



Julie's Bicycle Fact Sheet:

Paper and the Environment

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For 2000 years, paper has helped shape the modern world. It has been hugely important in developing our cultural and creative life. Newspapers, magazines, books, packaging and banknotes are everywhere - and how many of us actually work in a 'paperless office'?

Concerns still abound over paper's use and production. What paper you choose, and how you use it, makes a difference. This fact sheet concentrates on European paper production and use. Hopefully it will answer some of your main questions.

ISO 14001 certification and EMAS, The Eco-Management and Audit Scheme are examples of environmental management systems used in the pulp, paper and print industry. For more detail on this please read our Print and the Environment guide: www.juliesbicycle.com/resources/print-and-the-environment

Is Paper Bad For The Environment?

In a nutshell - no. Paper is made from a renewable raw material that can be recycled. It boasts the highest rate of recycling of any material in the UK, and it is potentially sustainable. Demand also encourages responsible forestry and the growth of recycling.

European paper production uses non tropical softwoods as its source of virgin fibre so is not responsible for the depletion of tropical hardwood forests as seen in other parts of the world. In fact driven by responsible management Europe's forests are increasing in size each year. However damage to natural forests and illegal logging still occurs and is one reason why traceability is so important. Not only does illegal logging damage the environment, there are serious social consequences as well.

Paper production has greatly reduced its environmental impact over the last 15 years, as investment in energy supply and improvements in efficiency take affect alongside stricter EU regulation on waste emissions and the wider adoption of Environmental Management Systems, forestry certification schemes and Eco labelling. For example by 2011, 55% of the energy used by the European paper industry was bio-energy and 92% of the water used was returned to the environment in good condition. Most if not all mills in Europe are now certified to ISO 14001 standard or registered to EMAS.

Compared to paper products electronic communication must be recognised as delivering efficiencies, but that doesn't mean it's more sustainable. Computers and servers are a major contributor to global warming, and E-waste is an ever increasing environmental problem.

What To Look For When Choosing A Paper

Use paper with post-consumer recycled fibre. Fibre from collected waste paper materials can be reused up to seven times before becoming too worn out to bind together. Although it needs to be de-inked, recycling uses much less energy, chemicals and water, and normally produces less pollution, than processing virgin wood fibres. Using recycled paper also helps promote and support collection and recycling systems, thus reducing the amount of waste paper going to landfill.

Recycled paper has improved greatly in quality over the last 25 years, and most recycled graphical papers are now on par with virgin fibre products. In fact, many people, including designers, choose recycled for their look and feel, as well as their environmental credentials. And it's also not true that recycled always costs more than virgin fibre - especially if you can buy in bigger quantities.

Paper can be produced from a variety of other pulp sources, including interesting ones like Venetian lagoon algae, cotton, bamboo, jute and hemp – although there are other environmental considerations to take into account with these 'exotic' paper types such as endangering ecosystems and manufacturing efficiency.

For some paper grades, recycled-based alternatives are hard to find or unavailable. If you can't find the right recycled paper, then look for a Forest Stewardship Council (FSC) certified alternative. In any case, as recycled fibres eventually get worn out, there will always be a need to put some new, virgin fibre into the system.

When recycled or FSC virgin fibre based paper are not available, then the fallback would be to ask for paper that is certified under an alternative forest certification scheme, such as PEFC.

Responsible pulp and paper producers monitor and manage energy, waste, raw material selection and consumption, and always strive to reduce the impacts of their mills. Most will use third-party verified environmental management systems such as ISO 14001 or EMAS (Eco-Management and Audit Scheme). While neither of these guarantees any particular benchmark, they do distinguish producers that have identified, and manage, their environmental impacts.

Environmentally committed producers are also becoming increasingly aware of the need to be transparent about their practices and to communicate their performance through corporate sustainability reports. Good reporting also addresses a wide range of other issues including workers' safety, transport and interactions with local communities.

The WWF has a good [tool](#) for checking environmental credentials of many papers although not all European produced ones are listed.

Terminology



The Forest Stewardship Council is an international organisation promoting responsible forest management. FSC has developed principles for forest management of forest holdings, and a system of tracing, verifying and labelling timber and wood products, which originate from FSC-certified forests. FSC has the support of many environmental groups. FSC paper can be purchased either with a 100%, Mix or Recycled logo.

'FSC 100%' contains nothing but fibre from FSC certified forests.

'FSC Mix' Contains minimum 70% FSC certified and or post consumer fibre and balance 'controlled' wood or pre consumer waste recycled. Controlled wood is verified as having a low probability of being from forests that contain GM trees, have been illegally harvested or where violation of traditional rights or conservation values are threatened.

'FSC Recycled' means that all the fibre in the paper is reclaimed material.

If you are 'chain of custody certified', then promote your use of the FSC logo. This contributes to environmental credibility and inspires other users.



PEFC stands for the Programme for the Endorsement of Forest Certification Schemes and is an international, non-profit organisation, primarily made up of representatives of the forest products industry. Unlike the FSC, it does not set specific standards but is an umbrella brand that incorporates different national forest certification schemes. This is intended to make the forest certification easier and more applicable to different types of forests.

Also look out for environmental labels from recognised schemes, and which involve third party auditing. Not all environmental labels are meaningful, and some are just made up by manufacturers. Here are some credible labels you may have come across:



EU Eco-label



Nordic Swan



Blue Angel

The good news is that no paper is allowed to be produced in Europe using elemental chlorine bleaching - the worst kind. They are instead produced Elemental chlorine free (ECF), Process Chlorine Free (PCF), or Totally Chlorine Free (TCF).



Elemental Chlorine Free (ECF)

This term is used to mean paper that is made from virgin or recycled fibre and bleached using alternative chlorine compounds as a substitute for elemental chlorine.



Processed Chlorine Free (PCF)

This indicates the paper contains some recycled content and is bleached without chlorine, or left unbleached. Any virgin pulp in the mix is TCF. The original paper in the recycle mix may or may not have been bleached with chlorine but is almost impossible to determine until all virgin pulp around the world is made by a TCF process. This seems unlikely for the time being as ECF has other advantages and is accepted as best practice along with TCF by many authorities.



Totally Chlorine Free (TCF)

This indicates the paper is made from 100% virgin fibre that is bleached without chlorine, or left unbleached.

Good Environmental Practice

Reduce excessive paper consumption by using less, lighter or thinner paper. Moving from 100gsm to 80gsm (grams per m²) cuts consumption by 20%.

Recycle. The paper industry is the UK's most successful recycler. Excess recovered paper collected from the UK waste stream (often called the urban forest) and not used by the UK papermaking industry, is exported for recycling. In 2013, for example, the UK exported 4.2 million tonnes of recovered paper and cardboard.

If you don't have a policy in place already, then collect all your reusable paper waste for recycling. If you're a small organisation, think about pooling collections with others. In some cases, if the grade is good enough and you produce enough of it, you will get paid for it! It is a valuable resource after all, and you will be contributing to the circular economy.

Most graphic arts paper in the UK is sold through merchants who have direct links with the mills, most of which are now based in mainland Europe and beyond. The UK still does have a paper industry although it is dominated by the production of packaging boards, tissues, toilet rolls and newsprint!

UK merchants will have full environmental data sheets on the paper sold in the UK and information about the mills that make it so if you want to find out more just ask. This great blog [Mad about mashed paper](#) gives a great insight into how a modern European recycling pulp plant and paper mill works.

In summary it is best to think about paper in a holistic sense. On balance using recycled paper is better as it uses less energy to make and makes best use of trees by using the fibre over and over again. However we still need a balance of virgin fibre paper made from well managed forests to keep the loop going. In fact this is the official position of The World Business Council for Sustainable Development (WBCSD) when asked to answer the eternal question of [which is best, recycled or virgin](#). Always recycle and think about its after use, to make sure it can be recycled, as treatments and processes like wire-o binding or laminating make the job harder.

References and Resources

[Confederation of Paper Industries \(CPI\)](#)

[Confederation of European Paper Industries \(CEPI\)](#)

[WWF Guide to Buying Paper](#)

Developed in partnership with [Calverts Cooperative: Design and Print](#), authored by Lee Sargent and with thanks to [Clare Taylor Consulting](#).

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