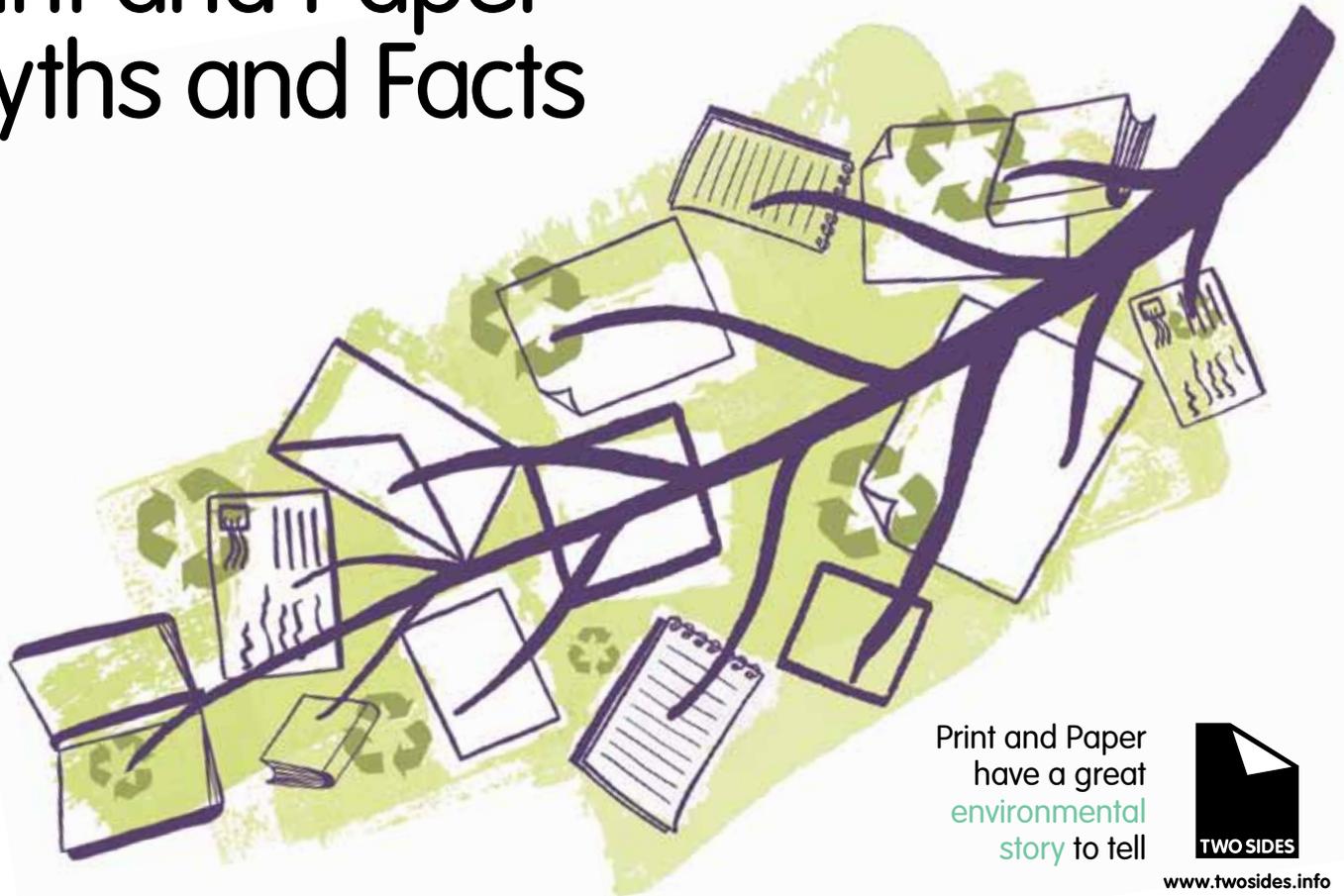


Print and Paper Myths and Facts



Print and Paper
have a great
environmental
story to tell



TWO SIDES

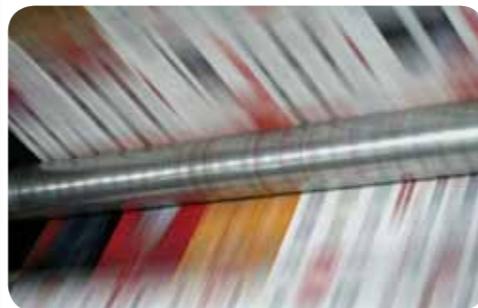
www.twosides.info

There are so many misconceptions about the sustainability of Print Media. Of course we are an industry that is based on raw materials that require energy to manufacture but we also are responsible for a product which is largely renewable and recyclable.

Two Sides is an organisation which is committed to promote the responsible production and use of Print and Paper and dispel common environmental misconceptions by providing users with verifiable information on why Print and Paper is an attractive, practical and sustainable communications medium.

‘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.’

Jonathan Porritt, Chairman UK Sustainability Development Commission & Founder Forum for the Future



Membership

Membership of Two Sides shows that your organisation regards environmental awareness as an essential part of the business strategy. Benefits of membership include access to materials and information, helping your business to communicate its sustainability to clients and staff, as well as participating in an initiative which sets out to dispel many of the myths that surround our industry.

Please go to
<http://www.twosides.info/how-to-join>
and find out how to participate.

Print and Paper
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environmental
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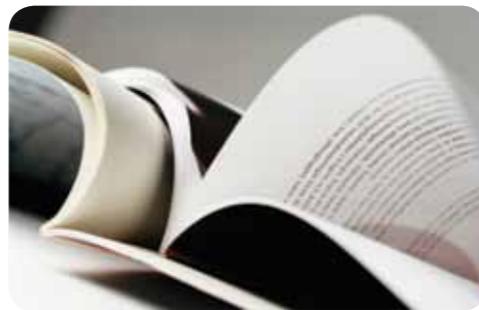
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- 02 **The myth:** Making paper destroys forests
- 04 **The myth:** Paper is bad for the environment
- 06 **The myth:** Making paper consumes a lot of energy
- 08 **The myth:** Paper has a high carbon footprint
- 10 **The myth:** Harvesting new trees to make paper is bad
- 12 **The myth:** Print and Paper is a wasteful product
- 14 **The myth:** Electronic Communication is more environmentally friendly than Print and Paper
- 17 Sources

What a great sustainable idea



'For sheer flexibility, style and touch, Print and Paper can be the natural and recyclable choice for sustainable and powerful communications.'



TWO SIDES IS AN ORGANISATION WITH MEMBERSHIP SPANNING THE WHOLE GRAPHIC COMMUNICATIONS VALUE CHAIN; CREATING A FORUM FOR THE INDUSTRY TO WORK TOGETHER AND SHARE EXPERIENCES; IMPROVING STANDARDS AND PRACTICES; MAXIMISING CUSTOMER CONFIDENCE IN OUR PRODUCTS.

In recent years, the wider business community has evolved. It has developed an increased awareness of corporate responsibility issues and assumed its share of responsibility and accountability for maintaining standards of ethical, social and environmental performance.

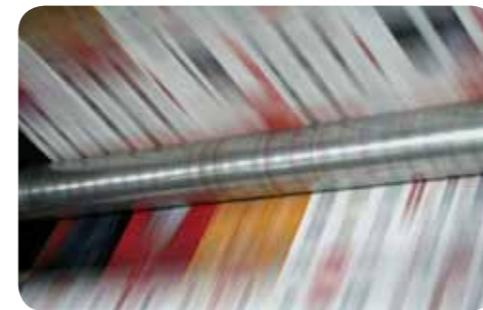
The developing awareness of the industry has grown in step with an increase in communities' and society's expectations across all sectors.

Two Sides recognises that the industry has a responsibility to continually improve its environmental credentials and address customer concerns, which are often the result of misleading or inaccurate information.

The Two Sides initiative will set out the facts in a clear and straightforward manner, addressing some of the inaccuracies and issues that surround the industry. There is an appetite by those working within the Graphic Communications channel to understand all the environmental issues and thus make more informed decisions about the use of Print and Paper products.

Print and Paper have been the preferred communication medium for over 2000 years.

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 the essential communication medium of choice.



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Print and Paper have a great environmental story to tell

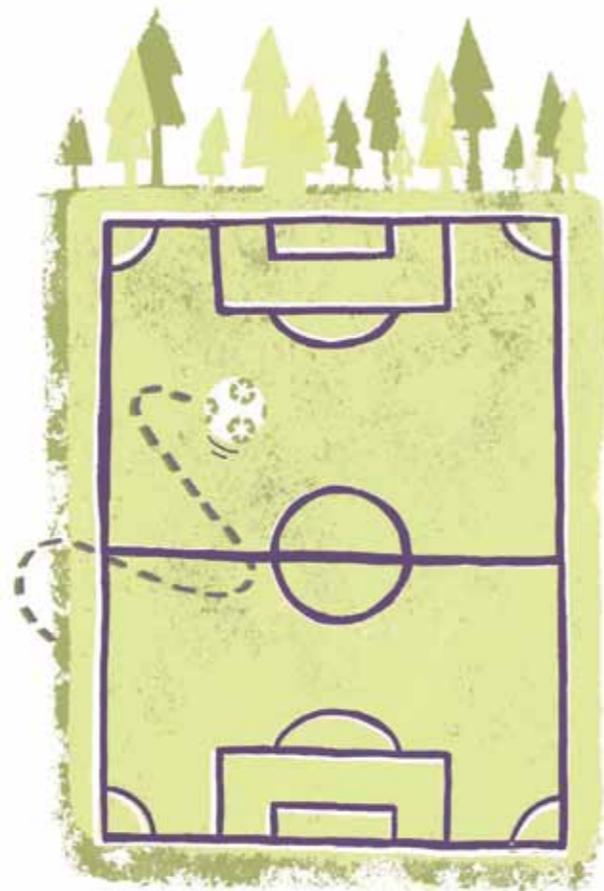


www.twosides.info

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**THE MYTH:
MAKING PAPER
DESTROYS FORESTS.**

**THE FACT:
PAPER PRODUCTION
SUPPORTS
SUSTAINABLE FOREST
MANAGEMENT.**



© Holly Sims

EUROPEAN FORESTS HAVE GROWN BY OVER 30% SINCE 1950¹ AND ARE INCREASING BY 1.5 MILLION FOOTBALL PITCHES EVERY YEAR – AN AREA FOUR TIMES THE SIZE OF LONDON!²

'The paper industry is a relatively small user of wood. Of the wood extracted from 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 industry.'

FAO Statistics, 2008

Deforestation is generally occurring in the tropics but for a variety of reasons. The main cause of deforestation is either for agriculture or for domestic fuel requirements which between them account for almost half of the trees cut down worldwide.³

'The single biggest direct cause of tropical deforestation is conversion to crop land and pasture, mainly for subsistence.'

replantingtherainforests.org, April 2009

'90% of deforestation is caused by unsustainable agricultural practices.'

Underlying causes of deforestation, World Rainforest Movement, UN FAO



There have been and continue to be in some countries, particularly in the tropics, 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 a reduction in such activity and recognises the need to support products which can clearly be traced to sustainable sources.

In northern Europe, where almost all ancient forests are protected, paper comes from managed semi-natural forests where the cycle of planting, growing and logging is carefully controlled. Historical concerns in northern Europe and Canada have now been largely resolved through co-operation between legislators, campaigners and forest industries to protect ancient forests.

'94% of the paper we use is made in Europe.'

CEPI trade statistics, 2007

One of the many unique things about paper is that its main raw material is renewable and recyclable, providing a natural habitat for wildlife. The European Environment Agency (EEA) has stated that 'Forestry practice in Europe is developing in a way that can be considered good for biodiversity.'⁴

'In Europe, forests are growing and now cover 44% of the land area. 98% of all European forests are covered by a management plan or equivalents.'

MCPFE, Europe's Forests, 2007

THE MYTH:
MAKING PAPER
IS BAD FOR THE
ENVIRONMENT.

THE FACT:
PAPER IS ONE OF
THE FEW TRULY
SUSTAINABLE
PRODUCTS.



© Matthew Hamms

PAPER IS BASED ON WOOD, A NATURAL AND RENEWABLE MATERIAL, AND AS YOUNG 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 has a number of respected certification schemes ensuring the paper you use has come from a sustainable forest source. There are some 30 schemes in existence, but the two main auditable certifications that have emerged are the Forest Stewardship Council (FSC®) and the Programme for the Endorsement of Forest Certification (PEFC®).

At the moment too few of the world's forests are formally certified but Two Sides actively supports certification programmes and believes these provide consumers with reassurance.

'In the period 1990-2010, 870 million tonnes of CO₂ have been removed by European forests; equivalent to about 10% of the Greenhouse Gas emissions.'

MCPFE, State of Europe's Forests 2011



FSC® (Forest Stewardship Council) FSC® provides global standards for forest management which cover a balance of environmental, social and economic aspects. The wellbeing of forest communities and ecosystems is as important as replacing trees in ensuring the future of the world's forests. The FSC® system also provides a way of tracking forest products through independently verified Chain of Custody certification. This has to cover every stage in processing, conversion, distribution and printing before the final product can carry the FSC® label.



PEFC® The PEFC® Council (Programme for the Endorsement of Forest Certification schemes) is an independent, non-profit, non-governmental organisation, founded in 1999 which promotes sustainably managed forests through independent third party certification.

The PEFC® provides an assurance mechanism to purchasers of wood and paper products that they are promoting the sustainable management of forests.

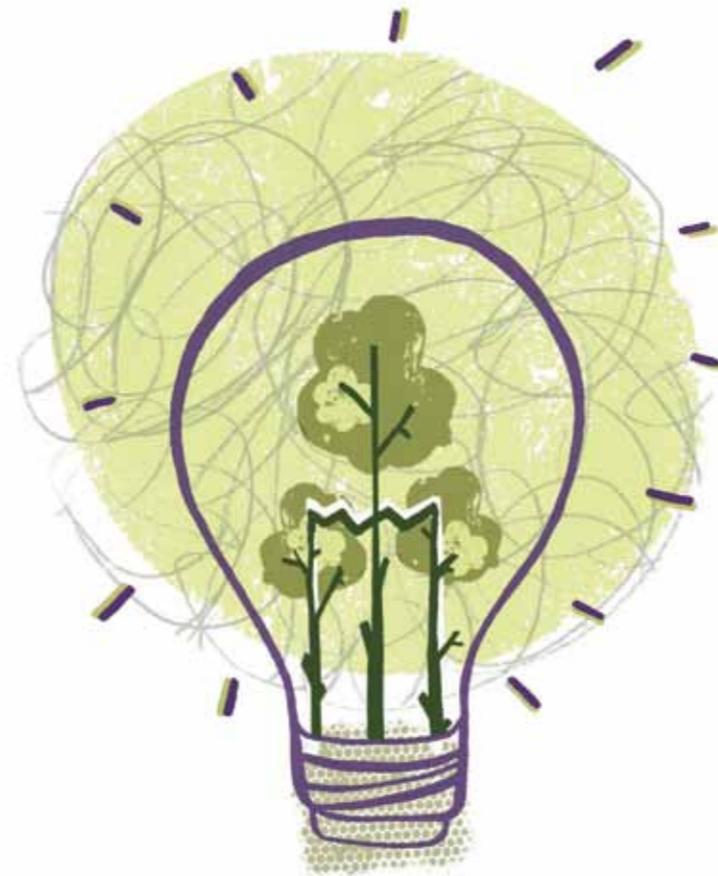
Sustainability Facts.

- Paper production is not a major cause of deforestation
- Responsible wood, pulp and paper production ensures healthy, growing forests
- Paper is a fully renewable, sustainable resource
- European forests are today 30% larger than in 1950
- Forest certification promotes wood from managed forests
- The annual increase of forest cover in Europe is equivalent to more than 1.5 million football pitches



THE MYTH:
MAKING PAPER
CONSUMES A LOT
OF ENERGY.

THE FACT:
BUT MOST OF IT IS
RENEWABLE ENERGY.



© Holly Sims

PEOPLE MISTAKENLY THINK PAPER MAKING IS A VORACIOUS ENERGY CONSUMER. BUT LOOK MORE CLOSELY AND YOU'LL DISCOVER SOME SURPRISINGLY SMALL STATISTICS ABOUT PAPER AND ENERGY...

As industries go, paper making is a large scale undertaking and you'd expect it to generate some frightening statistics. It doesn't. On average it takes 500 kilowatt-hours (kWh) of electricity to produce 200kg of paper, the average amount of paper that each of us consume each year.

The paper industry is one of the biggest users of renewable, low carbon energy and over half the energy used to make paper in Europe comes from renewable sources.⁵

'The pulp and paper industry is the bio-energy driver in Europe. 52% of the energy used in the industry is biomass-based and the sector is responsible for 27% of the total production of biomass-based energy in the EU.'

CEPI Paperonline, 2010

What is Biomass Energy?

Biomass energy is produced by the pulp and paper industry by burning wood 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 four times more value.

What is the difference between Biomass and Fossil Fuels?

The vital difference is one of time scale. Biomass takes carbon out of the atmosphere while it is growing and returns it as it is burned. Managed on a sustainable basis biomass is a completely replenishable crop. This maintains a closed carbon cycle and preserves valuable fossil fuels.

The sector, Pulp, Paper and Print, is one of the smallest greenhouse gas emitters on the planet.

Greenhouse Gas Emissions in 2005, (Extracts):

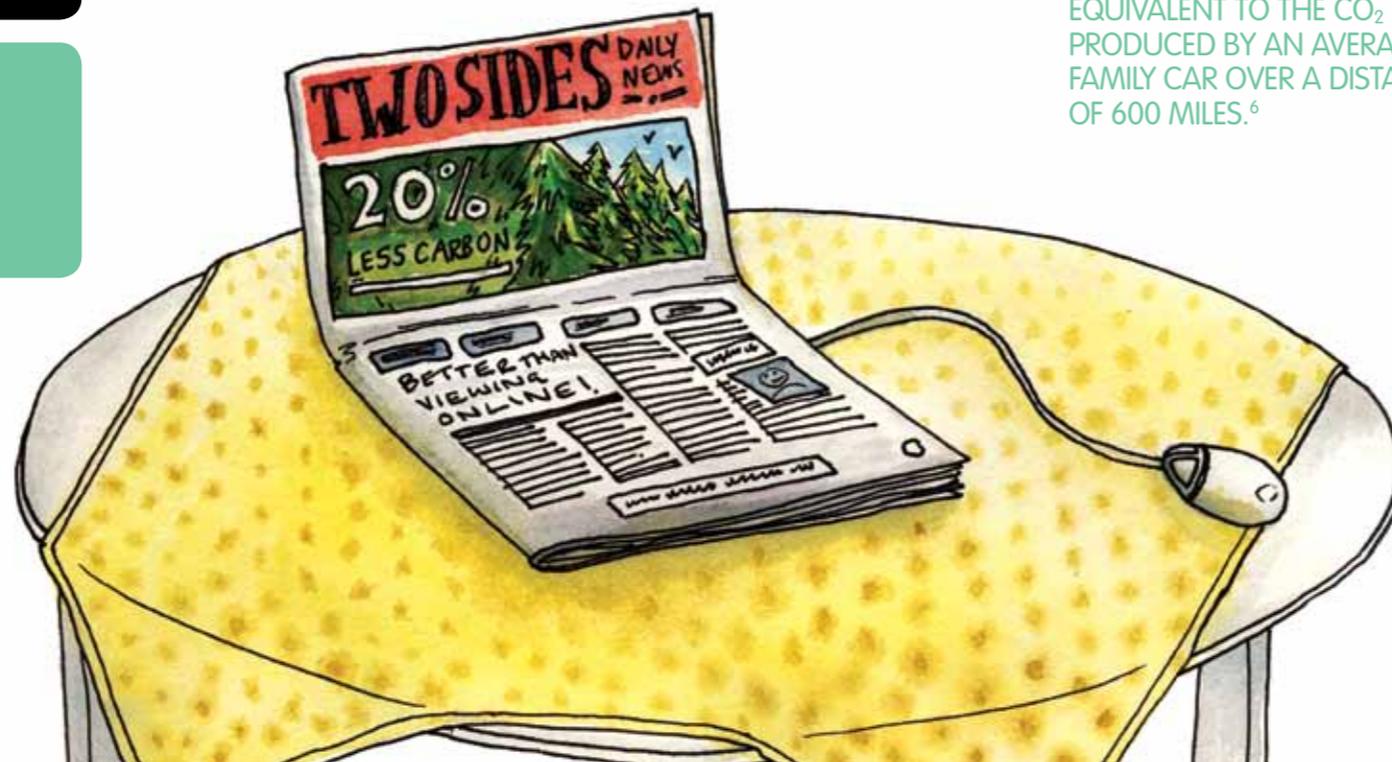
• Electricity and Heat	24.9%
• Industry	14.7%
• Transportation	14.3%
• Agriculture	13.8%
• Pulp, Paper and Print	1.1%

World Resources Institute.
WRI, July 2009



THE MYTH:
PAPER HAS A
HIGH CARBON
FOOTPRINT.

THE FACT:
IT'S NOT AS HIGH
AS YOU THINK.



PRODUCING 200KG OF PAPER, THE AVERAGE WE EACH USE EVERY YEAR, CREATES BETWEEN 130–250KG OF CO₂ DEPENDING ON THE SOURCE OF ENERGY. THIS IS COMPARABLE TO MANY OTHER SMALL SCALE DOMESTIC ACTIVITIES, AND IS ROUGHLY EQUIVALENT TO THE CO₂ PRODUCED BY AN AVERAGE FAMILY CAR OVER A DISTANCE OF 600 MILES.⁶

The main raw material of paper, trees, is a vast carbon store and the prime absorber of carbon dioxide from the atmosphere. Comparing the precise carbon footprint of the all paper grades is difficult to pinpoint as it depends on how the paper is made and the source of energy used in production. Nuclear, hydro, biomass and geothermal energy, heavily used by some paper making countries, are all low carbon, while fossil-fuels are carbon intensive.

'A sustainably managed forest can be relatively carbon neutral if logging is balanced with re-growth.'

The Sustainable Procurement of wood & Paper products: An introduction. www.sustainableforestprods.org

The pulp and paper industry has reduced the emissions of CO₂ per tonne of paper produced by 42% compared to 1990 and down by 8% overall.⁷

Industry research indicates that mail comprises 0.1% of total household CO₂ emissions in Europe. The 14kg of CO₂ emitted is the equivalent of:

- One 70km car journey
- Five Cheeseburgers
- Nine litres of milk
- 6.6 minutes of transatlantic flight

EMIP, The Facts Of Our Value Chain, 2008



Definition: A Carbon Footprint is a measure of the impact that human activities have on the environment in terms of the amount of CO₂ and other greenhouse gases released into the atmosphere that have arisen through the manufacture and distribution of a product or service.

And in a multimedia world, print and paper may be the sustainable way to communicate.

- 2% of the UK's current energy requirement is demanded by data centres today. Roughly the same as the airline industry.⁸
- One email with a 400k attachment, sent to 20 people, is equivalent to burning a 100w light bulb for 30 minutes.⁸
- Half the UK's household energy requirements could be needed to drive laptops and PCs in the next 10 years.⁸
- 100 searches on Google is equivalent to burning a 60w light bulb for 20 minutes, using 0.03kWh electricity and 20gms of CO₂.¹³
- 100 minutes of YouTube video is equivalent to burning a 60w light bulb for 13 minutes, using 0.02kWh of electricity and 13gms of CO₂.¹³

'Reading a newspaper can consume 20% less carbon than viewing news online.'

Swedish Royal Institute for Technology

THE MYTH:
HARVESTING NEW
TREES TO MAKE
PAPER IS BAD.

THE FACT:
SUSTAINABLE FOREST
MANAGEMENT
BENEFITS PEOPLE
AND THE PLANET.



© Holly Sims

WITHOUT NEW FIBRES, FROM
NEW TREES, THE PAPER CYCLE
CAN NOT BEGIN. RECYCLED
FIBRES DEGRADE AFTER SEVERAL
USES AND NEW FIBRES ARE
ALWAYS NEEDED.

In choosing your paper you must consider its full life cycle and not just the fibre source. It's important to remember that virgin fibre is always required to make recycled paper possible in the first place. 40% of new wood fibre is always needed to keep the global fibre cycle going.

'Maximising the use of recovered fibre – versus virgin fibre – in appropriate paper grades and under appropriate circumstances can be economically beneficial and specifically reduce environmental impacts. Maximising recycled content for its own sake without regard for product type, mill performance or mill location, however, may produce much more serious – if unintended – negative environmental impacts and no economic rationale.'

Recycled Content and Virgin Fibre: Environmental, Economic and Technical Considerations for Magazine Publishers Metafore Inc, June 2009

It is very difficult to directly compare the environmental impact of recycled and virgin fibre paper. Both are important and can have an equally strong environmental argument. Forests are part of the cycle that helps remove CO₂ from the atmosphere. This extends from trees to wood and paper products, which continue to store the carbon through their lifetime and help to reduce climate change.

The fact that paper products are recyclable and renewable means that their lifecycle can be extended, prolonging this benefit and reducing waste into the bargain.

Like so many stories, there are two sides to the story of paper, but the more you know, the better placed you are to make the right decision.

Keeping waste paper in the loop, ensuring fibres remain available for remanufacture, is key to sustainability.

- Specify papers that can be recycled. Either grades made from recycled fibres or from virgin fibres that originate from certified forests
- Virgin fibre grades are needed to continue the cycle
- Recycled fibres degrade after several uses



THE MYTH:
PRINT AND PAPER
IS A WASTEFUL
PRODUCT.

THE FACT:
PAPER IS ONE OF
THE MOST RECYCLED
PRODUCTS
IN THE WORLD.



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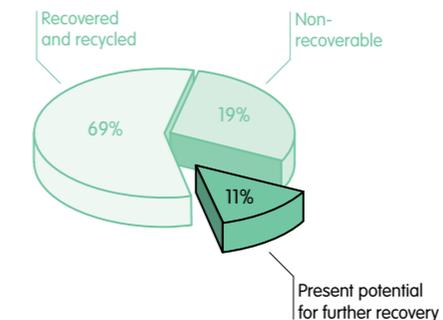
THE EUROPEAN RECYCLING RATES FOR PAPER REACHED 69% IN 2010¹¹. THE LATEST UK FIGURES ARE 79%.⁹

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

Some paper fibres, for example hygienic tissues, wall coverings, permanent documents are not usually recycled.

It is estimated that, with improved recovery, significant reduction in landfill can be achieved.

Recovery of European print and paper waste products



'Two Sides supports the implementation of effective recycling schemes and the minimisation and eventual elimination, of print and paper waste in landfill.'

Two Sides principles, 2009

Print and paper waste is now a valuable and sought after resource with market demand being high. Over 83% of the paper collected in Europe is recycled in Europe. 17% was exported to other countries for recycling in 2008.¹⁰

In a multimedia world, print and paper may be the sustainable way to communicate.

- Electronic waste is now the fastest growing component of the municipal waste stream
- The amount of electronic products discarded globally has sky rocketed recently with 20-50 million tonnes generated every year
- In Europe, e-waste is increasing at 3-5% a year, almost three times faster than the total waste stream

Source: Greenpeace, The e-waste problem, 2009



THE MYTH:
ELECTRONIC
COMMUNICATION
IS MORE
ENVIRONMENTALLY
FRIENDLY THAN
PRINT AND PAPER.

THE FACT:
NOT NECESSARILY.
E-MEDIA ALSO HAS
ENVIRONMENTAL
IMPACTS.



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“GO PAPERLESS”, “GO GREEN” AND “SAVE TREES” ARE COMMON THEMES THESE DAYS AS MANY CORPORATIONS AND GOVERNMENTS ENCOURAGE THEIR CUSTOMERS AND EMPLOYEES TO SWITCH TO ELECTRONIC TRANSACTIONS OR COMMUNICATIONS.

But are appeals to help the environment by eliminating paper based on sound science or on marketing strategies aimed at cost cutting?

Organizations that truly want to make responsible environmental choices should do so based on factual, verifiable information that takes into account every stage in the life of a product, not just a single characteristic. Rather than asking which is better, paper or electronic communication, we should use this life cycle thinking to figure out which combination of the two has the least impact on the environment while best meeting social and economic needs.

‘With a reading time of 30 minutes per day the environmental impact of a web based newspaper is, in general, in the same range as a printed newspaper’s environmental impact.’¹²

Moberg A, et al, 2007

The Problem of Greenwash.

In a UK survey conducted by Two Sides in November 2010, 43% of Banks, 70% Utilities and 30% Telecoms were making unsubstantiated ‘green’, ‘e-billing is better for the environment’, claims.

On being challenged by Two Sides, 82% of these Greenwash messages were removed or amended.

Greenwash needs to be challenged wherever it is found.



The direct impact of ICT [electronic] products and services replacing paper is far from negligible, and the tradeoff between the two “technologies” depends on conditions such as use frequency, source of energy, end-of-life management of the products, etc.¹²

As you have read, there are two sides to paper and you should now feel confident about using it. Paper is from renewable resources, recyclable and produced by an environmentally-conscious industry whose future depends on planting more trees than it consumes, and which is progressively improving standards in the whole supply chain.

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

To know more about the production and consumption of paper and its impact upon the environment, go to the Two Sides website and discover the facts about our industry.

www.twosides.info



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‘Forestry, paper and packaging are among the most sustainable industries in existence.’

CEO Perspectives 2008, PricewaterhouseCoopers

SOURCES

- UNECE, FAO, The Development of Forest Resources, 1950 to 2000 (1)
- Confederation of European Paper Industries (CEPI) forest factsheet, July 2008 (2)
- Paper and the Environment, ATS Consulting, August 2007 (3,6)
- EEA, The European Environment, State and Outlook 2005, page 191 of full report (4)
- CEPI, Forest Fact Sheet, 2008 (5)
- CEPI Sustainability Report, 2009 (7)
- BBC, Costing The Earth, Global Warming, April 2009 (8)
- UK Confederation of Paper Industries, 2012 (9)
- European Recovered Paper Council, Sept 2009 (10)
- European Declaration on Paper Recycling 2006 – 2010, Monitoring Report 2010 (11)
- Arnfolk P. 2010 (12)
- Google/Associated Press, Sept 8, 2011 (13)

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