

Print and Paper Myths & Facts



Print, Paper and
Paper Packaging
have a great
environmental
story to tell



www.twosides.info



When it comes to the sustainability of Print and Paper, it is important to separate the Facts from the Myths.

The European paper industry is a world leader when it comes to sustainably sourced raw materials, renewable energy and recycling rates.

Yet the myths around paper are still prevalent amongst consumers. A 2021 survey by Two Sides revealed that 64% of European consumers believe European forests are shrinking when, in fact, they have been growing by an area equivalent to 1,500 football pitches every day.

The total volume of Europe's forests is approximately 28 billion m³, a figure which is currently growing by about 612 million m³ annually.

The survey also revealed that 39% of European consumers believe that paper is a wasteful product and 37% believe it is bad for the environment.

Often the source of these misconceptions is the abundance of misleading information about paper and its impact on the environment. Paper has been the preferred communications medium for 2,000 years. Even in today's digital world, it continues to be highly effective, and when produced, used and disposed of effectively, is inherently sustainable.

Two Sides seeks to ensure that by fostering a better understanding of our industry's environmental credentials, print and paper – through its myriad of uses, from commercial applications to the basis of learning and creativity – remains an essential medium for many generations to come.

About Two Sides

Two Sides is a not for profit global initiative promoting the unique sustainable and attractive attributes of print, paper and paper packaging.

Find out more at www.twosides.info

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- 01. The Fact** - European forests have been growing by over 1,500 football pitches every day
- 03. The Fact** - Sustainable forest management preserves biodiversity and safeguards forests for future generations
- 05. The Fact** - Paper is highly recycled and naturally sustainable
- 07. The Fact** - Virgin fibres from sustainably managed forests are needed to maintain the paper cycle
- 09. The Fact** - Most of the energy used in paper production is renewable and carbon intensity is surprisingly low
- 11. The Fact** - Paper production is dependent on water, yet relatively little is consumed
- 13. The Fact** - The paper industry supports a circular economy
- 15. The Fact** - Electronic communication also has environmental impacts
- 17. The Fact** - Many consumers value paper-based communication
- 19. Glossary**
- 20. Sources**

An aerial photograph of a green football pitch with white markings, including the center circle, half-way line, and goal areas. The pitch is surrounded by a dense forest of trees with vibrant yellow and orange autumn foliage. The pitch is oriented horizontally, with goals at the top and bottom edges. The surrounding forest is thick, with many bare branches visible, suggesting a late autumn or early winter setting. The overall scene is a contrast between the man-made sports field and the natural environment.

THE MYTH

***European Forests
Are Shrinking***

THE FACT

***European Forests Have Been Growing By
Over 1,500 Football Pitches Every Day***

In Europe, where almost all primary forests are protected, paper comes from sustainably managed forests where the cycle of planting, growing and logging is carefully controlled.

Forests, if managed sustainably, play an indispensable role in climate and biodiversity protection. They protect soil and water resources, provide livelihoods, and contribute to the wellbeing of rural and urban communities.¹

In some countries, particularly in the tropics, there are issues over land rights and natural forest conversion to industrial plantations. This is a cause of concern for the paper industry, NGOs and consumers. The Two Sides initiative supports solutions to these problems and recognises the need to promote products that can clearly be traced to sustainable sources.

Forests cover 31% of the world's total land area and contain most of the world's terrestrial biodiversity. Forests provide habitats for 80% of amphibian, 75% of bird and 68% of mammal species.

FAO and UNEP, The State of World's Forests, 2020

Over 80% of the pulp purchased by the European pulp and paper industry is certified.

CEPI Sustainability Report, 2019

Forests cover 40% of the European territory and are growing in both area and volume. Currently, the total volume is approximately 28 billion m³, which is growing by around 612 million m³ every year. This is a net annual growth of more than 2% once the volume of harvested forests has been deducted.²

Between 2005 and 2020, European forests grew by 58,390 square kilometres – that's an area bigger than Switzerland and amounts to over 1,500 football pitches every day!

FAO data, 2005-2020

Over 50% of the world's wood harvest is used for fuel, while 30% is processed for other industries and furniture. Only around 13% is used to make paper.³

The vast majority (over 90%) of the European paper industry's wood fibre originates from Europe. About a quarter of the chain of custody certificates in Europe (around 7,000) are estimated to relate to paper and printed materials, demonstrating that the sector is a major supporter of forest certification.⁴

The most common pressures causing deforestation and severe forest degradation are large and small-scale agriculture, unsustainable logging, mining, infrastructure projects, and increased fire incidence and intensity.

WWF, Deforestation Fronts website, 2018

The forests serve not only wood production, but they also provide many other very important ecosystem services that directly or indirectly contribute to human wellbeing.⁵

An aerial photograph of a vast, dense forest of evergreen trees, likely spruce or fir, covering a mountainous landscape. The trees are tightly packed, creating a textured green canopy. The lighting suggests a bright day, with some areas appearing slightly brighter than others.

THE MYTH

***Planted Forests Are Bad
For The Environment***

THE FACT

***Sustainable Forest Management
Preserves Biodiversity and Safeguards
Forests For Future Generations***

Forests are an extremely important part of the environment. Well-managed sustainable forests give multiple benefits to society, such as livelihoods, ecosystem services and biodiversity, while helping to tackle climate change. To ensure the long-term health of European forests, sustainable forest management underpins how the paper industry operates and sources its main raw material.

Forests are one of the world's most valuable resources and home to more than half the world's land-based animal and plant species.⁶

Over the past four decades they have moderated global warming by absorbing around a quarter of the carbon dioxide emitted by human activities. Carbon sequestration in forests reduces the rate of carbon accumulation in the atmosphere and so reduces the rate of climate change.⁷

Forests provide more than 86 million green jobs globally and support the livelihoods of many more people. They are vital for the conservation of biodiversity, energy supply, and soil and water protection.

FAO and UNEP, The State of the World's Forests, 2020

It is a common misconception that European forests are shrinking. They are growing by the equivalent of 1,500 football pitches every day. For more information on how forests are growing see page 2.



A number of schemes exist to ensure forests are sustainably managed. The two most recognised are the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification™ (PEFC™).

Both the FSC® and PEFC™ schemes have similar objectives: the certification of forests to credible, independently verified standards of responsible forest management, conserving the natural habitats of plants and animals, and respecting the rights of forestry workers and local communities. Both operate robust chain of custody schemes that track wood and wood fibre through every step of the supply chain, from the forest to the end-user.

Nearly 105 million hectares, 52% of the forest area in Europe, is certified.

Forest Europe, 2021

European forests act as a major carbon sink. Between 2010 and 2020, the average annual sequestration of carbon in forest biomass reached 155 million tonnes in the European region.⁸

In the EU27 + UK, carbon sequestration from forests corresponds to around 10% of gross greenhouse gas emissions.⁸

European forests are also becoming more diverse in tree species composition. 67% of forest area is composed of two or more tree species, while 33% of the forests are composed of single tree species – either monocultures or naturally homogenous forests.¹

The vast majority of terrestrial biodiversity is found in the world's forests. Together they contain more than 60,000 different tree species and provide habitats for 80% of amphibian species, 75% of bird species and 68% of mammal species.⁹

Over the last 37 years, there were only minor fluctuations in the common forest bird index in European forests. The fact that populations of common forest bird species are stable indicates the overall stability of the forest environment and biodiversity.

State of Europe's Forests, 2020

A person wearing a striped shirt is holding a green recycling bin. The bin is filled with crumpled brown paper and cardboard boxes. The bin has a white recycling symbol on it. In the background, there are other recycling bins (yellow and blue) and some plants.

THE MYTH

***Paper Is Bad For
The Environment***

THE FACT

***Paper Is Highly Recycled
And Naturally Sustainable***

Paper is based on wood, a natural and renewable material. Paper is one of the most recycled products in the world and epitomises the circular economy model of make, use, recycle and reuse.

The paper industry uses respected forestry certification schemes to ensure that virgin fibre originates from sustainable sources. The two most recognised certification schemes are Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification™ (PEFC™). For more information on sustainable forestry see page 4.

Paper is highly recycled and, in Europe, re-used an average 3.8 times. 56% of the fibrous raw material used in Europe's paper industry comes from paper for recycling.^{10,11}

In 2020, a total of 56 million tonnes of paper was collected and recycled in Europe – a recycling rate of 74%. This is approaching the estimated practical maximum of 78%.¹⁰

For paper packaging, the recycling rate is even higher, with 83% of paper and cardboard packaging being recycled in Europe. Paper is the most recycled packaging material, followed by metal (80%), glass (75%) and plastic (42%).¹²

Only 16% of European consumers understand that paper and paper-based packaging has a high recycling rate.

Two Sides & Toluna research, 2021

Paper cannot be recycled indefinitely as the fibres get too short and worn out to be useful in creating a new sheet of paper. Furthermore, production cannot be based on 100% recycled fibre as 100% of consumption cannot be collected. The cycle must therefore be constantly refilled with new strong virgin fibres from sustainably managed forests.

Two Sides encourages responsible paper consumption. Double-sided printing in the office and separate collection schemes will reduce costs and improve sustainability. Once a paper product's purpose is complete, it can be placed in the recycling bin and collected alongside other used paper products from businesses and households.

The European paper industry is a leading recycler and, with local collecting systems improving, will increase its recycling rates even further.

Sustainability Facts

- Paper is made from wood, a natural renewable and sustainable resource.
- Paper ensures healthy growing forests, with an indispensable role in climate and biodiversity protection.
- Between 2005 and 2020, European forests grew by an area the size of Switzerland.¹³
- 56% of fibre comes from paper for recycling.¹¹
- In Europe, 74% of paper and 83% of cardboard packaging is recycled.¹⁰
- A number of certification schemes exist to ensure forests are sustainably managed.
- Most terrestrial biodiversity is found in the world's forests.



THE MYTH

***Only Recycled Paper
Should Be Used***

THE FACT

***Virgin Fibres From Sustainably Managed
Forests Are Needed To Maintain The Paper Cycle***

Without new virgin fibres from trees, the paper cycle cannot be maintained. Recycled fibres degrade after several uses and the paper industry needs fresh fibre from sustainably managed forests to keep the renewable cycle going.

Without the addition of new fibres, the paper cycle cannot be maintained. Recycled fibres degrade after several uses, therefore the paper industry always needs fresh fibre from sustainably managed forests to keep the renewable cycle going.

Europe is the world leader when it comes to recycling paper, with 74% of paper recycled in 2020.

Cepi, Key Statistics, 2021

This high recycling rate means more recycled fibres are being used as a raw material by Europe's paper producers. In 1991, paper for recycling made up 40% of fibre used, compared to 60% virgin fibre. In 2020, paper for recycling made up 56% of fibre used, compared to 44% virgin fibre.¹¹

This growth in the use of recycled fibres has slowed down in recent years as total paper for recycling in Europe reaches its practical maximum. It is therefore likely that the current balance of recycled and virgin fibres will remain steady.

Paper for recycling can be used in some grades more than others. For example, newsprint and some types of packaging are often made with 100% recycled fibre. However, high-grade graphic papers have a lower utilisation rate of around 13%, as do some speciality papers for technical applications, which cannot include large amounts of recycled fibre due to performance, safety or hygiene requirements.¹¹

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

In Europe, paper fibres were recycled and re-used 3.8 times on average in 2020 (world average 2.4 times).¹⁰ Therefore, in the paper-making process, there is a need to continuously add virgin and recycled fibres. The use of virgin fibres ensures the strength, quality and continuous availability of paper products.

THE MYTH

***Paper Production Is A Major Cause
Of Global Greenhouse Gas Emissions***



THE FACT

***Most Of The Energy Used In Paper Production Is
Renewable And Carbon Intensity Is Surprisingly Low***

The European pulp and paper industry produces original biobased products using wood, a renewable material. It is also the largest single industrial user and producer of renewable energy in the EU.

The paper, pulp and print sector is one of the lowest industrial emitters of greenhouse gases, accounting for 0.8% of European emissions.¹⁴

The paper industry's carbon emissions have reduced by 48% per tonne of product from 1990 to 2019.¹⁵ The European pulp and paper industry is also the biggest single user and producer of renewable energy in Europe, with 62% of its primary energy consumption coming from renewable sources.¹⁶

The industry's primary on-site energy source (not including bought-in electricity) is biomass at 55%, followed by gas at 28%. The remaining 17% are other fossil fuels and net bought electricity.¹¹

The industry has consistently increased its use of biomass since 1991, rising by 83% to 754,185 tonnes in 2019.

Cepi, Key Statistics, 2020

Between 2010 and 2018, the European paper industry reduced its total primary energy consumption by 11.6% and it is now lower than it was at the beginning of this century. The European paper industry produces 54.3% of its electricity onsite, of which more than 96% is generated through highly efficient CHP (Combined Heat and Power) plants.¹¹

The print and paper industry is one of the lowest industrial greenhouse gas emitters in Europe, accounting for just 0.8% of emissions. This is low compared to non-metallic mineral products industries (5.6%) and basic metal industries (4.8%).

European Environment Agency, Annual European Union Greenhouse Gas Inventory 1990-2018, 2020

The environmental impact of our personal paper consumption may not be as high as you think. In Europe, we each use an average of 119kg of paper every year.¹⁷ This amount of paper produces 73kg of CO₂¹⁸, which is equal to driving about 600 kilometres in an average European car.¹⁹

By using paper from sustainably managed forests and always recycling, we really do not have to feel guilty about using this natural and renewable product.



THE MYTH

***Paper Production Consumes
An Excessive Amount Of Water***

THE FACT

***Paper Production Is Dependent On Water,
Yet Relatively Little Is Consumed***

The pulp and paper industry depends on water in three crucial areas. Firstly, there is rain water that is essential for trees to grow and, through photosynthesis, transform carbon dioxide to oxygen and cellulose, which provides the industry's primary raw material, wood fibre. Then there is water that is actually used to make pulp and paper, and finally there is the suitably treated effluent.

As water is a crucial resource for the industry, most pulp and paper mills are located near abundant supplies. In Europe, most mills utilise surface water, such as rivers and lakes (89% of intake), with some taken from their own supplies of groundwater (10%) and the rest from public water supplies (4%). Since the 1990s, the average water intake per tonne of paper has decreased by 47%.¹¹

It is also important to recognise that intake does not equal consumption because most of the water will be returned to the environment. 93% of the water used in the European paper industry is returned in good quality (having been reused within the mill before being suitably treated), with the remainder either evaporated, staying within the product, or bound up in solid waste.¹⁶

Water is circulated within pulp and paper mills several times before it is returned to the environment. Before it is, it needs to be treated because it contains nutrients and organic matter. Various techniques are used, such as filtration, sedimentation, flotation and biological treatment.

Improvements in paper-making techniques and water treatment have had a dramatic effect on the cleanliness of effluent leaving the mill.

Since 1991, there has been a 95% reduction in AOX levels (a measure of the toxicity due to chlorine compounds) and a 78% reduction in COD (Chemical Oxygen Demand – how much oxygen is consumed by the decomposition of organic matter).¹¹

Rainwater is essential for forests and tree plantations to grow. Water security depends on forests. Forests help regulate the water cycle, sustain water supply and maintain water quality. Forested watersheds supply approximately 75% of accessible freshwater and provide water to 90% of the world's 100 largest cities.

FAO, Forests and Water, 2019



THE MYTH

*Paper Wastes
Precious Resources*

THE FACT

*The Paper Industry Supports
A Circular Economy*

Paper fits into the circular economy model seamlessly. Its raw material, wood fibre, is a renewable, natural and sustainable resource. Paper is easily collected and recycled, ensuring these valuable fibres are used time and time again.

A circular economy is a systemic approach to economic development designed to benefit businesses, society, and the environment. In contrast to the 'take-make-waste' linear model, a circular economy is regenerative by design and aims to gradually decouple growth from the consumption of finite resources.

Ellen MacArthur Foundation

The paper industry supports the circular economy by using all parts of the tree and by-products or waste produced from other wood product processes. This includes forest thinnings, sawmill chips and saw dust, which can all be used in the manufacture of paper.

The industry is a huge supporter of sustainable forest management. You can find out more about how the industry supports this on page 4.

The European pulp and paper industry produces original bio-based products using wood, a renewable material. It is also the largest single industrial user and producer of renewable energy in Europe. The industry's primary on-site energy source (not including bought-in electricity) is biomass at 55%, followed by gas at 28%. Only the remaining 17% is generated from fossil fuels and net bought electricity.¹¹

Biomass is biological material derived from living or recently living organisms. For the pulp and paper industry, this is typically wood by-products, such as wood residue, bark, and 'black liquor', a derivative from the pulping process.

In 2019, 55% of fuels used in the pulp and paper industry came from biomass; a large amount of that is process residues.

Cepi, Key Statistics, 2020

Correctly managed, biomass is a sustainable fuel that can deliver a significant reduction in net carbon emissions when compared with fossil fuels.¹

Recycling is an extremely important part of the loop and allows paper to truly recognise its circular qualities. The European paper recycling rate is 74% and 83% of paper packaging is recycled. Recycled paper fibre is reused on average 3.8 times.¹⁰

Improving recycling systems and collaboration throughout the supply chain is fundamental to the success of the circular economy of the future.

A close-up photograph of a person's hands interacting with technology. One hand holds a smartphone, while the other rests on a laptop keyboard. A smartwatch is visible on the wrist. The background is blurred, showing an indoor setting with warm lighting.

THE MYTH

***Electronic Communication Is
Better For The Environment Than
Paper-Based Communication***

THE FACT

***Electronic Communication Also
Has Environmental Impacts***

“Go Paperless”, “Go Green” and “Save Trees” are common messages as many organisations encourage their customers to switch to electronic transactions and communications. But are these appeals based on fact?

These sort of messages give the impression that electronic communication is more environmentally friendly than paper-based communication. But it is very difficult to make such statements without considering the full lifetime of those different mediums.

As discussed throughout this booklet, paper is a uniquely renewable and sustainable product. The main raw material, wood, is grown and harvested in a carefully controlled and sustainable way – so sustainable, in fact, that European forests, where most of the raw material comes from, have grown by an area the size of Switzerland in just 15 years.¹³

The ICT industry accounts for 5-9% of electricity use, which is more than 2% of global greenhouse gas emissions (as much as all air traffic). If left unchecked, the ICT footprint could increase to 14% of global emissions by 2040.

European Commission, 2020

But it is all too common for the impacts of digital to be forgotten. Research conducted by Two Sides²⁰ found that 60% of European consumers believe electronic communications are better for the environment than paper-based communications.

Businesses and individuals are increasingly using ‘cloud’ services. These mega data centres store almost everything we do online, including our web searches, our social media posts and our online statements.

The electronic waste problem is also colossal and growing. In 2019, the industry was responsible for a gigantic 53.6 million metric tonnes (Mt) of e-waste across the world. That’s equivalent to the weight of 350 cruise ships and up by an alarming 21% over the past five years.²¹

In 2019, just 17.4% of global e-waste was collected for recycling (42.5% in Europe).²¹ Recycling activities are not keeping pace with the global growth of e-waste. Non-environmentally sound disposal and treatment of this waste stream poses significant risks to the environment and to human health.

Raw materials from digital equipment, servers and power generators are often finite, precious and non-renewable, as well as being notoriously difficult to recycle.

Tackling Greenwash

Following engagement from Two Sides, over 750 of the world’s largest organisations have removed misleading statements that say moving to digital communications is better for the environment.

A close-up photograph of a person's hand holding a piece of white paper. The hand is positioned over a dark, textured desk surface. Several other papers are scattered on the desk, some with torn edges. A pen is visible in the background. The background is blurred, showing a person wearing a striped shirt. The overall scene suggests a focus on paper-based communication.

THE MYTH

Digital Is The Preferred Means Of Communication

THE FACT

Many Consumers Value Paper-Based Communication

Many organisations, banks, utilities, telecoms and governments are now increasingly going online or charging their customers if they wish to receive paper-based communications.

Switching to digital is not always welcome

Two Sides understands the value and convenience of the digital revolution, but believes that consumers must continue to have a right to receive paper-based communications, particularly bills and statements, without penalties, supplementary charges or difficulty.

Often it is the most vulnerable members of society that depend on traditional, postal, transactional mail. The move to an online-only society risks leaving older people, the disabled, rural dwellers and those on low incomes disconnected.

It is important for policy makers to acknowledge that information on paper is preferred by many consumers and often receives more attention.

Consumers wish to retain the flexibility of postal and electronic communications.

We live in an increasingly digital world where electronic and paper-based communications coexist and are often complementary. Communication strategies must not only be cost-effective but also recognise consumer choice. There are many tangible benefits that paper-based documentation can bring, and its preference as a means of communication by many consumers must be at the forefront of any digital planning.

An international survey of 8,800 consumers commissioned by Two Sides in 2021²⁰ found that:

- 74% of European consumers believe they have the right to choose how they receive communications (printed or electronically) from financial organisations and service providers.
- 54% agree they should not be charged more for choosing paper bills or statements.
- 49% think that when a service provider asks them to switch to electronic bills and statements, and they say it is better for the environment, they really know it is about saving costs.
- 47% recognise that when an organisation encourages them to “Go Paperless”, it is not “Paperless” because they regularly print off documents at home for a hard copy.

The research also highlighted consumer concerns with digital communications, including:

- 55% are concerned with online security – that personal information held electronically is at risk of being hacked or stolen.
- 49% spend ‘too long’ on digital devices.

Glossary

Afforestation: The conversion from other land uses into forest, or the increase of the canopy cover to above the 10% threshold.

Biodiversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Bioenergy: Renewable energy made from biomass or biofuel.

Biomass: Biodegradable fraction of products, waste and residues of biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste.

Chain of Custody (CoC): A wood flow accounting system applied by an enterprise to trace the flow of wood from certified forests or non-certified forests to the end product.

Climate change: Long-term significant change in the expected patterns of average weather of a specific region over an appropriately significant period of time.

Collection (of paper and board): Separate collection of paper and paper products from industrial and commercial outlets, from households and offices for recycling. (Collection includes transport to the sorting, processing or recycling plant, or paper mill.)

Consumer: Industrial, commercial or private end-user.

Deforestation: The conversion of forest to other land use or the long-term reduction of the tree canopy cover below the minimum 10% threshold.

Eco-label: A labelling system that verifies that consumer products are made in a way that environmental aspects are considered and negative effects are minimised.

Fibres: Derived from wood, non-wood fibre sources such as fibre crops (straw, bamboo, bagasse, etc.) or alternatively paper for recycling through a recycling process.

Forest: Land within a contiguous area with trees higher than five meters and a canopy cover of more than 10%, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.

Forest certification: A system for verifying that a forest is being managed according to the requirements of a forest management standard.

Forest management: A range of human interventions that affect forest ecosystems.

Forest restoration: Renewing a degraded, damaged, or destroyed forest ecosystem through active human intervention.

Paper: Term used to cover all grades of paper and board.

Paper for recycling: Natural fibre-based paper and board suitable for recycling and consisting of paper and board in any shape and products made predominately from paper and board. This may include other constituents that cannot be removed by dry sorting, such as coatings and laminates, spiral bindings, etc.

Primary forest: Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.

Production forest: Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.

Recovered paper: Outdated term used for paper for recycling.

Recyclability: The design, manufacture and conversion of paper-based products in such a way as to enable the high quality recycling of fibres and other materials in a manufacturing process in compliance – where appropriate – with current standards in the community. As a minimum, recyclability requires that sufficient information is exchanged for appropriate risk management and safe re-use of fibres.

Recycling: Reprocessing of used paper in a production process into new paper and board.

Recycling rate: The ratio between recycling of used paper, including net trade of paper for recycling, and paper and board consumption.

Reforestation: The re-establishment of forest formations after a temporary condition with less than 10% canopy cover due to human-induced or natural causes e.g. forest fires.

Sustainable: Something that can be continued or a practice that maintains a condition without harming the environment. An example of sustainable is the practice of reduce, reuse and recycle.

Sustainable forest management: The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.

Virgin pulp/primary pulp: Pulp consisting of unused fibres. It contains no secondary or recycled fibres.

Sources

- 1 State of Europe's Forests, 2020
- 2 EU Greensource, 2021
- 3 Derived from FAOSTAT, 2018
- 4 Based on Two Sides analysis of FSC® and PEFC™ published data, 2017
- 5 Forest Europe, 2019
- 6 WWF, Why Forests Are So Important, August 2021
(www.wwf.org.uk/where-we-work/forests)
- 7 Government of Canada, Forest Carbon, August 2021
(www.nrcan.gc.ca/climate-change/impacts-adaptations/climate-change-impacts-forests/forest-carbon/13085)
- 8 Forest Europe, State of Europe's Forest, 2020
- 9 FAO, The State of the World's Forests, 2020
- 10 European Paper Recycling Council, Monitoring Report, 2020
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- 12 Eurostat, 2019
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- 14 European Environment Agency, Annual European Union Greenhouse Gas Inventory 1990-2018, 2020
- 15 Cepi, Energy & Climate, October 2021
(www.sustainability.cepi.org/energy-climate)
- 16 Cepi, Key Statistics, 2021
- 17 FAO, Yearbook of Forest Products, 2019
- 18 Based on a nominal 616kg CO₂e/tonne carbon footprint for paper (EUROGRAPH estimate, 2020)
- 19 Based on an average of 120.4g CO₂/km for new cars sold in 2018
- 20 Two Sides & Toluna, Paper's Place In A Post-Pandemic World, 2021
- 21 Global E-waste Monitor, 2020

From newspapers to magazines, from photocopies to leaflets, from letters to boxes, we believe Print and Paper cannot be beaten for attractiveness, impact and sustainability.

This booklet can only scratch the surface of all the facts surrounding the responsible use of print and paper.

To learn more about the production and consumption of paper, go to the Two Sides website and discover the facts about our industry.

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