

THE MYTH

Use less **paper**, save the world's forests

THE REALITY

- The paper industry contributes to keep up forests.
- The paper industry practices sustainable forest management.
- The paper industry is not responsible for the depletion of tropical forests.

From all the wood extracted around the world's forests, 53% is used for energy production, 28% is used by sawmills and only around 11% is used directly by the paper industry¹. The paper industry depends on trees and needs thriving forests. It is very much in its interests that this raw material can be used sustainably and will remain available as a raw material to future generations.

From a tree, big logs are used for timber. The branches cut to maintain trees healthy are used for paper making. Residues from saw mills such as wood chips, are also used as raw material for paper. Over the years, thinning operations weed out the weaker trees, but there is still a net gain. The Food and Agriculture Organization (FAO) reckons that the annual increase of forest cover in EU 27 member countries is app. 503 000 ha/yr. This corresponds to the size of 3403 football (soccer) fields per day and an area almost twice as large as Luxembourg every year².

Deforestation is generally occurring in the southern hemisphere and is mainly due to unsustainable agricultural practices and fuel requirements. The European paper industry supports sustainable forest management as well as certification. A

sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit³. The European paper industry supports certification as a way of documenting sustainable forest management. Certificates based on defined criteria issued by independent auditors make this verifiable for customers and consumers⁴. Half of Europe's forests and 92,2% of forests owned by paper companies are certified⁵.

In Europe, the paper industry signed up for a Legal Logging Code of Conduct⁶ firmly condemning illegal logging and related corruption and criminal activities. The industry's commitment to responsible sourcing is clear and beyond any reasonable doubt.

1. FAO Statistics 2007

2. FAO Statistics 2010

3. 4th Assessment of the UN Intergovernmental Panel on Climate Change (IPCC)

4. To learn more about certification, please visit www.fsc.org and www.pefc.org

5. CEPI Sustainability Report 2011

6. Legal Logging Code of Conduct for the Paper Industry

THE MYTH

Paper is **BAD** for the **ENVIRONMENT**

THE REALITY

- Paper is one of the few sustainable products.
- The paper industry has reduced its environmental impact greatly over the last 10 years.
- Paper products store CO₂.

Paper boasts exceptional environmental credentials: it's natural, biodegradable, recyclable, comes from an infinitely renewable resource and is produced in a sustainable manner. It all starts with what we learned in school: through nature's own process – the photosynthesis – trees capture and store billions of tonnes of carbon, day after day. The carbon sequestered in forests is subsequently stored in products made of wood, such as paper, and the carbon storage is further prolonged by recycling paper. According to calculations, the carbon that remains bound to a printed paper product such as a book reduces after five years the carbon footprint caused by the production stage by approximately 5%. After 100 years, the drop is approximately 75%¹.

92,2% of the paper mills in Europe are certified by an environmental management system². While paper production has increased steadily in the last years (46% increase between 1991 and 2010), environmental impacts have decreased. The

European Paper Industry decreased its specific emission of CO₂ per tonne of paper produced by 42% since 1990. Although paper making is energy intensive, 54% of the energy used in European paper mills is renewable, therefore carbon neutral.

The European paper industry is also the highest user of cogeneration, a system that produces at the same time electrical and thermal energy for industrial consumption, with high level efficiency, therefore saving primary energy and reducing emissions. 94% of its on-site electricity is produced through co-generation. In fact, if it were not for the pulp and paper industry operating world-wide for the last 150 years the CO₂ levels in the atmosphere would be 5% higher (about half a degree in Celsius) than they are at present³.

1. Article: Print products only account for approximately 1% of the climate impacts of consumption by households, 2011

2. Cepi sustainability report 2011

3. Shredding the myths, Paper Manufacturers Association of South Africa, March 2012



THE MYTH

Paper production is bad for the CLIMATE

THE REALITY

- The European Council has recognized wood products as **climate friendly**.
- The paper industry has steadily reduced its carbon dioxide emissions.
- All human activities have an **environmental impact**.
- Sustainable forest management helps reduce worldwide carbon dioxide emissions.

The main source of raw material for paper - trees - is a vast carbon store and the prime absorber of CO₂ from the atmosphere. Young trees are much more efficient at absorbing carbon than old trees. Mature trees absorb carbon slower the older they get. To maximize the carbon storage the trees can provide we need young healthy forests where trees are regularly harvested and re-grown.

But the benefit does not stop there as paper also continues to store carbon throughout its lifetime. Around 160 kg of CO₂ are emitted during the production of 200kg of paper¹ - the average European per capita consumption - equivalent to the amount emitted by a typical family car over 1,000 km. The current climate discussion frequently refers to the "carbon footprint" of products as a mean for expressing the emission of climate-relevant gases by a process or through the manufacture of a product. In fact, pretty much

everything has a carbon footprint. For example, producing half a pound of hamburger for someone's lunch releases as much greenhouse gas into the atmosphere as driving a 3,000-pound car nearly 16 kilometres², while the carbon footprint of a book is equivalent to the greenhouse gas emissions of a journey of about 7 kilometres by car³.

For economic and environmental reasons the paper industry works continuously to optimise its processes. The European pulp and paper industry decreased their CO₂ emissions per tonne of paper produced by 42% since 1990⁴.

1. Paper & the environment, ATS consulting August 2007, Myths and Realities brochure, p.6
2. FAO 2006 Report
3. Print products only account for approximately 1% of the climate impacts of consumption by households
4. CEPI sustainability report 2009

THE MYTH

Paper production uses too much ENERGY

THE REALITY

- The paper industry has **considerably reduced** its energy requirements.
- 55% of the energy used by the European paper industry is **bio-energy**.
- The paper industry is the biggest producer of **biomass** energy in Europe.

Energy is required for all industrial production and the paper industry is no exception: it requires energy to operate its machines and to dry the paper web. You would expect that, being a large scale undertaking, the paper industry consumes huge amounts of energy, yet it doesn't. For economical and environmental reasons the paper industry works continuously to optimise its processes by becoming more self-sufficient. The mix of fuel it uses has continued to evolve, with most mills producing much of their electricity and most of their heat on site. More and more electricity is supplied to the national grid too.

Around 500 kWh of energy are required in Europe to make 200 kg of paper¹, which is more or less the average annual per capita consumption in the countries of the European Union.

500 kWh is equivalent to:

- powering one computer continuously for five

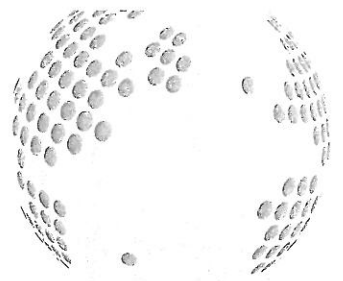
months;

- burning a 60Watt light bulb continuously for one year;
- The energy consumed by a typical household leaving its electronic equipment on stand-by for a year.

Overall, more than half of the EU pulp and paper industry total primary energy consumption is based on biomass², which corresponds to one fifth of the bio-energy produced in Europe. Biomass is produced by the pulp and paper industry by using residues and waste materials from the pulping process to provide energy for the manufacturing process itself. Often excess heat and power is produced which is sold to the grid or used by the local community. Using wood for paper first and energy last creates more value.

1. paper & the environment, ATS consulting 2007

2. CEPI sustainability report 2011



THE MYTH

Information TECHNOLOGIES are better than **paper**

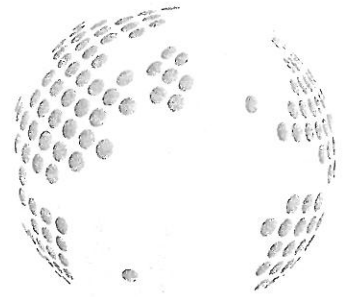
THE REALITY

- Contrary to popular belief, online activities are a major contributor to **global warming**.
- **E-waste** is an ever increasing environmental problem.
- Paper is an indispensable part of our **civilisation**.
- Paper is made from **renewable** raw materials.

Electronic communication must be recognised as delivering efficiency but not necessarily more sustainability. Think about it: Technology companies must source their raw materials, manufacture and ship the Internet's hardware: servers, personal computers, iPhones, et cetera. Then those devices must be powered and cooled, drawing electricity from their local grids, energy that is generated in different ways, including by coal plants¹. In France for example, greenhouse gas emissions that come from internet searches alone represent 287 kilotons in CO₂ equivalent². All monthly google searches are equivalent to 260 000 kg CO₂, which could power 4,239 average homes for one month³. IT technologies now account for 0.86 metric gigatonnes of emissions a year or about 2 per cent of the emissions added to the atmosphere globally. By 2020, they will account for about 3 per cent of all emissions: 1.54 metric gigatonnes⁴.

"Please consider the environment before printing"

this email" is a well-intentioned email tagline inspired by a sincere desire to help the planet. We appreciate and applaud people who are sensitive to environmental issues. But it is okay to print. Paper is a recyclable, biodegradable and reusable substance whose raw material -wood- is renewable. On the other hand, making a computer typically requires the mining and refining of dozens of minerals and metals, including gold, silver and palladium, as well as the extensive use of plastics and hydrocarbon solvents. According to a UN study the construction of an average 24-kilogram computer and 27-centimetre monitor requires at least 240 kilograms of fossil fuel, 22 kilograms of chemicals and 1,500 kilograms of water - or 1.8 tons in total, the equivalent of a rhinoceros or sports utility vehicle⁵. The lifespan of a computer is short, and electronics have become the fastest growing waste stream in the world. In fact, 10 million tonnes of e-waste is generated per year in the EU⁶ with only 2 of them being recycled.

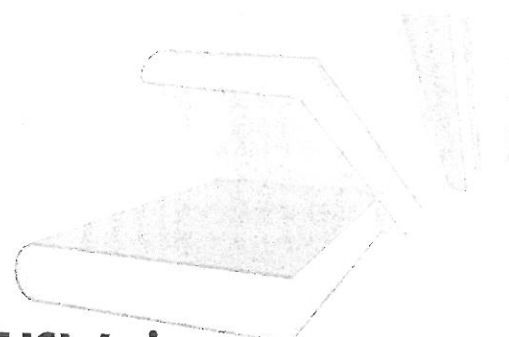


- Contrary to common belief, online activities are a major contributor to global warming.
- E-waste is an ever-increasing environmental problem.
- Paper is an indispensable part of our **civilisation**.
- Paper is made from renewable raw materials.

Paper has been around for almost two millennia and it has proven itself an effective and enduring method of transmitting information. While there is no question about the convenience or scope of the information available online, experts are discovering that if you are trying to learn something, in many cases it is easier to do using printed documents. Douglas Rushkoff, a professor from New School University⁷ pointed out that we don't slow-down to read things or go into issues in depth when we read from a computer. We skim the page, often while doing something else, and fail to assimilate much at all. According to researchers from Wayne State University, reading on paper is actually 10-30% per cent faster than reading online, in part because it is easier to track where the reader is on the page⁸. A Cambridge study⁹ further concluded that to learn, you need to summarize, and to summarize you need to understand a topic in-depth, which is often more difficult online.

Paper is still used in every corner of the world every day. We read newspapers, magazines and books, we expect goods to be properly packed, and we need paper for our daily hygiene. The fact is that every decision to communicate has some impact on the environment. Whether we email or send a letter, we consume energy and resources. There is no simple 'right answer' and the question is not 'information technologies or paper' but rather how the two can complement each other for minimum environmental impact.

1. Carbon footprinting the Internet, Gombiner, Columbia University
2. Analyse comparée des impacts environnementaux de la communication par voie électronique - Complément, p.20, July 2011
3. Powering a Google search
4. McKinsey Quarterly, Information Technology, October 2008, 'How IT can cut carbon emissions'
5. "Computer manufacturing soaks up fossil fuels, UN university study says"
6. Statement by Commissioner Potocnik on the new directive on waste electrical and electronic equipment (WEEE)
7. The decade Google made you stupid
8. Reading Online or on Paper: Which is faster?
9. A Comparison of Reading Paper and On-Line Documents



THE MYTH

The **paper** industry is old fashioned and will soon be a thing of the **past**

THE REALITY

- Paper is **innovative**.
- The paper sector is a **modern industry**.
- Young people still use and value paper.

Paper is made in large tailor-made machines which need highly sophisticated control equipment and process computers. A modern production line is up to 200 meters long and occupies a space equivalent to two football pitches. Paper production is totally computerised and automated; and for the management of a modern paper machine up to 50 screens are needed. Hundreds of last generation sensors and scanners handle the control processes for different parameters, while the machines contain more electronics than a Boeing 747.

Paper is constantly evolving, as is its production technology. From the interactive children's book where dogs actually bark, to paper batteries, food vanillin, anti-scan anti-copy technologies, even components of laptops satellites and video cards, paper is continuously innovating to fulfil people's wishes. As an expression of everyday life, paper has to be versatile and ready to respond to changing needs. Be it in new printing methods,

intelligent packaging, scratch and sniff sensation books, or radio identification-tags – paper delivers.

Whilst the internet and digital communication channels are more and more present in young people's lives, paper is still the preferred choice when it really matters and is linked to emotion (love notes, autographs, letters), trust (contracts, magazines) and organisational issues (shopping list, note-taking). In fact, 80.5% of young people cannot live without paper because they think it is useful (70.2%), necessary (over 50%), need it around (50%). Most young people also see the recycling potential of paper and choose it over other non-easily recyclable products. Young people live in a digital world where paper is key.

1. Paper Innovation (Pinterest)

2. Innovation trends, 2010

3. CEPI Millennial Survey on Paper Use and Consumption, 2011

THE MYTH

Paper production uses too much WATER

THE REALITY

- Paper production reuses the water it takes in.
- The paper industry has steadily reduced its water usage.
- The paper industry uses high end water purification.

Every paper mill has a unique water profile due to its location and the origins of its water, the destination of its effluent and the origin of its fibrous and non-fibrous raw materials being used.

Nevertheless, the European paper industry is continuously working on reducing its impact on water consumption. In the 1970s producing 1 tonne of pulp required as much as 250m³ of water – now it only takes 5-50m³¹. The past decade saw water consumption of paper machines being reduced by 1/3 as a result of more efficient water circulation. In 2008, the pulp and paper industry withdrew approximately 4 000 million m³ of water from surface and ground water sources; of which 92% were returned to surface water supplies².

Water used for the paper production is mostly circulated within the manufacturing system. The water that is discharged is purified in high-end waste water treatment facilities. In fact, water coming out of a paper production mill is cleaner than when it goes in!

The paper industry has become an active partner in the development of water stewardship and water footprinting and is developing comprehensive water reporting guidelines for the sector. It has recently been an active partner in the development of a globally harmonised understanding of water stewardship³.

1. Kemira

2. CEPI sustainability report 2011

3. European Water stewardship council

THE MYTH

We should only **use** and **produce** RECYCLED PAPER

THE REALITY

- Europe is the world leader in paper recycling.
- To keep the recycling process going, fresh fibres are needed.

Paper is the most recycled material in Europe and more than half of the paper produced comes from recycling. In Europe, 70.4% of paper in use is collected for recycling¹. Nine out of ten corrugated boxes are made from recycled fibre and nine out of ten newspapers feature on recycled paper. Year after year paper recycling rates continue to rise and when fibres can no longer be used they can be converted into renewable or green energy. Today, more than half of the raw material used to produce paper in Europe is paper for recycling.

Endless recycling, however, is not feasible in practice. Cellulose fibre from wood, which is a natural renewable resource, is the fundamental raw material for paper making. The cellulose fibre inevitably deteriorates with every recycling process. It is estimated that it can be reused four to eight times on average. Fresh fibres are therefore required to maintain the paper cycle. Some paper grades, due to their end use, need to offer characteristics that can best be provided by virgin fibre. To produce such grades, virgin fibre

and recycled fibre are incorporated in different proportions in the European paper production.

The European Paper Industry's target is to maintain a 70% recycling rate² despite the fact that around 19% of the paper we use is not available for recycling. Sometimes, because we simply keep it, such as books, documents and photographs that we have at home or that are kept in archives or libraries. In other cases they deteriorate or disappear, such as sanitary paper or cigarette paper.

The best contribution that citizens can make towards responsible paper consumption is by contributing to recycling, by separating used paper from other residues and putting them in the appropriate containers.

To learn more about paper recycling please visit www.paperforrecycling.eu

¹ CEPI Key Statistics 2011, p.21

² European Declaration on Paper Recycling 2011-2015



THE MYTH

Paper industry wants to **increase** paper CONSUMPTION

THE REALITY

- The paper supports sustainable consumption.
- Paper is made from renewable raw materials.
- Recycling spares resources.

We should not waste resources or support wastage. But without paper our life today would be difficult to conceive. We read newspapers, magazines and books, we expect goods to be properly packed, and we need paper for our daily hygiene. We don't even realise the use of paper in industrial and commercial transport packaging, not to mention the special papers that are used in vehicle manufacturing, for wine filtering or for medical applications, for example.

Unlike other materials, paper is made from a renewable material - wood. Sustainable forest management will ensure that forests grow and enough material is available. But also the paper industry's motto is doing more with less: making paper with fewer materials, less energy increasingly

renewable, in more efficient machines, towards zero waste, and providing thousands of needed products. It makes both good environmental and economic sense.

Recycling plays an important role in the sustainability of the paper cycle. The reuse of processed raw materials cuts down on energy, wood fibres and waste water treatment. As much as 70% of paper in use is collected for recycling. More concretely, nine out of ten corrugated boxes are made from recycled fibre; and nine out of ten newspapers are made with recycled fibres.

1. CEPI Key Statistics 2011, p.21

To learn more about recycling, please visit www.paperforrecycling.eu

THE MYTH

We use too much paper PACKAGING

THE REALITY

- Paper used for packaging protects goods, avoids damages and reduces **waste**.
- Paper based packaging is **100% recyclable** and completely biodegradable.
- Paper packaging is still the consumer's **first choice**.
- Paper comes from a renewable material, wood.

Paper based packaging is 100% recyclable and becomes new paper all over again. More than 50% of the paper manufactured in Europe is made from recycled materials and 9 out of 10 newspapers come from recycled papers. Paper can be recycled and is completely biodegradable. Paper packaging is also the cleanest solution for packaging foodstuffs as there is no need for washing or drying, thus no use of water or detergents, in order for it to be safe. It also comes from a renewable material, wood.

Paper packaging is also practical, strong, light and versatile. Other packaging materials can be sturdy but relatively heavy and inadaptable; they can be light but not easily filled or stacked for transportation. Paper cartons are the most practical option in many ways. Paper packaging can be part of a solution against global food wastage, which amounts to as much as 1,3 bn tons¹ – one third of that produced worldwide – by minimising wastage

and food damage along the chain. Studies show that without efficient and protective packaging, a big part of food in developed countries would be spoiled!²

Consumers prefer paper packaging. According to a consumer survey³, nine out of ten European consumers would choose paper-based packaging or labels over other materials, while 87% agree that paper-based packaging is more convenient, since there is no reason to worry about not being able to open a package or not being able to reclose it. 93% agree that manufacturers should use more paper-based packaging and labels because they are more environmentally friendly.

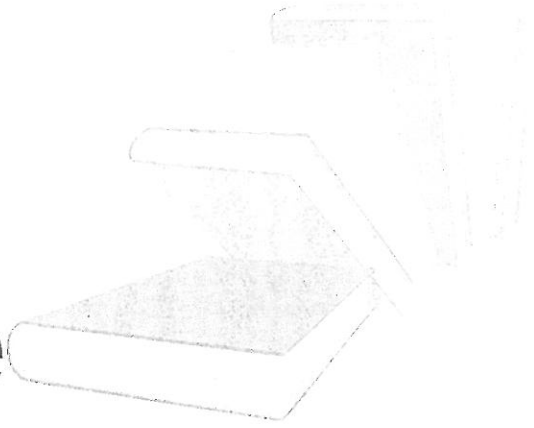
1. Fefconnect, September 2011

2. Appropriate food packaging solutions for developing countries

3. Consumer survey on packaging, PaperImpact, 2007

THE MYTH

Hand dryers are more HYGIENIC than paper towels



THE REALITY

- Hand dryers are not as effective in removing **bacteria** as paper towels.
- Hand dryers **increase** the numbers of bacteria on hands.
- **Jet air** hand dryers can spread bacteria from hands to the surrounding washroom.
- Users **prefer** paper towels.

The purpose of hand washing is to reduce the number of bacteria and to prevent harmful microbes from entering the body via the hands or indirectly via food. Rinsing your hands is not enough, and drying plays a crucial role in removing bacteria. Studies have shown that using an absorbent paper towel is better than all other drying methods¹.

According to a recent study², people could be exposing themselves to more bacteria by using electric dryers. After washing and drying hands with warm hand dryers, the total number of bacteria can increase on average by up to 254%. Drying with the more modern 'jet hand dryer' is not as hygienic as people might think: the total number of bacteria can increase by up to 42%. However, when washing and

drying hands with a paper towel, the total number of bacteria can be reduced on average by up to 76%. Moreover, a jet hand dryer is capable of blowing bacteria and contaminating other washroom users in the surrounding washroom up to 2 metres away.

People generally prefer drying their hands with paper towels. An Intermetra consumer survey³ confirmed that about 2 consumers out of 3 prefer paper tissue towels and that their key motivation is hygiene.

1. How to wash your Hands - WHO recommendations
2. A comparative study of three different hand drying methods: paper towel, warm air dryer, jet air dryer"
3. Study of the Consumers' Attitudes to Different Handdrying Systems, 2008

THE MYTH

Cloth towels are better than **paper** towels for cleaning

THE REALITY

- **Food-borne illnesses** at home could be reduced by using paper towels.
- Paper and tissue are made of **recyclable materials**.
- Paper and tissue use does not contribute to **deforestation**.

Research¹ has found that multi-use cloths significantly increase the number of bacteria on hands (at least 9 fold on average) due to transfer of bacteria from the contaminated cloth to the hands. Regardless of their use, cleaning, drying, and replacement frequency, bacteria can readily and rapidly establish themselves in fabric. Paper kitchen towels, being disposable and only used once, do not contaminate the hands of users, and are less likely to transmit bacteria and cause cross contamination.

Paper and tissue are made of renewable forest material and are biodegradable. The idea that forests are disappearing due to the usage of tissues is misleading. In Europe 54% of the raw material used for making paper comes from recycled paper. The paper industry also promotes sustainable forest management in Europe with the goal to encourage healthy, useful and enduring

forests that can meet all our different expectations in the future.

Moreover the products' entire life cycle need to be taken into account. Textile products' main environmental impact is during their use, for example during washing/laundry which requires energy, water, and detergents. Land use is an important issue for cotton as well as water use during cultivation, particularly in countries with water scarcity. In fact, growing cotton (out of which a multi-use cloth is fabricated) accounts for 2.6% of the world's yearly water usage², while water supply around the world is becoming scarcer and scarcer.

1. A study of the comparative performance and hygiene of kitchen cloths and paper towels, University of Westminster

2. The water footprint of cotton consumption: An assessment of the impact of worldwide consumption of cotton products on the water resources in the cotton producing countries, 2005