Paper plays a vital role in human communications and people are using more paper than ever. Papermaking is essentially based on renewable and biodegradable raw materials and the products are recyclable after use.

paper profile

A voluntary, internationally-harmonised environmental product declaration to guide the paper buyer.

The professional way to make natural choices

Continuous improvement

The pulp and paper manufacturers who support Paper Profile are committed to minimise the environmental impact of their activities. For example, emissions of organic materials to water and sulphur to air have been reduced by more than 90 per cent from their peak years. Measures taken include radical improvements in the production process as well as cleaning of emissions to air and water. Bio-fuels are to a large extent used for energy in the production process.

Uniform environmental reporting

Another vital aspect of this continual evolution is to provide paper buyers with relevant and uniform environmental information, enabling more enlightened choices. The pulp and paper industry has a long tradition of open environmental reporting to national authorities and other stakeholders. In today's increasingly internationalised paper market, this requires a uniform approach to reporting variables and measuring principles. To a large extent, these are also strictly regulated by national and international environmental bodies.

Development of Paper Profile

In co-operation with distributors and industry associations, leading pulp and paper manufacturers have agreed on a uniform declaration of vital environmental product information. This product declaration format, which is certain to continue evolving, is called Paper Profile. Issued for individual products, the single-page declaration gives essential information regarding the composition of the product, key environmental parameters, environmental management and wood procurement.

Some limits of comparability

Environmental matters are complex and specific figures can not always be compared without taking also other environmental aspects into account on a larger scale e.g. site specific considerations. Furthermore, different paper manufacturing processes have different environmental impacts and can not therefore always directly be compared.

Environmental management systems

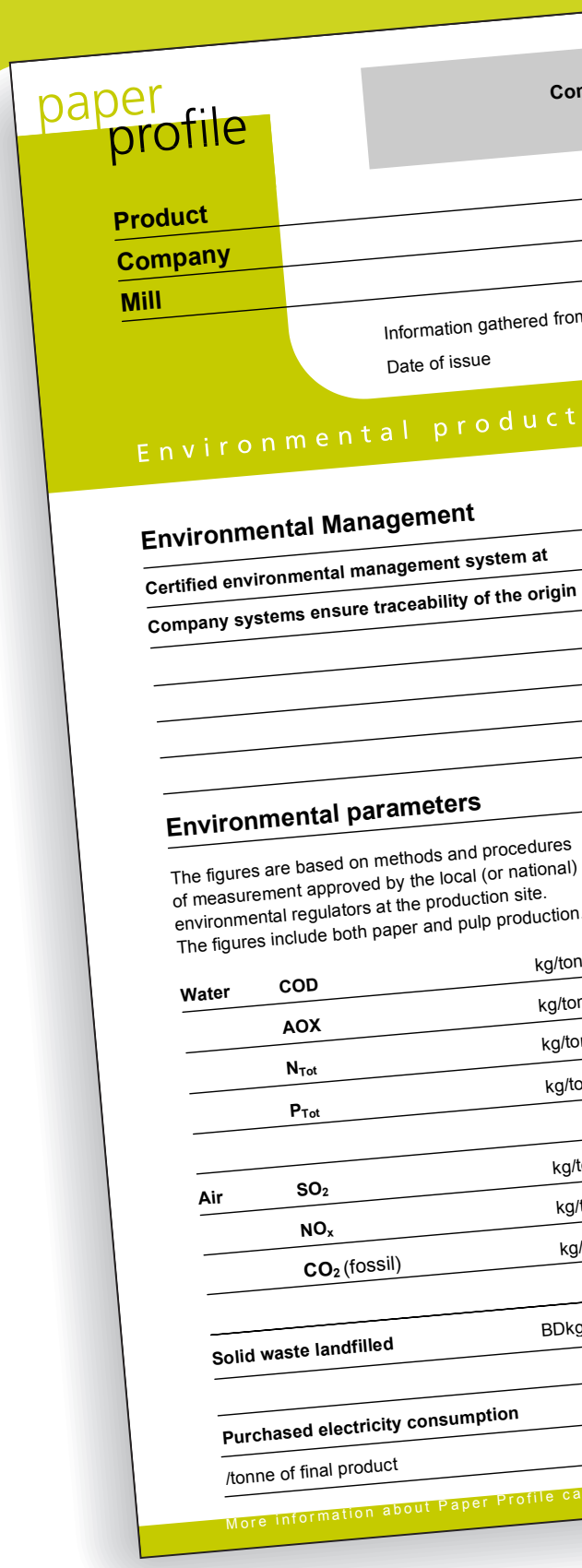
Environmental management systems are useful tools for ensuring a systematic approach to environmental control and continual improvement. They are today regarded as integral to overall business performance.

The certified environmental management systems used by participants in the Paper Profile programme are the ISO 14001 standard and/or the Eco-Management and Audit Scheme (EMAS), which is regulated by the European Union. Both systems cover organisational procedures, procurement, product development, production and distribution. They include both the current status and methods for continual improvement. In this way, company management can systematically monitor environmental performance, initiate early corrective action, keep track of actions taken and document results.

Environmental aspects of wood procurement

Environmentally-conscious forest industry companies continually strive to ensure long-term sustainability and the natural diversity of species. Forest certification is a tool to guarantee that the wood used for pulp and paper production originates from forests managed according to agreed criteria. Currently, the most widely used forest certification systems are the Programme for the Endorsement of Forest Certification schemes (PEFC) and the Forest Stewardship Council (FSC). Paper industry uses both systems equally.

Some suppliers have also certified their procurement operations according to ISO 14001 and/or EMAS.


paper profile

Product

Company

Mill

Information gathered from

Date of issue

Environmental product

Environmental Management

Certified environmental management system at

Company systems ensure traceability of the origin

Environmental parameters

The figures are based on methods and procedures of measurement approved by the local (or national) environmental regulators at the production site. The figures include both paper and pulp production

Water COD kg/ton

AOX kg/to

N_{Tot} kg/to

P_{Tot} kg/to

Air SO_2 kg/t

NO_x kg/t

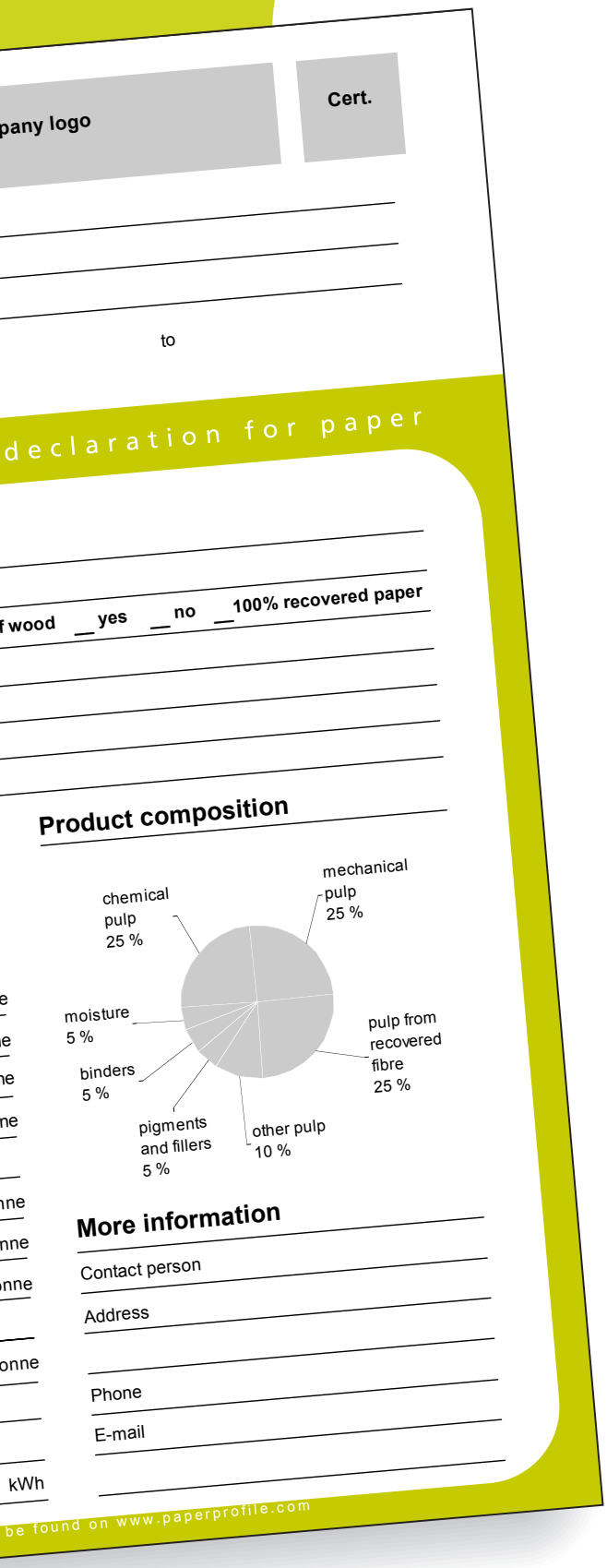
CO_2 (fossil) kg/

Solid waste landfilled BDkg

Purchased electricity consumption

/tonne of final product

More information about Paper Profile ca



Environmental Parameters

The key parameters that are declared in the Paper Profile primarily relate to the production of pulp and paper: Emissions to air and water, solid waste landfill and the consumption of purchased electricity. The information provided in the single Paper Profile sheet is based on figures reported to authorities and on the participating companies' continual dialogue with customers, authorities and non-governmental organisations.

The standard parameters (per tonne paper) reported in the Paper Profile are:

COD = Chemical Oxygen Demand. The amount of oxygen consumed in complete chemical oxidation of matter present in wastewater.

Organic substances released from industrial or agricultural activities consume oxygen in water during degradation. Low oxygen content in fresh and sea water can have an adverse effect on plant and animal life.

AOX = Adsorbable organic halogen compounds, reported as the total amount of chlorine bound to organic compounds in wastewater.

Such compounds occur naturally, but are also formed in conjunction with the bleaching of chemical pulp. Excess AOX must be limited to a level where it has no environmental impact.

N_{Tot} = Total amount of organic and inorganic nitrogen.
P_{Tot} = Total amount of organic and inorganic phosphorus.

Nitrogen and phosphorus are chemical elements essential for plant and animal life. Both substances occur naturally in wood and are often added in biological treatment plants. Excessive levels released into water can cause nutrient enrichment (eutrophication) and suppress normal oxygen supply.

SO_2 = Sulphur dioxide.

This gas is generated by burning sulphur-containing fuels and as a by-product in chemical pulping. On contact with moist air, SO_2 forms sulphuric acid, which contributes to "acid rain" and acidification.

NO_x = Nitrogen oxides (NO and NO_2)

These gases are produced during combustion. In moist air, nitrogen oxides can form nitric acid which, in turn, is precipitated as "acid rain". This nitrogen-containing rain also has a fertilising effect (eutrophication).

CO_2 = In the context of papermaking, fossil carbon dioxide is generated from the combustion of fossil fuels during the production of pulp and paper.

Increased amounts of carbon dioxide and other "greenhouse gases" in the atmosphere are gradually reducing the radiation of heat from the surface of our planet. Carbon dioxide is naturally produced through the biological degradation of organic substances, but also through the combustion of fossil fuels such as oil, coal and natural gas. It is mainly the latter that contributes to the greenhouse effect.

Solid waste = non-liquid waste landfilled (on site and/or elsewhere).

Organic and inorganic waste materials are defined, calculated and declared as completely dry matter. If not properly managed and controlled, leaks from landfills can contaminate ground water.

Purchased electricity consumption = amount of purchased electricity per produced tonne of paper.

Note: Emissions of SO_2 and CO_2 resulting from external energy suppliers are not included in the figures reported in the Paper Profile.

Product composition

The main raw material used in pulp and paper production is wood fibres, originating from own forests or purchased from external sources. Varying amounts of binders, pigments and fillers are also used to provide the required paper characteristics. The precise composition of the paper is declared in a standardised Paper Profile graph, simplifying comparisons between different paper alternatives.

Depending on the required paper properties, paper is produced from fresh fibres (chemical and/or mechanical pulp) and from recycled fibres (de-inked pulp). The terms used for the respective pulping method refer to how the wood fibres are separated.

Pigments and fillers (usually chalk or clay) are used to enhance the print properties and other key parameters. Binders are added to the pulp to join the fillers and pigments to each other and to fibres. Binders also prevent dusting, a phenomenon that can cause significant disturbance in today's sophisticated office and printing systems.

We support the Paper Profile initiative

The future of the paper industry depends on a healthy environment. Fully committed to the principles of sustainability, the companies listed to the right actively support the harmonised Paper Profile. Today, manufacturers, distributors and buyers of pulp and paper are often international. The uniform format of an environmental product declaration throughout the supply chain significantly enhances the basis for an enlightened choice.

For more information about Paper Profile, answers to Frequently Asked Questions, downloadable product declaration form and manual you are always welcome to visit **www.paperprofile.com**

Regarding the practical implementation of Paper Profile and ongoing environmental efforts, simply get in touch with the environmental contact person in the appropriate participating company.

Arctic Paper
www.arcticpaper.com

Papeteries de Clairefontaine
www.clairefontaine.com

Grycksbo Paper
www.grycksbopaper.com

Holmen Paper
www.holmenpaper.com

International Paper
www.ipaper.com/europe

M-real
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