

Print & Paper

Myths & Facts



“There aren’t many industries around that can aspire to becoming genuinely sustainable. The paper industry, however, is one of them; it is inherently sustainable.”

Jonathon Porritt, Co-Founder, Forum for the Future



***What a great,
sustainable idea***



Thermal, inkjet, carbonless, label or barrier papers –the range of products from Mitsubishi HiTec Paper offers first-class coated speciality papers for many fields of use and printing technologies. Our specialist international sales network and technical service is available to our customers worldwide.

Clearing things up

The responsible use of resources and the sustainable production of high-quality speciality papers are particularly important to us. Because of this our environmental policy exceeded the current national and EU rules for some time now. To achieve sustainable energy production we use highly efficient combined heat and power generation in our modern gas power stations.

We take sustainability even further: a large part of our global transportation has been switched to rail or sea, and we also take advantage of intermodal transport.

Our paper mills in Bielefeld and Flensburg work with the "system of electronic recording of waste". We are increasing our recycling rates drastically, while reducing our waste.

Without water there can be no paper production. Our objective is to have the lowest possible fresh water consumption by channelling water into a closed circuit and reusing it wherever possible. We continue to invest in waste water purification at both sites. The water that leaves our Bielefeld mill is now cleaner than the river water we use in production.

Environmental certifications & memberships

ISO 9001, ISO 14001, ISO 50001, DIN EN 15593, FSC®, PEFC™, B.A.U.M., Wirtschaft pro Klima, Klimapakt Flensburg, ChePap Rhein-Ruhr

We are pleased to answer any questions. Our Environmental Affairs Officer looks forward to hearing from you:
environment.mpe@mitsubishi-paper.com



Two Sides Membership

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

Membership of Two Sides shows that your organisation regards environmental awareness as an essential part of the business strategy.

Mitsubishi HiTec Paper supports this initiative and works together with Two Sides to communicate print and papers unique sustainable benefits in an increasingly multi-media world.

To find out how to participate, please go to:
www.twosides.info/become-a-member



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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.

In some countries, particularly in the tropics, there are issues over land rights and natural forest conversion to industrial plantations which are a cause of concern to the paper industry, NGOs and consumers alike.

The Two Sides initiative supports solutions to these problems and recognises the need to promote products which can clearly be traced to sustainable sources.

Between 2005 and 2015, European forests grew by 44,000 Square Kilometres - that's an area bigger than Switzerland and amounts to over 1,500 football pitches every day!

FAO data, 2005-2015

50% of the world's wood harvest is used as fuel. Over 30% is processed for other industrial uses, such as construction and furniture. Only around 13% is used to make paper.

Derived from FAOSTAT, 2018

Protected areas constitute an important element of forest protection strategies. Around 44% of the EU territory is under Natura 2000 protection. The aim is to protect Europe's most valuable and threatened habitats and species. Forests make up almost half of the area of Natura 2000 sites (i.e. 37.5 million ha) and 23% of all forests in Europe are within Natura 2000 sites.

EEA, European Forest Ecosystems – State and Trends, 2016

More than 60% of forests in EU-28 are certified, mostly under the FSC or PEFC or both. The proportion of certified forests in Europe is substantial compared with the world as a whole, as only 12% of the world's forest areas are certified.

EEA, European Forest Ecosystems – State and Trends, 2016

“More than 90% of the pulpwood we use is sourced from the EU”

CEPI Sustainability Report, 2018

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.

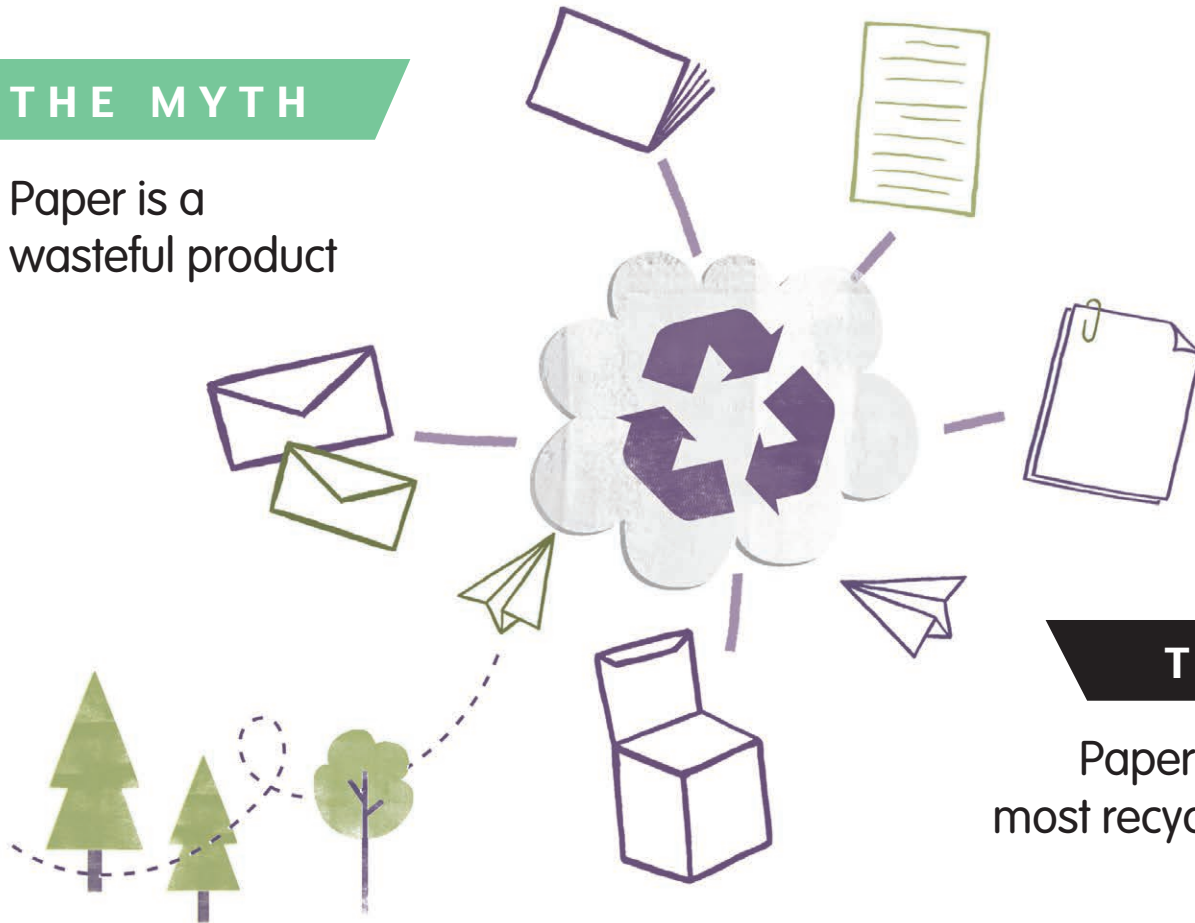
WWF, Deforestation Fronts website, 2018

Today forests and other wooded land in the EU-28 amount to about 180 million hectares, making Europe one of the most forest-rich regions in the world, with more than 42% of its land covered by forests.

EEA, Landscapes in Transition, 2017.

THE MYTH

Paper is a
wasteful product



THE FACT

Paper is one of the
most recycled products
in the world

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

The European paper recycling rate is 72.3%, which is approaching the practical theoretical maximum recycling rate of 78%.¹ Some paper products cannot be recovered for recycling because they are kept for long periods of time (books) or archived (records); others are destroyed or contaminated when used (e.g. tissue and hygienic paper).

Paper is recycled, on average, 3.6 times a year in Europe¹, while 54% of the fibre for Europe's paper industry is from paper for recycling.² Paper cannot be recycled indefinitely as fibres get too short and worn out to be useful in creating a new sheet of paper. More importantly, the production cannot be based on 100% recycled fibre, as 100% of consumption cannot be collected, and Europe is also a global net exporter of paper which is then consumed and collected outside of Europe. The cycle must therefore constantly be refilled with new fibres from sustainably managed forests.

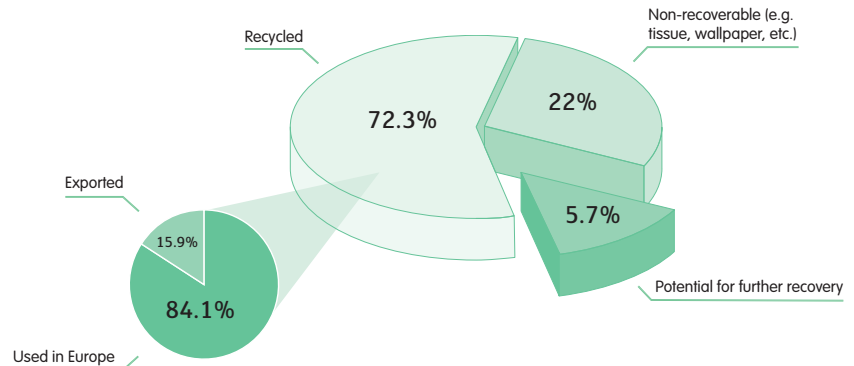
Two Sides encourages responsible paper consumption. Double-sided printing in the office and separate collection schemes will reduce costs and improve sustainability.

While the EU is discussing how to transition to a circular economy, the paper fibre loop can serve as a model for circularity. Paper recycling is an industry 'Made in Europe'. It prolongs value creation and creates job opportunities in Europe from a renewable, predominantly European resource, wood.

European Paper Recycling Council, 2018

"Two Sides members support the implementation of effective recycling schemes and the minimisation and eventual elimination, of print and paper waste in landfill."

Two Sides Membership Charter



Recovery of European Print and Paper waste products (CEPI/EPRC statistics)

THE MYTH

Paper is bad for the environment



THE FACT

Paper is one of the few truly sustainable products

Paper is based on wood, a natural and renewable material. As trees grow they absorb CO₂ from the atmosphere. Furthermore, as a wood product, paper also continues to store carbon throughout its lifetime.

The paper industry uses respected certification schemes to ensure that the paper you use originates from a sustainable forest source. The two most recognised certification schemes are the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification™ (PEFC™).

Both PEFC and FSC are committed to achieving the same objectives – the certification of forests to credible, independently verified standards of responsible forest management, and focus on conserving the natural habitats of plants and animals and respecting the rights of forestry workers and local communities. Both PEFC and FSC 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.



FSC is an international non-profit, multi-stakeholder organisation established in 1993 to promote responsible management of the world's forests. The FSC logo when used on paper and printed products is assurance that it is made with, or contains, wood that comes from FSC certified forests or from post-consumer waste.

For more information visit www.fsc.org



PEFC is an independent, non-profit, non-governmental organisation, founded in 1999 which promotes sustainably managed forests through independent third-party certification. The PEFC logo provides an assurance to purchasers of paper products that the woodfibre originates from PEFC certified, sustainably managed forests.

For more information visit www.pefc.org

Forests are rich in biodiversity and valuable for recreation, water regulation and soil protection. As well as for providing timber and other non-wood forest products, forests are important for mitigating climate change and for the renewable energy sector — over a single year, a mature tree will take up approximately 22 kg of CO₂ from the atmosphere, and, in exchange, release oxygen.

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EEA, European Forest Ecosystems – State and Trends, 2016

Sustainability Facts

- Paper is made from wood, a truly renewable and sustainable resource.
- Forest certification ensures wood comes from well managed forests.
- Responsible wood, pulp and paper production ensures healthy growing forests.
- Between 2005 and 2015, European forests grew by an area the size of Switzerland.³
- 71% of wood and 83% of pulp purchased by the European pulp and paper industry is FSC or PEFC certified.⁴
- 91% of production capacity is certified or registered according to the internationally recognised environmental management standards ISO 14001 and EMAS.⁵

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 fibres, from new 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.

Europe is the world leader when it comes to recycling paper. 72.3% of our paper is now recycled.¹ This 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 2017, paper for recycling made up 54% of fibre used, compared to 47% virgin fibre.²

This growth in recycled fibres being used has slowed down in recent years as total paper for recycling in Europe reaches nearer to its practical maximum (see p.5). It is therefore likely that the current balance of recycled and virgin fibres will remain steady. It is very difficult to directly compare recycled fibre with virgin fibre as both are fundamental to the paper making process.

Recycled paper can be used in some grades more than others. For example, newsprint and some types of packaging are often made with 100% recycled fibre. High grade graphic papers, however, have a lower utilisation rate, around 13%², but when recycled, inject the cycle with virgin fibres.

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

A fibre can be recycled several times, yet not indefinitely, depending on the paper grade. Therefore, there is a continuous need to feed the inflow of recovered fibre with paper products made of virgin pulp. Paper recycling needs to continuously incorporate a certain amount of fresh fibres for three main reasons: strength, quality and availability.

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European Paper Recycling Council, 2017.

Collecting paper for recycling, ensuring fibres remain available for remanufacture, is key to sustainability.

- When buying paper, whether recycled paper or virgin paper, ensure that it is made with wood from sustainably managed forests
- Virgin fibre grades are needed to continue the cycle
- Recycled fibres degrade after several uses

THE MYTH

Paper production is a major cause of global greenhouse gas emissions



THE FACT

Most of the energy used is renewable and carbon intensity is surprisingly low

The European pulp and paper industry produces original bio-based products using wood, a renewable material. It is also the biggest single industrial user and producer of renewable energy in the EU: 60% of the industry's total fuels consumption is biomass-based.³ And the industry has the potential to do even more in the future. It has the experience, technology and supply chain to play a big part in the bioeconomy and to do so in a resource efficient manner.

The environmental impact of our personal paper consumption may not be as high as you think either. In Europe, we each use an average of 125kg of paper every year.⁶ This amount of paper produces 84kg of CO₂⁷ which is equal to driving about 500 miles in the average European car.⁸ By buying paper from sustainably managed forests and always recycling, we really do not have to feel guilty about using this natural and renewable product.

The paper and printing sector is one of the lowest industrial emitters of greenhouse gases, accounting for less than 1% of all EU greenhouse gas emissions (around 4% of all manufacturing emissions).

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Based on Eurostat data, 2016.

The paper products and printing sector is one of the lowest industrial greenhouse gas emitters. Manufacturing industries account for 24% of all EU greenhouse gas emissions:

- Non-metallic mineral products 5.6%
- Basic metals 4.8%
- Chemicals and chemical products 4.3%
- Coke and refined petroleum 4.0%
- Food, beverages and tobacco 1.7%
- Paper and paper products 0.9%
- Printing and recorded media 0.1%
- Other manufacturing 2.3%

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Based on Eurostat data, 2016.

The direct CO₂ emissions of the European pulp and paper industry reduced by 25% between 2005 and 2017.

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CEPI, Key Statistics, 2017.

THE MYTH

Paper production consumes an excessive amount of water



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; the latter 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 to abundant supplies. It is also important to recognise that intake does not equal consumption, because most of the water will be returned to the environment. In fact, 93% of the water used in the European paper industry is returned, having been reused within the mill before being suitably treated.⁹

93% of water we use is returned to the environment in good quality, with the remainder either being evaporated, staying within the product, or being bound-up in solid waste.

CEPI, Water Profile in 2015

Improvements in papermaking 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 77% reduction in COD (Chemical Oxygen Demand – how much oxygen is consumed by the decomposition of organic matter).²

Members' use of process water, measured in cubic metres per metric ton of production, was reduced by 7.2% from the 2004/2005 baseline.

International Council of Forest & Paper Associations (ICFPA), 2017

Around 40% of total water use [in Europe] is accounted for by agriculture, followed by 28% for cooling and 18% for manufacturing and mining, while public water supplies account for 14%.

European Environment Agency, 2018.

Forested watersheds and wetlands supply 75% of the world's accessible fresh water for domestic, agricultural, industrial and ecological needs.

Forests influence the amount of available water and regulate surface and groundwater flows while maintaining highest water quality. Forests reduce the effects of flooding, and prevent and reduce dryland salinity and desertification. Forests act as natural water filters, minimizing soil erosion on site and reduce sediment in water bodies.¹⁰

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 seen these days 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 traditional, paper-based communication. But it is very difficult to make such a statement without considering the full lifetime of those different mediums.

As has been 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 10 years.³

The environmental impacts of our ever-increasing digital world cannot be ignored. The ICT industry accounts for around 2.5-3% of global greenhouse gas emissions and this is predicted to rise to 14% by 2040.¹¹

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.

When it comes to communication, whether it’s electronic or traditional mediums, consumers must be informed about the environmental impacts of those activities. Two Sides advises businesses to be transparent about the carbon footprint of all their services.

Tackling Greenwash

To date, over 500 of the world’s largest organisations have been found to be using greenwash statements in their communications. Of those, around 70% have removed their misleading statements as a direct result of being challenged by Two Sides.

It is important to mention that not all greenwashing is due to purposely misleading customers. Often it is down to genuine and common misconceptions about Print and Paper. It is Two Sides’ role to educate both consumers and businesses alike.

By 2040, the ICT carbon footprint could account for as much as 14% of the total worldwide footprint at the 2016 level, and hence exceed the current relative footprint of the Agriculture sector (9%), and almost half of the current total footprint of the industrial sector (29%) in the United States.

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Journal of Cleaner Production, 2018

The electronic waste problem is colossal, and it’s growing. In 2016 alone, 44.7 million tonnes of e-waste were generated globally, of which 435 thousand tonnes were mobile phones, representing more than the mass of the Empire State Building.

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Ellen MacArthur Foundation, 2018

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 making charges if their customers wish to receive paper-based communication.

But switching to digital is not always welcome.

Two Sides understand the value and convenience of the digital revolution but believe that citizens 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.

In reality 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 citizen 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.

We believe that it is every consumer's right to choose, without disadvantage, how they are contacted by banks and other financial service companies, utility companies, media companies and other service providers. Increasingly businesses are restricting access to paper bills and statements and denying their customers an informed choice.

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Keep Me Posted, 2018

Print and Paper in A Digital World

An international survey of over 10,700 consumers, commissioned by Two Sides in 2017, found:

- Consumers worldwide prefer to read the printed version of books (72%), magazines (72%) and newspapers/news (55%) over digital options. Many respondents also indicated that reading in print is more enjoyable than reading electronically.
- More consumers believe they gain a deeper understanding of news stories when reading from print media (65%) over online news sources (49%). In addition, consumers also trust the stories they read in printed newspapers (51%) more than stories found on social media (24%).
- Many consumers (68%) do not pay attention to online advertisements and 57% do their best to avoid them. 46% would be more likely to take an action after seeing an advertisement in a printed newspaper or magazine than they would if they saw the same ad online.
- 89% of consumers believe that they should have the right to choose how they receive communications (printed or electronically), at no extra charge, from financial organisations and service providers.

GLOSSARY

Afforestation: Afforestation is 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 biofuels derived from organic matter or other biological sources.

Biomass: as a renewable energy source, refers to living and recently dead biological material that can be used as fuel or for industrial production.

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/paper mill).

Consumer: industrial, commercial or private end-user.

Deforestation: the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10% definition for forests.

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

Forest area: area with a minimum 10% minimum crown cover. The definition includes both natural forests and forest plantations. It excludes stands of trees established primarily for agricultural production.

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 for recycling: used paper and board separately collected and in general pre-processed according to the European Standard List of Recovered Paper and Board Grades (EN 643).

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

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: design, manufacturing and converting of paper-based products in such a way as to enable a 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 rate: the ratio between recycling of used paper, including net trade of paper for recycling, and paper and board consumption.

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

Reforestation: reforestation is 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 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.

Utilisation rate: percentage of paper for recycling utilisation compared to the total paper & board production.

Glossary sources:

Confederation of European Paper Industries

Food and Agriculture Organization of The United Nations

From newspapers to magazines, from photocopies to leaflets, 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.

www.twosides.info



SOURCES

1. European Paper Recycling Council, Monitoring Report 2017.
2. CEPI Key Statistics, 2017.
3. Food and Agriculture Organization of the United Nations (FAO), Global Forest Resources Assessment 2005 – 2015.
4. Based on Two Sides analysis of FSC and PEFC published data, 2017.
5. CEPI Sustainability Report, 2018.
6. Food and Agriculture Organization of the United Nations (FAO), Forest Products Yearbook 2016.
7. Based on a nominal 670kg CO₂e/tonne carbon footprint for paper (EURO-GRAPH estimate).
8. Based on average of 118.5g CO₂/km for new cars sold in 2017.
9. CEPI, Water Profile in 2015.
10. European forest sector press release, 2016.
11. Belkhir L & Elmeligi A, Journal of Cleaner Production: Assessing ICT global emissions footprint: Trends to 2040 & recommendations, 2018.

Mitsubishi HiTec Paper Europe GmbH

Niedernholz 23
33699 Bielefeld
Germany

Tel: +49 (0)521 2091-0
Fax: +49 (0)521 2091-411
Email: info.mpe@mitsubishi-paper.com
www.mitsubishi-paper.com

Two Sides

iCon Centre, Eastern Way
Daventry, NN11 0QB
United Kingdom

Tel: +44 (0)1327 262920
Email: enquiries@twosides.info
www.twosides.info
[@TwoSidesUK](https://www.facebook.com/TwoSidesUK)