or unbleached. This pulp is used mainly in newsprint and wood-containing papers, like LWC (light-weight coated) and SC papers. Cepi Harmonised Code is 923 000 000.

Thermo-mechanical (TMP): pulp produced by a mechanical process in which wood chips are softened by pre-heating under pressure prior to a pressurized refining stage. TMP has mainly the same end-uses as stone groundwood. Variants of the above two processes produce pressurised stone groundwood pulp and refiner mechanical pulp. Cepi Harmonised Code is 923 400 000.

Semi-Chemical Pulp

Semi-chemical: Woodpulp, including reject pulp, obtained by subjecting coniferous or non-coniferous wood to a series of mechanical chemical treatments and cooking in a pressure vessel, none of which alone is sufficient to make the fibres separate readily, followed by mechanical treatment. The ratio of the weight of the pulp produced to the weight of wood used is often very high. It can be bleached or unbleached. This pulp is mainly used in the production of fluting medium for corrugated board. Cepi Harmonised Code is 921 000 000 (see page 93).

Chemi-thermomechanical (CTMP): Pulp produced in a similar way to TMP, but the wood particles are chemically treated before entering the refiner. This pulp has properties suited to tissue manufacture. CTMP is classified under semi-chemical pulps in the Harmonised System of the Customs Co-operation Council. In the FAO, as well as in other industry statistics, such chemi-thermomechanical pulps are grouped with mechanical pulp.

Chemical Pulp

Sulphite: pulp produced by cooking wood chips in a pressure vessel in the presence of bisulphite liquor. End-uses range from newsprint, printing and writing papers, tissue and sanitary papers. Sulphite can be either bleached or unbleached. Exclude dissolving pulp. Cepi Harmonised Code is 922 200 000 (see page 106).

Sulphate (or kraft): pulp produced by cooking wood chips in pressure vessels in the presence of a sodium hydroxide (soda) liquor. The pulp may be unbleached or bleached. End-uses are widespread, with bleached pulp particularly used for graphic papers, tissue and carton boards. Unbleached pulp is commonly used in liner for corrugated board, wrappings, sack and bag papers, envelopes and other unbleached speciality papers. Exclude dissolving pulp. Cepi Harmonised Code is 922 100 000 (see page 106).

Other Pulp

Pulp produced from fibres other than wood, such as sugar cane bagasse, bamboo, wheat straw, kenaf, cotton rags and hemp.

Deinked Pulps

Pulp made from recovered paper from which inks and other contaminants have been removed.

Paper and Board Apparent Consumption

The apparent consumption of paper and board by country is calculated as 'production + imports from other Cepi Countries + imports from outside Cepi – exports to other Cepi Countries – exports to outside Cepi". The Paper and Board consumption for Cepi region as a whole is calculated as "production + imports from outside Cepi – exports to outside Cepi". Therefore the total Cepi consumption don't add up with the sum of consumptions by country.

Paper and Board Internal Deliveries

Domestic Deliveries + Internal Trade within Cepi

Per Capita Consumption

Per capita consumption of paper and board here is a calculation taking the amount of paper and board consumed in each country (for this report the amount of paper and board produced plus the imports from outside the country minus the exports to outside the country) divided by the number of the population in that country. It cannot be assumed to be the average amount of finished paper and board or articles of paper and board used by an individual. Consumption by companies, and more broadly the whole economy, is included.

Paper and Board Grades

Graphic Papers

Newsprint

Paper mainly used for printing newspapers. It is made largely from mechanical pulp and/or paper for recycling, with or without a small amount of filler. Products in this category are generally manufactured in strips or rolls of a width exceeding 36 cm. Weights usually range from 40 to 52 g/m2 but can be as high as 65 g/m2. Newsprint is machine finished or slightly calendered, white or slightly coloured and is used in reels for letterpress, offset or flexo printing.
The Cepi Harmonised Code for Newsprint is 100 000 000 (see page 106).

Uncoated Mechanical

Paper suitable for printing or other graphic purposes where less than 90% of the fibre furnish consists of chemical pulp fibres. This grade is also known as groundwood or wood-containing paper. The sub-grades of uncoated mechanical are uncoated mechanical improved (high-bright and super-bright), supercalendered paper (SC-A+, SC-A, SC-B) and other uncoated mechanical (directory paper, thin printing grades and book paper). Uncoated mechanical is largely used for magazines and catalogues printed by the rotogravure and offset methods, and book paper. It excludes wallpaper base.
The Cepi Harmonised Code for Uncoated Mechanical is 211 000 000 (see page 106).

Uncoated Woodfree

Paper suitable for printing or other graphic purposes, where at least 90% of the fibre furnish consists of chemical pulp fibres. Uncoated woodfree paper can be made from a variety or furnishes, with variable levels of mineral filler and a range of finishing processes such as sizing, calendering, machine glazing and watermarking. The sub-grades of uncoated woodfree are cut-sizes (A3 or smaller, including A4), folio sheets (larger than A3) and reels (rolls). This grade includes most office papers, such as business forms, copier, computer, stationery and book papers. Pigmented and size press “coated” papers (coating less than 5 g per side) are covered by this heading. It excludes wallpaper base.. The Cepi Harmonised Code for Uncoated Woodfree is 231 000 000 (see page 106).

Coated Papers

Printing and writing papers, which have been coated on one or both sides with coating materials such as clay (beneficiated kaolin), calcium carbonate, barium sulphate, gypsum or zinc oxide, often supplemented with supercalendering, etc. It includes coated paper produced at the paper mill from base paper manufactured for own use or purchased, together with all paper made and coated in a single operation on the papermaking machine. It includes raw carbon and self-copy paper in rolls or sheets. It excludes other copying and transfer papers.
The Cepi Harmonised Code for Coated Mechanical is 212 000 000 and for Coated Woodfree is 232 000 000 (see page 106).

Tissue Paper (also known as Sanitary and Household, Hygiene Paper)

Base paper made from lightweight, dry or wet creped paper and some non-creped paper, predominantly made from natural fibres. These fibres can be issued from virgin pulp or recycled pulp, a mixture of both, or in some cases non-wood fibres.
The base paper material is taken from the tissue machine as a single-ply web wound up on a roll/reel. The base paper is intended to manufacture single-ply or multi-ply tissue products. A typical grammage of single ply tissue base paper ranges from 10 g/m2 to 50 g/m2.
The sub-grades of tissue paper are cellulose wadding, tissue<25g, tissue>25g and other tissue paper.
The Cepi Harmonised Code for Sanitary and Household is 700 000 000 (see page 106).

Packaging Paper and Board

Containerboard (Also known as Case Materials)
Papers and boards mainly used in the manufacture of corrugated board. They are made from any combination of virgin and recovered fibres and can be bleached, unbleached or mottled. Fluting is the middle ply with outer layers called the liners.
The sub-grades of containerboard are liners (kraftliners and testliners), flutings (semi-chemical fluting and recovered paper- / paper for recycling- based fluting (Wellenstoff)) and dual papers.
Main uses are corrugated boxes, transport packaging, storage and product display.
The Cepi Harmonised Code for Case Materials is 300 000 000 (see page 106).

Cartonboard (can also be written as Carton Board)
Board single or multiply, coated or uncoated. It is made from virgin and/or recovered fibres, and has good folding properties, stiffness and scoring ability. It is mainly used in cartons for consumer products such as frozen food, cosmetics and pharma. The sub-grades of cartonboard are solid board (bleached and unbleached), folding boxboard, white lined chipboard, boxboard or carrier board.
The Cepi Harmonised Code for Cartonboard is 400 000 000 (see page 106).

Wrappings
Papers whose main use is wrapping or packaging made from any combination of virgin or recovered fibres, bleached or unbleached. They may be subject to various finishing and/or marking processes. The sub-grades of wrappings are sack kraft, other wrapping krafts, sulphite and grease-proof papers. The Cepi Harmonised Code for Wrappings is 500 000 000 (see page 106).

Other Paper and Board for Packaging
This category embraces all paper and board mainly for packaging purposes other than those listed above. Most are produced from recovered fibres, e.g. greyboards, and go for conversion, which in some cases may be for end-uses other than packaging including book covers and games. The sub-grades are greyboard, moulded products and unlined chip.
The Cepi Harmonised Code for Other Packaging is 600 000 000 (see page 106).

Other Paper and Board

Other papers and boards for industrial and special purposes. It includes cigarette papers and stock of filter papers, as well as gypsum liners and special papers for insulating, roofing, waxing, asphalting and other specific applications or treatments; wallpaper base; unbleached kraft paper and paperboard that are not sack kraft paper or kraftliner and weighing more than 150 g/m² but less than 225 g/m²; felt paper and paperboard; tracing papers; not further processed uncoated paper weighing 225 g/m² or more; and raw copying and transfer papers, in rolls or sheets except carbon or self-copy paper.
It excludes all composite, not coated, paper and paper board of flat layers stuck together; coated paper and paperboard not uniformly bleached throughout the mass; and paper and paperboard covered or coated with plastics (excluding adhesives). The Cepi Harmonised Code for Special Paper and Board is 800 000 000 (see page 106).

Speciality Paper and Board

Paper or board with enhanced properties (physical, optical, electrical, chemical and/or other special considerations) that are required for either the performance of the paper in a special application or to convey a visual or tactile perception of a brand.

They all exhibit special performance characteristics, including:
- physical properties: such as strength, dimensional stability, density, porosity, permeability, smoothness, wet strength, absorptivity, texture, barrier properties (f.i. against water, grease, water-vapour, oxygen a.s.o.) and others;
- optical properties: such as very high brightness, deep colours, especially low or high opacity and gloss, transparency;
- electrical properties: such as increased conductivity or increased resistivity (insulation);
- chemical properties: such as purity, anti-corrosion, ant-microbial or pH; and/or
- other special considerations: such as specific compliance schemes, special insertions (such as security features), special moisture levels, very narrow rolls, etc..

End-uses
Specialty paper and board may be produced directly on a paper machine, by the insertion of security features, for example. Alternatively, properties may be created by a conversion process such as lamination, metallizing, silicone coating, extrusion coating, etc. Such papers then serve a wide range of end-uses, which can be classified under various categories, including (with some examples in brackets): packaging & labelling (flexible packaging, bag and liquid packaging board), building & construction (gypsum board and wallpaper), food service (drinking straw wrap and tea bag), business and communication (thermal paper and banner), industrial (abrasive base and stick paper), printing & publishing (cover and poster, luxury packaging), consumer (fine art paper, drawing paper, hand kraft, tobacco paper and gift wrap), filter (water filter and face mask), security (banknote and stamp), medical (medical disposables and bandage wrap) and electrical (battery component and cable wrap and filler).

Speciality paper and board can be found under several Cepi grades: wrappings, carton board, graphic paper, sanitary and household and other paper and board. Europe is currently the leading specialty paper and board producing and exporting region.

Paper for Recycling

To clarify the intended use of collected paper for recycling in paper mills, it has been decided to substitute the term “recovered paper” by “paper for recycling”.

Utilisation

Use of paper for recycling as raw material.
Volumes entering the mill gates. Mill broke are not included.

Collection

Separate collection of paper and paper products from industrial and commercial outlets, from households and offices for recovery. (Collection includes transport to the sorting or recycling plant/paper mill.)
Collection = utilisation - imports from other Cepi Countries - imports from outside Cepi + exports to other Cepi Countries + exports to outside Cepi. The collection of paper for recycling for Cepi region as a whole is calculated as utilisation - imports from outside Cepi + exports to outside Cepi. Therefore the total Cepi collection don't add up with the sum of collections by country.

Utilisation Rate

Percentage of paper for recycling utilisation compared to the total paper production.
Important Note: Paper for recycling is composed of fibrous material but also unwanted material – non-paper components as well as paper and board detrimental to production. The share of unwanted material depends on the actual collection and sorting of used paper. It varies according to the grades of paper for recycling but its maximum limit is 3% for most post-consumer grades and 1% for most pre-consumer grades according to the EN 643. The volume of recycled fibrous material actually in the new paper is therefore lower than the volume of paper for recycling utilised. The utilisation rate compares paper for recycling utilisation to paper production

Recycling Rate

Percentage of paper for recycling "utilisation + net trade" compared to total Paper and Board consumption.

Utilisation by Sector

Total utilisation of paper for recycling in a Paper and Board production sector as percentage of the overall paper for recycling utilisation. The Paper and Board production sectors are newsprint, other graphic grades, case materials, cartonboard, wrapping, other paper and board for packaging and special papers.

Paper for Recycling Classes

Class I - Mixed Grades - CN code 470790
Waste and scrap of paper or paperboard, including unsorted waste and scrap.
Class II - Corrugated and Kraft - CN code 470710
Unbleached kraft paper or paperboard or corrugated paper or paperboard.
Class III - Newspapers and Magazines - CN code 470730
Paper or paperboard made mainly of mechanical pulp (for example, newspapers, journals and similar printed matter). Including old and unsold newspapers and magazines, telephone directories, brochures and printed advertising material.
Class IV - Other Grades - CN code 470720
Other paper or paperboard made mainly of bleached chemical pulp, not coloured in the mass.

Fibre Flow Chart (Page 70)

[1] The non-paper usages include products such as absorbent and hygienic personal products made of fluff pulp.
[2] The difference between recovered paper collection and recovered paper utilisation can be explained by trade, stock variations and some volumes destined to other material recycling options.
[3] The trade of converted products and as well as the trade of packaging surrounding traded goods (including manuals) has been estimated to
[4] To the amount of non-collectable Paper and Board have to be added the Paper and Board that are non-recyclable and which go to landfills and other recovery options. In total, based on the 2013 PTS/Intecus study, it is estimated that around 22% of the total Paper and Board volume put on the markets are non-collectable and non-recyclable.
[5] The actual volumes of Paper and Board going to landfills / final disposal and to other recovery options have been estimated with a consultant.
[6] Returns unsold and recovered paper volumes from converters and printers should be taken into account when considering the "trade & industry" channel globally.
[7] Around 75% of these volumes go to the construction and building sector according to a recent study. The remaining 25% go to other industries and activities such as the packaging industry and farming.

Wood

Wood Consumption

The wood used for pulp and paper manufacturing is mainly constituted of the following assortments: pulpwood (roundwood other than sawlogs, from silvicultural measures such as thinning or final felling), chips and residues from sawmills. The utilisation of sawlogs is very limited and sawdust volumes consumed are negligible. The relative shares of softwood and hardwood used depend on the country considered and the pulp and paper grades produced. The main softwood species used are pine and spruce. The main hardwood species used are birch, eucalyptus, beech and aspen. Oak is hardly used.
The wood consumption figures reported by the pulp and paper companies and included in the Cepi statistics are the volumes of wood at the mill gates and come from domestic supply or imports.

Roundwood / Pulpwood

Logs and branches

Chips

Logs and branches which have been processed into chips (particles of wood).

Hardwood

The wood from non-coniferous (broadleaved) trees (trees that do not have needles or cones).

Softwood

The wood from coniferous trees.

Wood - Solid Under Bark

The volume of wood excluding the bark

Wood Trade

The following CN codes are included in wood trade data:
Softwood Pulpwood: 4403 21 90 - 44 03 22 00 - 4403 23 90 - 4403 24 00 - 4403 25 90 - 4403 26 00
Hardwood Pulpwood: 4403 94 00 - 4403 95 90 - 4403 96 00 - 4403 97 00 - 4403 98 00 - 4403 99 00
Softwood Chips: 4401 21 00 - *Hardwood Chips*: 4401 22 10 - 4401 22 90

Non-Fibrous Materials

Non-cellulose items added to the paper stock during the papermaking process in order to impart special characteristics to the final product, such as rosins, dyes, fillers, chemicals, starches, additives, brighteners, etc. Non-fibrous materials include functional chemicals and coating chemicals. The main types of materials used can be mainly grouped by purpose:

Materials for sizing (both internal and surface sizing)

These are used in papermaking to control the absorbency of paper with regards to liquids such as water or ink. Rosin, alum, starch and gelatine are the most commonly used materials for this purpose.

Materials for loading and filling

These are used to improve the optical and physical properties of the final product such as opacity, brightness, smoothness, and ink receptivity. Filler materials include china clay (kaolin - used by papermakers to obtain finish and consistency and also for coating art and chromo paper), calcium carbonate, barium sulphate (barites), talc, and titanium dioxide.

Materials for colouring

Pigments and dyestuffs used to impart colour to the paper and usually added to the pulp whilst in the beater.

Additives used to impart special paper characteristics

In particular the use of starch as a binder to increase the strength of the final paper.

Total Primary Energy Consumption

Use of the primary energy source that has not been subjected to any conversion or transformation process. It is the use of energy contained in raw fuels, and other forms of energy received as input to a system. Primary energy can be non-renewable or renewable.

Specific Primary Energy Consumption

Primary energy use calculated per quantity of the final output (Paper and Board + market pulp).

Specific CO_2 Emissions

CO_2 emissions remitted for the productions of specific quantity of the final output (Paper and Board + market pulp).

Total Electricity Produced on Site

Electrical energy produced on the mill site from different primary sources such as: hidro power, steam boilers, CHPs, recovery boilers, etc.

Purchased Electricity

Electrical energy bought from the public grid and used for production on site

Sold Electricity

Net electrical energy produced on side and send (sold) to the public grid network

CHP – Combined heat and power installation

CHP represents simultaneous production of heat sand electrical energy from one fuel source more which is far more efficient than normal fuel burning.

Specific Emissions to Water

Emissions calculated per quantity of the final output (Paper and Board + market pulp).

COD – Chemical Oxygen Demand

Quantity of oxygen used in biological and non-biological oxidation of materials in water. COD is a measure of water quality important in assessing the strength of an industrial waste where the liquid waste may be toxic or resistant to biological oxidation.

AOX

Organic halogens subject to absorption is a measure of the amount of chlorine (and other halogens) combined with organic compounds.

Water intake (million cubic meters per year)

The amount of freshwater abstracted by source and any other water received at the mill and the amount of water content in purchased materials and products for the purpose of pulp and paper production.

Water outflow (million cubic meters per year)

The amount of wastewater discharged from mill site to final destination.

Water consumption (million cubic meters per year)

Water lost during manufacturing plus water in sold products and water in waste – i.e. “the portion of the water that is removed from a water source that is not immediately returned to the water source”.

Specific Emissions to Air

Emissions calculated per quantity of the final output (Paper and board + market pulp).

NOx

Nitrogen oxides including nitric oxide (NO) and nitrogen dioxide (NO2)

SO_2

Sulphur dioxide

Operating Environment

Gross Domestic Product

A measure of economic activity, namely the value of an economy's total output of goods and services, less intermediate consumption, plus net taxes on products and imports, in a specified period. GDP can be broken down by output, expenditure or income components. The main expenditure aggregates that make up GDP are household final consumption, government final consumption, gross fixed capital formation, changes in inventories, and imports and exports of goods and services (including intra-eu trade). (Source: European Central Bank)

Gross Domestic Product at Market Prices

GDP at market prices is the sum of the gross values added of all resident producers at market prices, plus taxes less subsidies on imports. (Source: Eurostat)

Industrial Production

As specified in the Regulation on short-term statistics (STS-R), and in line with traditional practice in business statistics, the production index should show the evolution of value added at factor cost, at constant prices. Value added at factor cost can be calculated from turnover (excluding VAT), plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products and taxes linked to production
(Source: Eurostat)

Private Final Consumption Expenditure

Final consumption expenditure consists of expenditure incurred by resident institutional units on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community. The final consumption expenditure may take place on the domestic territory or abroad (ESA 1995, 3.75). Private final consumption expenditure includes households' and Non Profit Institutions Serving Households (NPISH's) final consumption expenditure. Data are calculated as chain-linked volumes (i.e. data at previous year's prices, linked over the years via appropriate growth rates). Growth rates with respect to the previous quarter (Q/Q-1) are calculated from calendar and seasonally adjusted figures while growth rates with respect to the same quarter of the previous year (Q/Q-4) are calculated from raw data. (Source: Eurostat)

Retail Trade Turnover

The Retail Trade Index is a business cycle indicator which shows the monthly activity of the retail sector in value and volume. It is a short-term indicator for final domestic demand. It should be noted that the volume of sales is different from the volume of (retail) trade services. The latter takes account of changes in the quality of the trade service supplied. As such the volume of sales is conceptually different from the index of production which takes account of quality changes. Data are compiled according to the Statistical classification of economic activities in the European Community, (NACE Rev.2, Eurostat). Turnover for retail trade are compiled as a "fixed base year Laspeyres type volume-index". The current base year is 2005 (Index 2005=100). The index is presented in calendar and seasonally adjusted form. Growth rates with respect to the previous month (M/M-1) are calculated from calendar and seasonally adjusted figures while growth rates with respect to the same month of the previous year (M/M-12) are calculated from calendar adjusted figures. (Source: Eurostat)

Added Value

Added value at factor cost is the gross income from operating activities after adjusting for operating subsidies and indirect taxes. It can be calculated from turnover, plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production. Alternatively it can be calculated from gross operating surplus by adding personnel costs. Income and expenditure classified as financial or extra-ordinary in company accounts is excluded from value added. Value added at factor costs is calculated "gross" as value adjustments (such as depreciation) are not subtracted. (Source: Eurostat)

Turnover

Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. Turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover. It also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice. Reduction in prices, rebates and discounts as well as the value of returned packing must be deducted. Income classified as other operating income, financial income and extra-ordinary income in company accounts is excluded from turnover. Operating subsidies received from public authorities or the institutions of the European Union are also excluded. (Source: Eurostat).

Classifications

Cepi Harmonised Codes

More information about the Cepi Harmonised Code Structure and Cepi Harmonised Grade List is available on request.

Paper and Board

100 000 000 - Newsprint: All Grades
211 000 000 - Uncoated Mechanical Graphics: All Grades
231 000 000 - Uncoated Woodfree Graphics: All Grades
212 000 000 - Coated Mechanical Graphics: All Grades
232 000 000 - Coated Woodfree Graphics: All Grades
300 000 000 - Containerboard: All Grades
400 000 000 - Cartonboard: All Grades
500 000 000 - Wrappings: All Grades
600 000 000 - Other Paper and Board for Packaging: All Grades
700 000 000 - Tissue Paper: All Grades
800 000 000 - Otherl Paper and Board: All Grades

Pulp

923 000 000 - Mechanical Pulp
922 000 000 - Chemical Pulp
922 200 000 - Sulphite Pulp
922 100 000 - Sulphate Pulp

Groups of Paper for Recycling Grades

According to the EN 643 “European List of Standard Grades of Paper for Recycling and Board”, the following is the official paper for recycling grade listing:
Mixed Grades: 1.01.00, 1.02.00, 1.03.00, 5.01.00, 5.02.00, 5.03.00, 5.03.01, 5.05.00, 5.05.01, 5.05.02, 5.11.00
Corrugated and Kraft: 1.04.00, 1.04.01, 1.04.02, 1.05.00, 1.05.01, 4.01.00, 4.01.01, 4.02.00, 4.03.00, 4.04.00, 4.05.00, 4.06.00, 4.07.00, 4.08.00, 5.04.00, 5.08.00, 5.12.00, 5.12.01, 5.13.00, 5.13.01
Newspapers and Magazines: 1.06.00, 1.06.01, 1.06.02, 1.07.00, 1.09.00, 1.11.00, 2.01.00, 2.02.00, 2.02.01
Other Grades: 2.03.00, 2.03.01, 2.04.00, 2.04.01, 2.05.00, 2.05.01, 2.06.00, 2.06.01, 2.07.00, 2.07.01, 2.08.00, 2.10.00, 2.11.00, 2.12.00, 2.13.00, 2.14.00, 2.14.01, 3.01.00, 3.02.00, 3.03.00, 3.03.01, 3.04.00, 3.05.00, 3.05.01, 3.06.00, 3.08.00, 3.09.00, 3.10.00, 3.10.01, 3.11.00, 3.11.01, 3.12.00, 3.13.00, 3.14.00, 3.15.00, 3.15.01, 3.16.00, 3.16.01, 3.17.00, 3.18.00, 3.18.01, 3.18.02, 3.19.00, 3.20.00, 3.20.01, 5.05.03, 5.06.00, 5.06.01, 5.07.00, 5.07.01, 5.09.00, 5.10.00, 5.10.01, 5.14.00, 5.14.01

For further details of the Combined Nomenclature see: https://www.cepi.org/the-new-en643/

European Classifications

Pulp and Paper Industry Activities are classified under these NACE 2 Headings:
C17 Manufacture of paper and paper products
C17.1 Manufacture of pulp, paper and paperboard
C17.1.1 Manufacture of pulp
C17.1.2 Manufacture of paper and paperboard
C17.2 Manufacture of articles of paper and paperboard
C17.2.1 Manufacture of corrugated paper and paperboard and of containers of paper and paperboard
C17.2.2 Manufacture of household and sanitary goods and of toilet requisites
C17.2.3 Manufacture of paper stationery
C17.2.4 Manufacture of wallpaper
C17.2.9 Manufacture of other articles of paper and paperboard
In general data reported to Cepi would be classified under:
C17.1 Manufacture of pulp, paper and paperboard
C17.1.1 Manufacture of pulp
C17.1.2 Manufacture of paper and paperboard

External Trade activities

External Trade activities relating to the pulp and paper industries are classified under Chapters 44, 47 and 48 of the Combined Nomenclature.
For further details of the Combined Nomenclature see:
https://ec.europa.eu/taxation_customs/business/calculation-customs-duties/customs-tariff/combined-nomenclature_en

Alignment of Cepi grades with CN codes is available at the next page

Alignment of Combined Nomenclature Product Headings with Cepi Grades

Paper and Board grades

Newsprint	Uncoated Mechanical	Uncoated Woodfree	Coated Mechanical	Coated Woodfree	Tissue Paper	Containerboard	Cartonboard	Wrappings up to 150gsm	Other Paper and Board for Packaging	All Other Paper and Board
4801 00 00	4802 61 15	4802 10 00	4810 22 00	4809 20 00	4803 00 10	4804 11 11	4804 42 00	4804 21 10	4805 93 20	4802 40 10
	4802 61 80	4802 20 00	4810 29 30	4810 13 00	4803 00 31	4804 11 15	4804 49 00	4804 21 90	4807 00 30	4802 40 90
	4802 62 00	4802 54 00	4810 29 80	4810 14 00	4803 00 39	4804 11 19	4804 51 00	4804 29 10	4807 00 80	4804 31 51
	4802 69 00	4802 55 15		4810 19 00	4803 00 90	4804 11 90	4804 52 00	4804 29 90	4823 70 10	4804 41 91
		4802 55 25		4816 20 00	4818 10 10	4804 19 12	4804 59 10	4804 31 58	4823 70 90	4804 41 98
		4802 55 30		4816 90 00	4818 10 90	4804 19 19	4804 59 90	4804 31 80		4805 40 00
		4802 55 90			4818 20 10	4804 19 30	4805 92 00	4804 39 51		4805 50 00
		4802 56 20			4818 20 91	4804 19 90	4805 93 80	4804 39 58		4806 30 00
		4802 56 80			4818 20 99	4805 11 00	4810 32 10	4804 39 80		4809 90 00
		4802 57 00			4818 30 00	4805 12 00	4810 32 90	4805 30 00		4810 99 80
		4802 58 10				4805 19 10	4810 39 00	4805 91 00		4811 60 00
		4802 58 90				4805 19 90	4810 92 10	4806 10 00		4812 00 00
		4823 90 40				4805 24 00	4810 92 30	4806 20 00		4813 10 00
						4805 25 00	4810 92 90	4806 40 10		4813 20 00
							4811 51 00	4806 40 90		4813 90 10
							4811 59 00	4808 40 00		4813 90 90
								4808 90 00		4823 20 00
								4810 31 00		
								4810 99 10		

Alignment of Combined Nomenclature Product Headings with Cepi Grades

Pulp grades

Mechanical & Semi Chemical Pulp	Sulphite Pulp	Sulphate Pulp	Other Pulp
4701 00 10	4704 11 00	4703 11 00	4706 10 00
4701 00 90	4704 19 00	4703 19 00	4706 20 00
4705 00 00	4704 21 00	4703 21 00	4706 30 00
	4704 29 00	4703 29 00	4706 91 00
			4706 92 00
			4706 93 00

Paper for Recycling Classes

Paper for Recycling			
Class I	Class II	Class III	Class IV
4707 90 00	4707 10 00	4707 30 00	4707 20 00

Wood Classification

Softwood Roundwood	Hardwood Roundwood	Softwood Chips	Hardwood Chips
4403 21 90	4403 94 00	4401 21 00	4401 22 10
4403 22 00	4403 95 90		4401 22 90
4403 23 90	4403 96 00		
4403 24 00	4403 97 00		
4403 25 90	4403 98 00		
4403 26 00	4403 99 00		

Cepi uses the following Geonomenclature for its statistics

Europe

Cepi Countries

Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

Other Europe than Cepi Countries

Albania, Andorra, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Faeroe Islands, Gibraltar, Iceland, Ireland, Isle of Man, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova (Republic of), Monaco, Montenegro, Russian Federation, San Marino, Serbia, Svalbard & Jan Mayen Islands, Switzerland, Turkey, Ukraine, Vatican City State.

EU-27 Countries

Austria, Belgium, Bulgaria, Croatia Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

Africa

Algeria, Angola, Benin, Botswana, British Indian Ocean Territory, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Ceuta, Chad, Comoros, Congo, Congo (Democratic Republic), Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Africa, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Melilla, Morocco, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Saint Helena, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Western Sahara, Zambia, Zimbabwe.

Asia

Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Brunei, Darussalam, Cambodia, China, Georgia, Hong Kong, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kazakhstan, Korea (Democratic People's Republic of), Korea (Republic of(S)), Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Macao, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Oman, Pakistan, Philippines, Qatar, Saudi Arabia, Singapore, Sri Lanka, Syrian Arab Republic, Taiwan, Tajikistan, Thailand, Timor Leste, Turkmenistan, United Arab Emirates, Uzbekistan, Viet Nam, West bank /Gaza, Yemen.

Latin America

Anguilla, Antigua & Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Falkland Islands (Malvinas), French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent & Grenadines, Sint-Maarten (France), Suriname, Trinidad & Tobago, Turks & Caicos Islands, Uruguay, Venezuela, Virgin Islands (British), Virgin Islands (U.S.).

North America

Canada, Greenland, Saint Pierre and Miquelon, United States.

Rest of the World

American Samoa, Antarctica, Australia, Bouvet Island, Christmas Island, Cocos (Keeling) Islands, Cook Islands, Fiji, French Polynesia, French Southern Territories, Guam, Hawaiian Islands (U.S.), Heard & McDonald Islands, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, New Zealand, Niue, Norfolk Island, Northern Mariana Islands, Palau, Papua New Guinea, Pitcairn, Samoa, Salomon Islands, South Georgia & South Sandwich Islands, Tokelau, Tonga, Tuvalu, US Minor Outlying Islands, Vanuatu, Wallis & Futuna Islands.

Cepi Data Quality Rating methodology

The European methodology for the calculation of environmental footprints of products has been altered to be used as a quality assessment tool on a larger variety of indicators than only environmental footprint indicators. Cepi has decided to remove the following two parameters: (i) Technological representativeness and (ii) the Methodological appropriateness and to split the Data Quality Rating methodology in 1) Data Delivery Quality (DDQR: assessment of the quality of data delivery by the National Associations towards Cepi) and 2) Data Quality Rating (DQR: assessment of the quality of the statistical data published towards stakeholders).

Cepi Data Delivery Quality Rating formula (DDQR):

$$\textbf{DDQR} = \frac{GR + TiR + C + P2}{4}$$

C - Completeness

The completeness is calculated as follows: figures that have not been received by the National Associations are deleted from the total to obtain a total B.

The percentage of this total B compared to the total is considered:
≥ 90% =1
≥ 80% and < 90% = 2
≥ 70% and < 80% = 3
≥ 50% and < 70% = 4
< 50% = 5

TiR - Time related representativeness

Annual figures reported to Cepi by the National Associations are one year old. When a figure is estimated by Cepi or the National Association, the age of the basis year for estimation is considered (2 years, 3 years, etc...). A total B is calculated by multiplying for each country the data figure received with the "year number".

The ratio between total B and total is considered:
≤ 1 =1
≤ 2 and > 1 = 2
≤ 3 and > 2 = 3
≤ 4 and > 3 = 4
> 4 = 5

GR - Geographical representativeness

The geographical representativeness is calculated as follows: geographical representativeness is considering paper & board production + market pulp production for each country. Paper & board production + market pulp production of countries without any figure received is deleted from the total to obtain a total B.

The percentage of this total B compared to the total is considered:
≥ 95% =1
≥ 85% and < 95% = 2
≥ 75% and < 85% = 3
≥ 50% and < 75% = 4
< 50% = 5

P2 - Parameter uncertainty

Through a survey, the National Associations have provided Cepi with a "reliability factor" for each core data: (1) high - (2) satisfactory - (3) can be further improved - (4) low – (5) no data received, indicating the quality of data reported by the Producers to the National Associations.
Figures to be estimated or overruled by Cepi are given factor (5) by default.
A total B is calculated by multiplying for each country the data figure received with a specific percentage for each factor: (1) = 100% - (2) = 75% - (3) = 50% (4) = 25% and (5) = 10%.

The percentage of this total B compared to the total is considered:
≥ 90% =1
≥ 80% and < 90% = 2
≥ 70% and < 80% = 3
≥ 50% and < 70% = 4
< 50% = 5

Cepi Data Quality Rating formula (DQR):

DQR = P1

P1- Parameter uncertainty

Through a survey, the National Associations have provided Cepi with a "reliability factor" for each core data: (1) high - (2) satisfactory - (3) can be further improved - (4) low, indicating the quality of data reported by the Producers to the National Associations.
To ensure the 'P1' parameter is used here to measure Data Quality towards stakeholders, in case Cepi decided to estimate itself or overrule the figure received from the National Associations to make it more qualitative, Cepi makes itself an assessment of a "reliability factor" for the data they enter: (1) high - (2) satisfactory - (3) can be further improved - (4) low. Scores (1) - (4) should be attributed based on the reliability of the source.

A total B is calculated by multiplying for each country the data figure received with a specific percentage for each factor: (1) = 100% - (2) = 75% - (3) = 50% and (4) = 25%.

The percentage of this total B compared to the total is considered:
≥ 90% =1
≥ 80% and < 90% = 2
≥ 70% and < 80% = 3
≥ 50% and < 70% = 4
< 50% = 5

Results

Rating	Result
< or = 1	"Excellent quality"
> 1 to < or = 2	"Very good quality"
> 2 to < or = 3	"Good quality"
> 3 to < or = 4	"Fair quality"
> 4	"Poor quality"

DQR and DDQR for Cepi Statistics

Industry Structure - 2024 Data	DQR		DDQR	
Number of companies	2.0	Very Good Quality	2.0	Very Good Quality
Number of pulp mills	1.0	Excellent Quality	1.0	Excellent Quality
Number of P&B mills	2.0	Very Good Quality	1.3	Very Good Quality
Number of paper machines	2.0	Very Good Quality	2.3	Good Quality
Paper & board capacity	3.0	Good Quality	2.8	Good Quality
Pulp capacity	3.0	Good Quality	2.3	Good Quality
Paper & board production	1.0	Excellent Quality	1.0	Excellent Quality
Market pulp production	1.0	Excellent Quality	1.3	Very Good Quality
Paper & board consumption	3.0	Good Quality	1.5	Very Good Quality
Pulp consumption	2.0	Very Good Quality	1.3	Very Good Quality
Paper & board exports	1.0	Excellent Quality	1.0	Excellent Quality
Pulp exports	1.0	Excellent Quality	1.0	Excellent Quality
Paper & board imports	2.0	Very Good Quality	1.5	Very Good Quality
Pulp imports	2.0	Very Good Quality	1.5	Very Good Quality
Employment	4.0	Fair Quality	3.3	Fair Quality
Turnover	4.0	Fair Quality	3.5	Fair Quality
Raw Materials - 2024 Data	**DQR**		**DDQR**	
Wood consumption	2.0	Very Good Quality	2.0	Very Good Quality
Collection of Paper for Recycling	3.0	Good Quality	1.8	Very Good Quality
Utilisation of Paper for Recycling	1.0	Excellent Quality	1.3	Very Good Quality
Utilisation of Paper for Recycling by sector	2.0	Very Good Quality	1.5	Very Good Quality
Exports of Paper for Recycling	2.0	Very Good Quality	1.5	Very Good Quality
Imports of Paper for Recycling	2.0	Very Good Quality	1.5	Very Good Quality
Non-fibrous materials consumption	3.0	Good Quality	2.0	Very Good Quality
Energy and Environment[1] - 2023 Data	**DQR**		**DDQR**	
Fuels consumption	2.0	Very Good Quality	2.0	Very Good Quality
Electricity consumption	2.0	Very Good Quality	2.5	Good Quality
Electricity production from CHP	4.0	Fair Quality	3.8	Fair Quality
Biomass Utilisation	2.0	Very Good Quality	1.8	Very Good Quality
SO_2 Emissions	3.0	Good Quality	3.3	Fair Quality
NOx Emissions	3.0	Good Quality	3.0	Good Quality
Water intake	3.0	Good Quality	2.0	Very Good Quality
COD Emissions	3.0	Good Quality	2.0	Very Good Quality
AOX Emissions	3.0	Good Quality	2.3	Good Quality
Residues Landfilled	4.0	Fair Quality	2.5	Good Quality
EMS certification	2.0	Very Good Quality	2.5	Good Quality
Social Affairs - 2023 Data	**DQR**		**DDQR**	
Accidents[2]	2.0	Very Good Quality	2.0	Very Good Quality

[1] Greece, Hungary, Romania and Slovenia are not included in Energy and Environment data

[2] Belgium, Czech Republic, Greece, Hungary, Poland, Romania, Slovakia and Slovenia are not included in Accident data