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WE LEARN.



CORPORATE RESPONSIBILITY REPORT 2003



CONTENTS

Key figures	2
Introduction and scope of the report	3
Foreword	4
UPM in brief	6
Values and governance	9
Products	12
Material balance	15
Raw materials	17
Wood procurement and forest management	18
Fibres	24
Other raw materials	27
Energy	31
Environmental impacts	37
Water	38
Air	42
Soil	45
Logistics	48
People and society	53
Personnel	54
Occupational health and safety	58
Training	60
Cultural heritage and sponsorships	63
Land use	65
Appendices	
Policies	
Environmental Policy	66
Corporate Social Responsibility Policy	66
Human Resources Policy	68
Occupational Health and Safety Policy	69
Mill information	
Productions, emissions into water and air and landfill waste	71
Certified management systems and Chain of Custody systems	73
List of environmental publications	74
Content comparison with	
GRI guidelines	75
Global Compact principles	76
Glossary	77
Location of production plants and sales offices	78
Contact persons	80

KEY FIGURES

Key figures	2003	2002	2001
Turnover, EUR million	9,948	10,475	9,918
Operating profit, EUR million	784	1,062	1,614
Return on equity, %	5.3	8.0	15.5
Dividend per share (2003: Board's proposal)	0.75	0.75	0.75
Capital expenditure and acquisitions ^{*)}	620	613	3,850
Electricity procurement, TWh	19.9	20.0	18.8
– electricity sales, TWh	1.8	1.9	3.2
Wood consumption, 1,000 m ³	26,310	26,340	24,395
Recovered paper consumption, 1,000 t	2,300	2,200	900
Fossile carbon dioxide (CO ₂), t	3,900,000	3,700,000	2,900,000
Chemical oxygen demand (COD), t	94,000	95,000	86,000
Solid waste:			
– to landfills, t	230,000	260,000	260,000
– hazardous waste for special treatment, t	3,100	3,800	2,700
Personnel, average	35,751	36,866	34,463
– Paper Divisions	19,850	20,365	26,751
– Converting Division	4,755	4,979	4,903
– Wood Products Division	7,803	7,862	7,580
Salaries and fees, EUR million	1,304	1,364	1,257
Pension expenses, EUR million	188	199	151
Training costs, EUR million	24	27	26
Average no. of days spent in training	2.6	2.7	2.7
Personnel turnover, %	2.7	4.1	5.7
No. of man-days lost through strikes	6,300	800	1,200

^{*)} The most important project in 2003 in terms of its environmental impact was modernization work at Pietarsaari pulp mill. When this is complete in spring 2004, the mill's specific emissions will fall considerably, while the dust content of the flue gases will fall by almost 70% as planned, and the specific oxygen demand of the effluent will be cut by around 50%. A third deinking line for recovered paper went into production at Shotton in November, allowing mechanical pulp production there to be discontinued.

Investments in measures to reduce environmental loadings or reduce environment-related risks totalled € 37 million (21 million). Direct operating expenditure, including depreciation according to plan, was € 109 million (113 million). A total of € 53 million (56 million) was paid in environmental and energy taxes.

CORPORATE RESPONSIBILITY REPORT 2003

This is the second corporate responsibility report published by UPM. Previous to 2002, UPM published an environmental report for seven consecutive years. The Group's annual report is issued separately.

This report has been compiled applying the Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI) published in 2002. The GRI is an independent organisation whose mission is to develop sustainability reporting guidelines. These guidelines are for voluntary use by companies who wish to report on the economic, environmental and social dimensions of their activities and products. For a comparison of our report and the GRI guidelines, see page 75.

UPM has also undertaken to comply with the Global Compact Initiative for corporate responsibility presented by UN Secretary-General Kofi Annan. The initiative comprises nine principles in the areas of human rights, labour rights and the environment. The aim of the Global Compact is to mainstream these principles in business activities around the world. Discussion concerning a possible tenth principle in the area of corruption continues. The Global Compact principles together with a comparison of them and the contents of this report are found on page 76.

The Corporate Responsibility Report is published in Finnish, English, Swedish, German and French. A total of 128,500 copies were issued. The report is distributed to UPM's stakeholders, and it can be ordered from the Group's offices in the various countries (pages 78–79) and through our web site. It is also available as a PDF file in Finnish and English at www.upm-kymmene.com.

Because of the feedback from stakeholders, we want to improve the availability of the Appendices to the Report. This year they will be published in the printed report, not just in electronic form.

For further information about corporate responsibility issues, contact one of the persons or functions listed on page 80.

SCOPE OF THE REPORT

The scope of this report covers the divisions within the Group in 2003, their mills and other significant functions, such as raw material and energy procurement.

Comparative data from previous years is available mainly in the environmental section. The data on emissions is based on the reporting practice in the country and locality of the mill concerned. UPM is in the process of developing indicators for issues within the scope of social responsibility, and so the reference data for them is inadequate.

The report includes data mainly on those production plants in which UPM held an interest of more than 50 per cent throughout the year. The report does not include information on plants acquired by the Group during 2003 or on plants that have discontinued their operations or been sold during the year under review.

COMMERCIAL NAME UPM

UPM-Kymmene adopted the logotype UPM as its commercial name. The legal, registered name of the company, UPM-Kymmene, will remain unchanged. The new name usage is part of UPM's decision to clarify the corporate brand.



DEAR READER,



In 2003 UPM's operations were characterised by the poor market situation and the need for cost savings. Profitability was unsatisfactory. In these circumstances the question may arise whether the company is willing and able to carry its corporate responsibility in bad times as well as in good.

For us, there is no question about it. In UPM, responsibility is seen as a crucial part of our day-to-day work and of our quality, regardless of economic cycles. Corporate responsibility issues require a long-term effort and the will to continuously improve the company's operations. In a poor market situation we must more than ever focus on ensuring our ability to compete in the future and on the ways in which we implement the decisions we have made.

In connection with cost savings corporate responsibility issues came to the fore, above all relating to the streamlining of operations and personnel reductions. These are challenging issues, and in considering them, we have to assess both long and short-term impacts. UPM's policy is to deal with these matters together with the personnel, in good time and openly, also reserving sufficient time to carry out any decisions made. For example, at the Voikkaa mill we succeeded commendably in solving the personnel issues that arose when the old paper machine was shut down, without resorting to lay-offs. Unfortunately, this is not always possible.

UPM also suffered setbacks during the review year, last summer's effluent discharge from the Kaukas mill being the most serious. We take full responsibility for the incident and are acting accordingly. At the same time, an extensive programme has been launched at all our mill locations, to investigate the possibilities of similar situations occurring and to improve the units' crisis management and communications capabilities. As support measures we have invested in training and environmental protection. We have to learn from setbacks and consistently improve our operations.

During the year, we paid special attention to occupational health and safety issues. An increase in absences due to sickness is causing concern, and occupational health and safety issues have been incorporated into the rewards system, to encourage those in supervisory positions to consider these questions more carefully.

The lively debate on how to reconcile the commercial use of the Finnish forests and their protection continued. Criticism has been levelled at the protection of old-growth forests in northern Finland. UPM considers the ongoing constructive dialogue with stakeholders useful. Customers are showing more interest than ever in the origin of the wood they use, and the company's wood procurement systems have been developed for several years now in



order to ensure that we are able to respond to customers' need for information.

UPM is also actively involved in the co-operation network for the Global Compact Initiative of UN Secretary-General Kofi Annan; among other things, we have participated in the discussion on including a principle regarding corruption and bribery in the Global Compact.

UPM published its first Corporate Responsibility Report in 2002. On the basis of feedback received from stakeholders, we have taken it as our goal to make this report even better. Corporate responsibility issues are gaining growing importance in our communications, and for this reason too, we have revised the contents, layout and distribution of the report. There is still a need for improvement, however; for example, there is room for development of indicators for responsible practices and reporting.

The year 2003 was a year of transition within UPM: the reins were handed from one generation to the next both in Group administration and in various units. During the time of Juha Niemelä, a firm foundation was laid for responsible practices, and the significance of corporate responsibility issues will certainly continue to grow. UPM intends to be the most attractive company in the industry, also in the future, as a business partner, as an employer and as an investment opportunity. By observing ethically acceptable practices and meeting our social and environmental obligations we can certainly achieve these goals.

Today UPM is a developing, competitive company. Our goal is to continue in this path, growing profitably and at the same time in a socially and ecologically sustainable way.

JUSSI PESONEN
President and CEO

HANNU NILSEN
Senior Vice President, Corporate Responsibility

UPM IN BRIEF

UPM is among the world's leading manufacturers of printing papers and the clear market leader in magazine papers. The company's turnover in 2003 was EUR 9.9 billion. Financial ratios show that UPM is one of the paper industry's top players. The financial goal is to increase shareholder value, a goal that the company wants to reach in a socially and ecologically sustainable way.

UPM's divisions are Paper, Wood Products and Converting.

The comprehensive range of papers includes various magazine and newsprint papers, fine and speciality papers. The Wood Products Division is the largest plywood manufacturer in Europe and the third biggest sawn goods and converted products manufacturer. The division also includes distribution chains specialising in the wood-based building materials business in four countries. In the Converting Division units, Raflatac manufactures self-adhesive labelstock, Loparex siliconised papers and Walki Wisa industrial wrappings. Raflatac is one of Europe's leading suppliers in the industry, Loparex is the world's biggest supplier of siliconised papers and Walki Wisa is Europe's largest manufacturer of industrial wrappings.

MATERIAL RESOURCES

The main material resources are forest, chemical pulp, recovered paper and energy. UPM is the largest private forest owner in Finland with forest holdings of almost one million hectares.

Approximately 90 per cent of the chemical pulp needed by the paper mills is obtained from company-owned or associated pulp mills. UPM is also the world's largest user of deinked pulp in printing papers. The procurement of recovered paper is generally based on long-term supply contracts.

The Group is about 70 per cent self-sufficient in electrical energy when the associated companies are included.

BUSINESS ON A GLOBAL SCALE

UPM has production plants in 16 countries. The principal mills are in Finland, Germany, France, Great Britain, Austria, the United States, Canada and China. (The production plant locations are shown on pages 78–79.)

On the main markets, the company sells its products through its own sales organisation. Elsewhere, sales are handled by a wide network of agents.

OWNERSHIP

At the end of 2003, the company had 70,708 registered shareholders. Geographically, shareholders fall broadly into three groups of about the same size: Finns, other Europeans and American shareholders. UPM's shares are quoted on the Helsinki (UPM IV) and New York (UPM) stock exchanges.

OBJECTIVES

UPM seeks to achieve profitable growth and to be one of the leading companies in the global paper industry. In seeking to achieve these goals, the key factors are good customer relations, skilled employees, cost-effectiveness, and global market positions for the company's main products.

The financial goal is to increase shareholder value. The company wants to reach this goal in a socially and ecologically sustainable way.

It is UPM's policy to distribute a dividend averaging over one third of the profit for the financial period. The aim is to provide shareholders with a steady, growing annual dividend.

RESPONSIBILITY

At UPM, responsible business operations mean operating profitably without jeopardising the well-being of either people or the environment. UPM regards meeting its responsibilities as a key factor in securing quality and as a part of everyday work.

UPM's shares are listed in the Dow Jones sustainability indexes World and EuroStoxx.

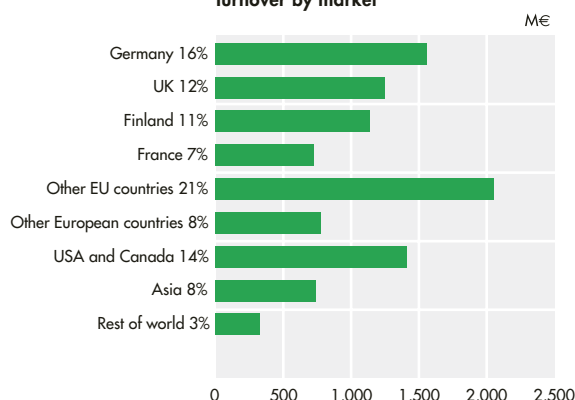
CUSTOMERS

UPM provides customers with high-quality products and services.

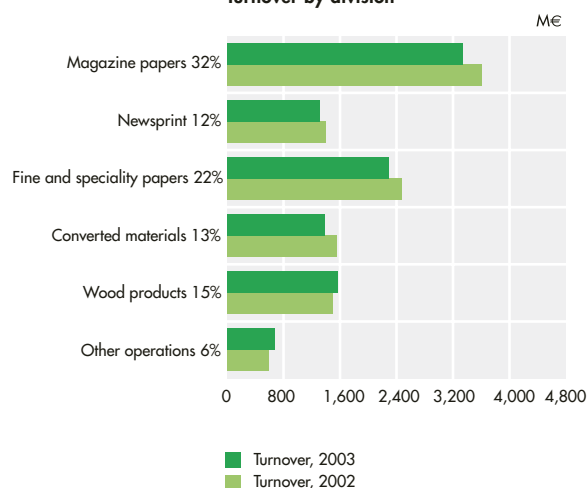
KEY EVENTS IN 2003

- The use of deinked pulp increased substantially with the completion of the new deinking plant at Shotton.
- There was a serious discharge from the Kaukas pulp mill into the watercourse in the summer.
- Chain of Custody systems were certified at nine further pulp and paper mills.
- UPM was once again ranked in the Dow Jones Sustainability Index.

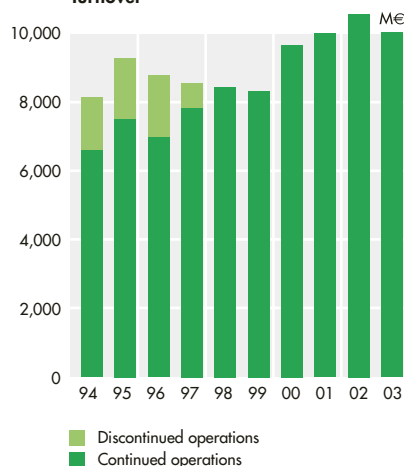
Turnover by market



Turnover by division



Turnover



UPM CASE

STAKEHOLDERS ENGAGE IN DIALOGUE ABOUT PROTECTION OF OLD-GROWTH FORESTS IN FINLAND

Environmental organisations campaigned for the protection of Finland's old-growth forests in 2003, and dialogue on the issue is still continuing. The target of the campaign are the state-owned forests in northern Finland, which are managed by the Finnish Forest and Park Service, Metsähallitus.

UPM has also been a target, as some two per cent of the wood used by the Group comes from state-owned forests. Disputed sites managed by Metsähallitus number over 400, and about one third of them are located in an area from which wood is potentially supplied to UPM.

UPM supports the dialogue between Metsähallitus, WWF Finland and the Finnish Association for Nature Conservation regarding the issue. Metsähallitus has also initiated a wider debate to which a comprehensive range of various stakeholders have been invited, including representatives of local operators, reindeer husbandry, forest owners, Greenpeace and companies.

The thrust of the discussions is on the development of Metsähallitus's planning with respect to old-growth forests excluded from protection programmes.

In Finland, old-growth forest protection programmes have been developed through joint processes in working groups made up of forest ecologists, environmental organisations, forest owners and representatives of the industry. The process gave rise to four programmes by means of which a total of 350,000 hectares either have or will be protected, in addition to the sites already covered by other protection schemes. The national criteria for conservation are based on the age and size of the stands, the number and quality of dead or decaying trees, the history of forest management, the occurrence of broadleaves and other special features.

UPM ensures that the wood used in the Group comes from sustainably managed forests. This also applies to external wood suppliers. The Forest Division has a certified environmental management system, which also includes a certified Chain of Custody system. UPM has made considerable effort with regard to biodiversity and is committed to the protection of old-growth forests in its policies.

In Finland, there are a number of protection programmes in place and, thanks to this, the level of forest protection is higher than in the rest of Europe, about eight per cent of the total forest area.



In Finland, old-growth forest protection programmes have been developed through joint processes with various stakeholders.

UPM's largest customer group consists of the clients of the paper divisions: magazine publishers, printers, paper merchants and converters. The paper divisions have measured customer satisfaction since 2001 through bi-annually conducted surveys. Based on the results, conclusions can be drawn on the direction in which operations have developed. The results have continuously improved, and customers have been more satisfied, for example, with the reliability and employees of UPM. The surveys have also indicated development needs.

During 2003, UPM received a number of awards from customers. Reed Business Information (RBI) selected UPM as its best supplier and J.C. Penney as one of the best. IKEA presented the Schongau mill with its Tulip Award.

Audits of UPM by paper customers have become more common. The core focus so far has been on the auditing of environmental aspects.

Most of the questions from the customers of all the divisions concern issues relating to the environment. In particular, inquiries about the origin of the wood, forest certification and environmental management systems have been made. In addition, customers of the Converting Division, especially, ask about the chemicals used in product manufacturing.

SUBCONTRACTORS

UPM is a major purchaser of raw materials, machinery, other materials and services. UPM requires responsible action in environmental and social issues from all subcontractors. Additionally, the Group's materials management, pulp procurement and logistics functions have already audited the activities of their subcontractors for several years. Pulp procurement is discussed in further detail on page 24, materials management on page 28 and logistics on page 48.

The Group's wood procurement function has a large number of harvesting and haulage contractors. Most of these partners are in Finland. Contractors are required to be aware of and commit to the operating principles of the Group's Forest Division. Contractors participate, for example, in environmental training organised by the Forest Division in the same way as the Group's own employees.

CO-OPERATION WITH STAKEHOLDERS

Besides the personnel, customers and shareholders, UPM's stakeholders also include subcontractors, authorities, mill communities, the media and various organisations. The various stakeholders may have conflicting expectations in issues concerning responsibility. Regular dialogue with stakeholders is one way to find out what these expectations are and to maintain an equilibrium between them in the company's activities.

The oldest of UPM's mills were founded in the 19th century, and often the community itself has grown and developed with the production plants. The company took care of many issues that are currently the responsibility of society. The mills continue to retain close relations with the surrounding local communities and co-operate, for example, with the town, its residents and the media on many levels.

Most of the mills have for several decades organised events with local communities. One example are open-house days, when employees and their families and everyone else who is interested can visit the mill and hear about its plans and activities. Traditionally, co-operation with various educational institutions has been arranged regularly.

UPM's wood procurement in various countries co-operates actively with schools, organisations and other stakeholders.

INVOLVEMENT IN ORGANISATIONS

UPM is a member of the foremost national and international pulp and paper associations and contributes to the development work done in them, for example, in environmental protection. The company is also involved in a number of organisations and projects aimed at developing all issues concerning corporate responsibility. Below are a few examples of the most important organisations.

UPM has undertaken to comply with the UN Global Compact Initiative. UPM supplied material to the Global Compact's web-based learning environment. The company has participated in the work of the Nordic Network, which is a network of companies signatory to the Initiative. The second of the Network's annual meetings was held in 2003 in Finland.

UPM has assessed the possibilities of co-operation projects with the United Nations Development Programme (UNDP).

The International Labour Organisation (ILO) has published a report on the social dimensions of globalisation (The World Commission on the Social Dimension of Globalisation). UPM's Martin Granholm represents Finland on the committee of the International Organisation of Employers, which has been heard by the commission responsible for preparing the report. The commission is chaired by the Presidents of Tanzania and Finland.

UPM participates regularly in the activities of the World Business Council for Sustainable Development (WBCSD), which is a coalition of some 170 international companies.

UPM is involved in various national organisations, for example, the Forum for the Future, in the UK, and Finnish Business & Society, in Finland.

One of the most significant of the international organisations of the paper industry is the Confederation of European Paper Industries (CEPI). UPM is also involved in numerous national organisations in countries where the company has paper production.

UPM supports national and international printing and publishing industry organisations, including the World Association of Newspapers (WAN). Important organisations focusing on research and development include the International Association of the Deinking Industry (INGEDE), in which UPM's mills using recovered paper as raw material are members.

CONTINUOUS IMPROVEMENT THE LEADING PRINCIPLE

The principles steering UPM's operations are contained in the policies approved by the Group's Board of Directors. The policies cover all the crucial areas of corporate responsibility and are supported by the corporate values: openness, trust and initiative. The principle of continuous improvement applies to all activities.



At UPM responsibility is an integral part of the quality of our operations, by which we ensure that we are competitive and profitable. The well-being of people and the community are the real goal of sustainable economic growth.

The cornerstones of our operations are the policies approved by the Board of Directors. These are the Environmental Policy, the Corporate Social Responsibility Policy, the Human Resources Policy and the Occupational Health and Safety Policy (see pages 66–70).

CORPORATE GOVERNANCE

Pursuant to the provisions of the Finnish Companies Act and the company's Articles of Association, the company's control and governance is divided among the shareholders represented at the general meeting of shareholders, the Board of Directors and the President and CEO. The President and CEO is assisted by the company's Executive Team.

The Board of Directors is responsible for the governance of the company and for the proper organization of its activities in accordance with legislation and the Articles of Association. The Board of Directors establishes the principles of the strategy, organization, accounting and financial control of the company, and appoints the President and CEO, who acts in accor-

dance with the orders and instructions of the Board of Directors.

The Executive Team assists the President and CEO in running the company. The various divisions of the Group have their own management groups and in addition there are local management groups in which the personnel are represented.

The company's Board of Directors is responsible for internal control. The Group's internal audit function reports to an Audit Committee formed of members of the Board of Directors on the adequacy and effectiveness of the company's internal control systems.

Internal audit function also includes monitoring implementation of UPM's policies. In addition to its other policies the Group has a fraud policy. It has been approved by the Executive Team. The policy requires all members of personnel to report cases of suspected fraud either to their manager or to the head of internal audit function. The policy can be read by personnel on UPM's intranet.

In accordance with the recommendations of Helsinki Exchanges, UPM-Kymmene Corporation observes the guidelines issued by the Central Chamber of Commerce and the Confederation of Finnish Industry and Employers concerning the corporate governance of publicly listed companies and on



insider guidelines drawn up by the above-mentioned organizations.

UPM is listed on the New York Stock Exchange (NYSE) and complies with the Sarbanes-Oxley Act and the NYSE's regulations for foreign companies insofar as Finnish legislation allows.

CORPORATE RESPONSIBILITY MANAGEMENT

In UPM responsibility issues are guided by the corporate values: openness, trust and initiative and the corporate policies approved by the Board of Directors. These apply to the entire personnel in all locations and functions. Responsibility for seeing that they are observed lies with the management of the organisational unit.

In the Executive Team a five-member CR Council has the task of managing responsibility issues. The Council's chairman is President and CEO Jussi Pesonen and the members are the executives responsible for economic and financial issues, business support functions and resources, environmental and HR issues, and communications. Mr Hannu Nilsen, UPM's Senior Vice President, Corporate Responsibility, reports to Executive Vice President Markku Tynkkynen.

Corporate responsibility is developed by a network of experts within the Group, working also in steering groups in specific areas.

As stated in UPM's general policies, the business units and subsidiaries are themselves responsible for ensuring that both obligations set by external bodies and internal targets are met. They also have the task of developing and reporting on responsibility issues.

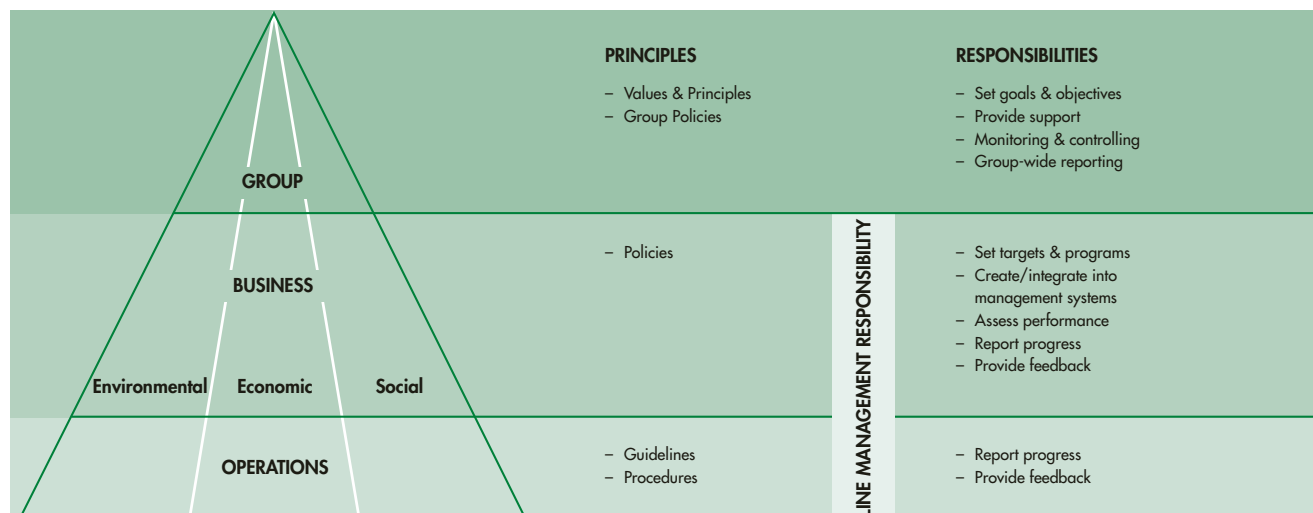
CERTIFIED SYSTEMS GUIDE OPERATIONS

The practical management tools at most of the mills are certified quality and environmental systems and occupational health and safety specifications. Many of the European mills and the Forest Division in Finland have registered EMAS systems. In addition, many mills and forest departments have certified Chain of Custody monitoring systems.

ISO-standard-based systems guiding operations have the principle of continuous improvement built into them. They include among other things the setting of targets and continuous monitoring of their implementation.

(A list of the systems in place at the mills is given on page 73.)

MANAGEMENT OF RESPONSIBILITY ISSUES AT UPM



SAFE, RECYCLABLE PRODUCTS

The main raw material for all products manufactured by UPM is wood – a renewable natural resource. People have used paper and wood products for thousands of years, which tells us just how necessary and practical they are.

Products made from wood and wood fibre can easily be recycled.

UPM has stated that it will not use genetically modified wood in its products before there is official evidence that growing and utilising such wood is absolutely safe.

UPM's products are printing, speciality and packaging papers, the Wood Products Division manufactures plywoods, sawn timber and products processed from these and the Converting Division makes converted paper products.

PAPERS

The printing papers are newsprint and magazine papers, and fine papers. The newsprint grades are suitable not only for newspapers, but also for printing weekly supplements and inserts. The magazine paper range includes high quality grades that are suitable for magazines, printed advertising material and sales catalogues. The uses of fine papers include magazines, brochures and leaflets, books and office papers. Speciality papers include envelope paper and the release and label papers used in self-adhesive label products. Packaging papers have many uses – in sacks, bags and many other types of packaging.

These papers are all recyclable. UPM is the world's biggest user of recycled fibre in printing papers, which means that a large proportion of the paper produced by the company returns to the mills as raw material.

WOOD PRODUCTS

The Wood Products Division's plywood mills and sawmills manufacture plywood, veneers and sawn timber sold under the WISA

trademark. WISA special plywoods are made of birch and spruce. In addition to standard panels, the product range includes several special coated products, thin veneer plywoods, and birch and pine veneers. The sawmills produce standard sawn timber, but also special sawn goods, glulam products, planed and profiled sections and strength-graded sawn timber.

Most of the WISA products are intended for applications in building and interior decoration. Special plywoods are used, among other things, in the shipbuilding and automotive industries.

At the end of their life cycle, wood products can be disposed of without problems, with the exception of plywoods that are impregnated or provided with special coatings, and impregnated timber, which make up only a small proportion of the Division's entire production. Wood products can be recycled for reuse or disposed of by burning or composting, although plywood is slow to decompose.

CONVERTED PRODUCTS

The members of the Converting Division are Raflatac, the Loparex Group and WalkiWisa, which manufacture technically sophisticated, highly processed speciality products. Raflatac makes paper based and synthetic self-adhesive laminates for manufacturers of price, product and IT labels. Loparex makes siliconised release materials for hygiene products, self-adhesive labels and industrial applications. Walki Wisa's products are composite materials for the packaging industry and technical



applications as well as wrapping papers for the paper, steel and mechanical forest industries.

Most of the converted products can best be recycled by burning them to produce energy. Silicone-containing papers can also be composted. Plastic-coated products are usually recycled by separating the plastic from the paper mechanically and reusing the fibre. The adhesive used in self-adhesive laminates impairs their recycling properties, but adhesives are being developed and tested for use in magazine supplements.

CHAIN OF CUSTODY

All the sawmills and plywood mills in the Wood Products Division in Finland are entitled to use the PEFC label on their products. This label means that the products are made using raw material from sustainably managed forests.

To use the label, the mill must have a certified Chain of Custody system for monitoring the origin of the wood. The system covers all the wood raw material used in the product and the proportion of certified fibre it contains. The Chain of Custody procedures for paper or wood products in turn offer a basis on which customers can build their own systems, if they want to use the PEFC label on their products.

In addition to the mills in the Wood Products Division, 12 pulp and paper mills have a certified Chain of Custody monitoring system enabling them to trace their wood raw material back to certified forests.

To read more about the Chain of Custody procedures turn to page 18.

For the systems in use at UPM's mills for monitoring the source of wood used by the mills, see page 73.

You will find more information about raw materials and monitoring on pages 18–29.

UPM ■ CASE

NEW TOOLS FOR MONITORING PRODUCTS SAFETY OF PAPER

Paper has always been considered a safe product, but measuring its safety is more difficult than with many other materials. Building up product safety involves the entire manufacturing chain from the fibre raw material and the additives and process chemicals to production technology.

The product safety of paper is mainly influenced by three factors: the control system for the manufacturing process, the use of safe chemicals and processes and the microbiological purity of the product.

The basis for product safety is created by the internal management systems controlling production at the mills. The best guarantee of safety is to prevent non-conformities in the manufacturing chain. At UPM, this has been assured by adherence to quality systems complying with the ISO 9000 standard, which is in use at nearly all the mills.

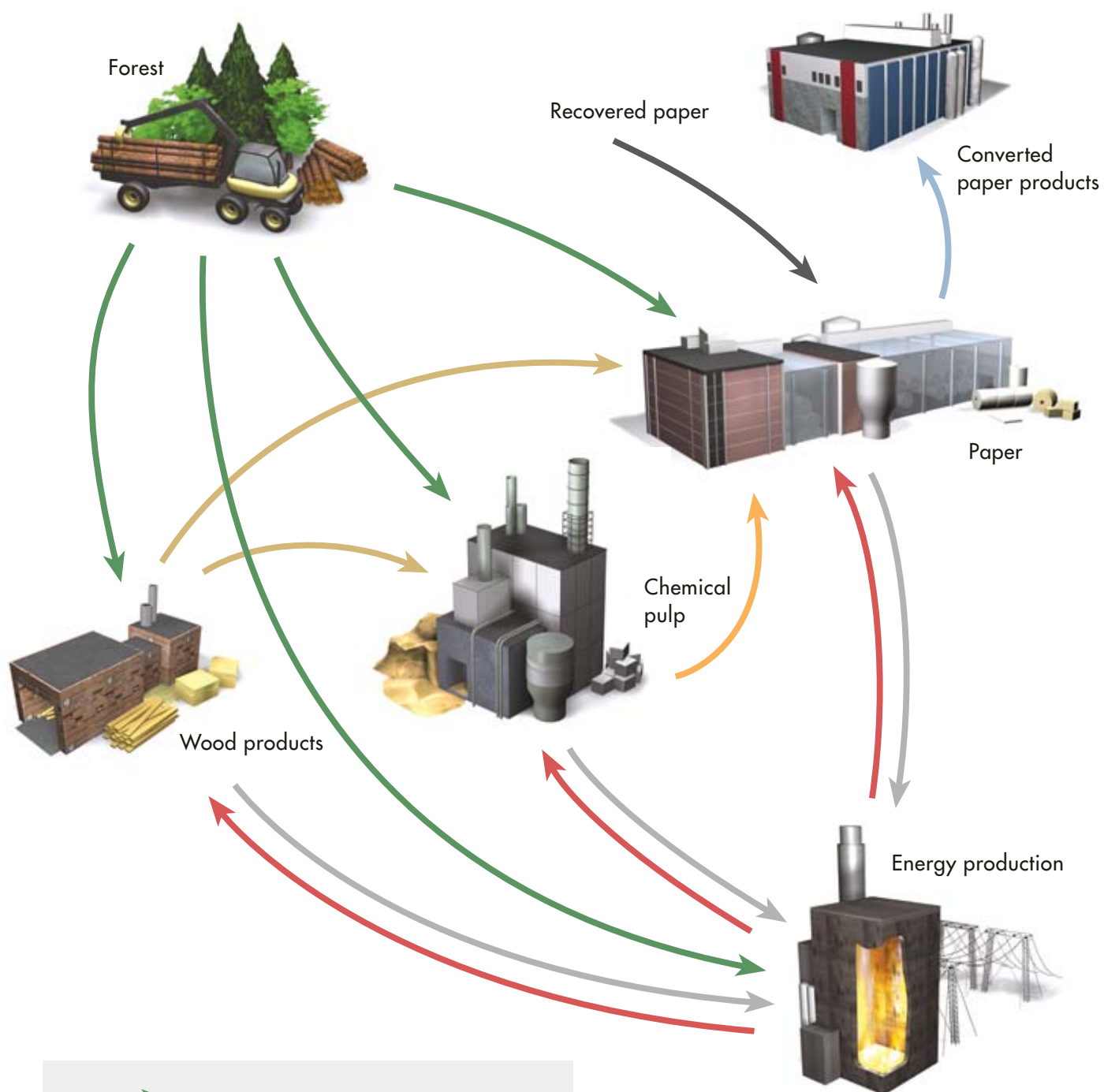
The safety of chemicals is assured above all by using only tried and proven ingredients. There is legislation on the use of chemicals that stipulates the use and product safety tests required, the reporting required and the division of responsibilities.

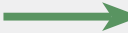
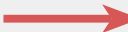
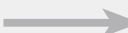
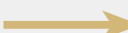
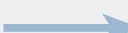

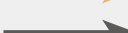
Knowledge of the microbiology of paper products has increased continuously. In the year 2003 a study commissioned jointly by Finnish paper industry companies and chemicals suppliers was completed. The study investigated raw materials as sources of microbes and the critical routes by which microbes enter the processes. The three-year study was carried out by the Technical Research Centre of Finland VTT, the University of Helsinki and KCL (the central laboratory of the paper industry). The study brought a great deal of new information on the behaviour of microbes.

According to the study above, all the operating and cleaning procedures for critical points in the process can be optimised even further. The microbiological purity of papers is many times better than that of foodstuffs, for example. The paper machine's drying section with its high temperatures is an efficient killer of bacteria.

Biosafepaper is a research project that involves almost the entire European paper industry and many research institutions. Its purpose is to develop the product safety of papers to be used in contact with foodstuffs. The project aims to develop a "rapid test battery", that can be used to find out whether the product has toxic properties. During the past few years, there has been discussion on the use of recycled fibre in food-class packaging. The Biosafepaper test provides a practical tool for establishing the safety of various paper grades in use.

Product safety does not apply only to food-class paper grades. It is also important to ensure that paper retains its image as a safe product in general.



-  Wood raw material to the mills and energy wood to the power plants.
-  Energy to the mills.
-  Chips and sawdust for energy production.
-  By-products for pulp and paper raw materials.
-  Paper for converting.
-  Pulp for paper manufacture.
-  Recovered paper.

UPM USES WOOD FIBRE EFFICIENTLY

The main raw material of all products manufactured by UPM is wood. This renewable resource is very efficiently utilised both in the products themselves and for energy production.

Pulpwood is delivered to the paper mills where it is used to make mechanical pulp, and to the pulp mills for chemical pulp. Both types of pulp are used as raw materials for paper. Wood products are manufactured from logs at the sawmills and plywood mills. The chips produced are supplied to the mills as raw material for paper and chemical pulp.

Any logging waste that cannot be used for production provides renewable fuel for energy generation. These forest residues include tops, branches, small trees removed during selective cutting and stumps. The bark and sawdust left after sawn timber and plywood manufacture are used for energy production. The substances dissolved out of the wood during pulp manufacture and most of the by-products of the papermaking process are also used as fuel. Some of the heat used in the mechanical pulp making process at the paper mills is recovered and used in the machine's dryer section.

The paper mills supply various grades of paper as raw material to the Group's own converting factories.

Most of the paper mills' products end up as printed matter of one kind or another, for example newspapers and magazines. The majority of these are returned by the consumers as recovered paper for reuse in paper manufacture.

UPM'S MATERIAL BALANCE IN 2003

Raw materials and energy

Wood	26,300,000 m ³
Market pulp	1,300,000 t
Recovered paper	2,300,000 t
Purchased paper and board (for converted products)	320,000 t
Minerals	2,400,000 t
Plastic films and granulates	70,000 t
Purchased electricity and own hydropower	15,000 GWh
Purchased fuels and heat	18,000 GWh

Emissions into air

SO ₂ , sulphur dioxide	7,400 t
NO _x , nitrogen oxides	11,300 t
CO ₂ (F), fossil carbon dioxide	3,900,000 t

Emission into water

COD ^{*)}	94,000 t
BOD ^{*)}	9,400 t
AOX	390 t

Solid waste

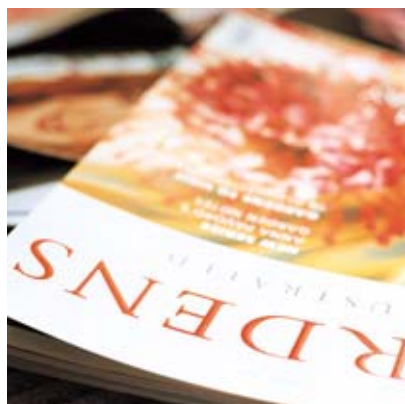
To landfills	230,000 t
Hazardous waste for special treatment	3,100 t

Products sold

Paper ^{*)}	10,000,000 t
Pulp	260,000 t
Fluff pulp	70,000 t
Converted products	680,000 t
Plywood and veneer	940,000 m ³
Sawn timber	2,400,000 m ³
Heat	800 GWh

^{*)} Production volumes differ from the overall output of the paper mills because the paper purchased by the converting factories from the Group's paper mills has been deducted from the products sold.

^{**) Information on wastewater discharges also includes the wastewater load from the Augsburg and Caledonian mills to municipal treatment plants.}





RAW MATERIALS



Of the raw materials used by UPM, wood, a renewable natural resource, is the most important. The company complies with the principles of sustainable forestry. The focus in the wood and pulp procurement is on increasing the amount of wood from certified forests and on the Chain of Custody.

Another area of focus in raw materials concerns chemicals and additives. UPM is running a project to investigate the possibilities of replacing chemicals currently in use with less harmful substances.

KNOWING THE ORIGIN OF THE WOOD IS PART OF RESPONSIBLE WOOD PROCUREMENT

Protection of old-growth forests, forest certification and the origin of the wood are aspects of the wood raw material that most interest UPM's stakeholder groups. UPM's wood procurement units in most countries monitor the origin of the wood from stump to mill, and the proportion of certified wood and fibre can be monitored at an increasing number of the mills, too.



In 2003, UPM's mills consumed a total of 26.3 million cubic metres of wood raw material. There are a total of 44 wood-using mills. The wood procurement units are responsible for wood supply to the local mills. They also manage Group owned and administered forests. The wood procurement units in Finland and the UK also manage a number of privately owned forests under a forest management agreement. (More about wood procurement in the table on page 21.)

The forests are managed in each country in accordance with local legislation and the requirements of good forest management. UPM wants to minimise the harmful environmental impacts of wood procurement by complying with the principles of sustainable development.

In accordance with its principles, UPM neither carries out harvesting nor accepts wood harvested in breach of the regulations of the authorities from areas designated for environmental conservation, from areas within official conservation

programmes or from sites set apart by the relevant authorities for exclusion from felling operations.

In 2003, UPM signed a letter of intent to establish a joint venture company in Zhanjiang, a city in the Chinese province of Guangdong. The company will initially concentrate on reforestation operations.

CERTIFICATION ENSURES FOREST MANAGEMENT STANDARDS

An increasing number of people are interested in the origin of the wood material used in the products. The Chain of Custody system is a tool used to verify the origin of the wood, and forest certification is used to indicate the standard of forest management.

Forest certification refers to a certificate issued by an independent third party indicating that the forests are managed and utilised in accordance with the principles of sustainable develop-

ment. Each of the countries where UPM uses timber employs a national or an international forest certification system. There may be several systems in the same country.

The possibilities to procure wood from certified forest are affected not only by the standard of forest management but also by the desire of forest owners to obtain certification for their forests when their management meets the certification criteria. In Europe, forest certification has progressed rapidly, but in North America it has progressed more slowly in private non-industrial forests. UPM has worked to foster certification of privately owned forests in North America by initiating co-operation with forest owner and user groups and by actively participating in ongoing projects.

(The forest certification systems employed by UPM and the amount of certified wood supplied to the mills are shown on page 22.)

THE ORIGIN OF THE WOOD IS CONTROLLED BY VARIOUS MEANS

The Chain of Custody system traces the wood from forest to mill and on through production. The certified Chain of Custody system for wood procurement covers all fibre sources from forest to mill gate, and is the base for the mills' own Chain of Custody systems, which provide product-specific information on the use of certified fibre. When the share of raw material originating from certified forests meets the minimum amount set in the criteria for certification, the mill is entitled to use the system's logo on the product.

UPM has a certified Chain of Custody system in use in the UK, Austria, France, Germany and Finland. In Canada, a system is in the process of being built.

The system is in fairly wide use by UPM's mills, too. All of the Wood Products Division's sawmills and plywood mills in Finland have a Chain of Custody system, as do most of the pulp and paper mills. (The certified Chain of Custody systems of UPM's mills and wood procurement are described on page 73.)

Some wood raw material is imported into Finland from Russia and to monitor its origin UPM, Forest employs its own separate system. It is audited as part of the environmental management system of the Forest Division in Finland. (www.upm-kymmene.com/tracingimports)

NEW MODEL EXPECTED TO PROVIDE SOLUTION TO MUTUAL RECOGNITION OF CERTIFICATION SYSTEMS

There are currently more than 50 forest certification systems in use throughout the world. Approximately four per cent of the world's forests are certified under these systems. In terms of quality they do not resemble each other, nor do they have any uniform criteria comprehensively approved by the various bodies yet.

UPM is actively involved in activities aimed at achieving uniform criteria and mutual recognition for the various certification systems. UPM has outlined the principles that it requires for forest certification (www.upm-kymmene.com).

The Global Forest Industry CEO Forum set up a Mutual

UPM ■ CASE

Various projects to preserve biodiversity REVIVING THE BLACK GROUSE POPULATION IN THE UK

The preservation of biodiversity in commercial forests has been an important objective of UPM for years now. Projects relating to this are currently underway, for example, in Finland and the UK.

In Finland, the Forest Division has inventoried as part of its biodiversity strategy the ecologically valuable sites in its own forests. A total of over 20,000, all of which are outside commercial forestry, have been located. A special esker nature project aimed at securing the habitats of species occurring in esker forests is presently ongoing.

In the UK, UPM's subsidiary Tilhill is actively involved in reviving the country's black grouse population. The numbers of black grouse have declined rapidly in recent years, and in the UK it is a key species in national conservation importance.

The Black Grouse Recovery Project in south west Scotland that began in 1998 aims to increase the local breeding population and increase numbers by ten per cent by 2005. This is a multidiscipline project involving besides Tilhill, local government and various organisations and associations.

There are many areas under Tilhill's management which provide a habitat for black grouse. Tilhill has banned the shooting of black grouse in UPM's forests. In co-operation with the UK's largest bird protection society, the company has also organised training in the management of the black grouse's habitat.

One of the areas where Tilhill has taken black grouse into particular consideration is High Cairn forest in south west Scotland. Open ground in and around the forest provide excellent nesting areas for black grouse. There is also a regionally significant lek site in the vicinity. A range of special measures to enhance the habitat for black grouse in the forest were agreed on. These include work to preserve open heather moorland and grassland and selective felling of checked trees to create a graded forest edge. In restocking, the aim is to produce mixed forests by planting broadleaves in addition to coniferous trees. Work to encourage black grouse to thrive in the region will continue.



■ In the UK, UPM's subsidiary Tilhill is involved in a project aimed at reviving the country's black grouse population. In south west Scotland, Tilhill is managing its forests in accordance with instructions given by the UK's largest bird protection society in order to enhance the habitat for black grouse.

UPM ■ CASE

Voluntary forest conservation UPM INVOLVED IN WWF'S HERITAGE FOREST PROJECT

In 1999, WWF Finland initiated a project aimed at fostering the voluntary conservation of forests in Finland. The heritage forest campaign also realises the spirit of the METSO programme. METSO is a programme drawn up in broad co-operation under the Ministry of the Environment which aims at increasing the biodiversity of forests in southern Finland. UPM has been involved in the heritage forest project since the beginning, and has already established 12 heritage forest sites in its own forests.

"We are committed to implementing the conservation programme for forests in southern Finland and want to support the voluntary protection of forests. Heritage forests are a good way of implementing voluntary conservation," says Päivi Salpakivi-Salomaa, Environmental Manager.

The decision to protect a heritage forest comes from the forest owner and is completely voluntary. WWF Finland campaigned on behalf of voluntary protection with a slogan incorporating the idea that the site is valued by or important to the owner, exactly the kind that the owner would wish to preserve for the next generation. A location with ecological or historical values, for instance, is appropriate for consideration as a heritage forest. The ecological values of the site are protected by preserving their natural state or managing them.

It is the landowner's own decision on whether to establish a heritage forest. The agreement can be dissolved, should the owner so wish – or a more official conservation status for the area with entitlement to financial compensation can be applied for later on. WWF's heritage forest committee confirms the establishment of the site at no cost to the forest owner.

A heritage forest can also be established for an area in commercial use and can be as extensive as the owner wishes. So far, the size of heritage forests has varied from half a hectare to 100 hectares.

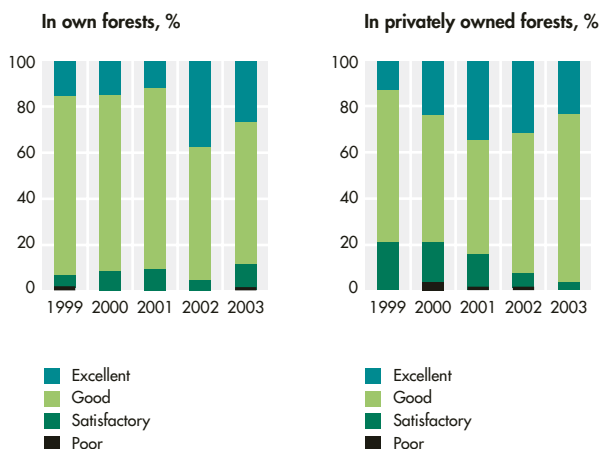
"We see heritage forests as something we can offer to private forest owners through our forest services. The heritage forest philosophy can be combined with productive forestry and at the same time increase the biodiversity of the estate," points out Ms Salpakivi-Salomaa.

For more information, please visit www.wwf.fi.

Recognition Action Team in spring 2002 to co-ordinate the work for the mutual recognition of forest certification schemes. This body is headed by Olav Henriksen, who is responsible for UPM's international forest operations, together with his American colleague.

At the insistence of environmental organisations, the term mutual recognition was discarded. To replace it a "Legitimacy Threshold Model" approved by the various parties has been proposed. It would serve as a framework from which to develop a process of certification progressing step by step. Those forest certification schemes meeting the threshold criteria would be accepted in the process. Schemes exceeding this threshold would be approved, but the individual system and the requirements it sets for forest management would still have the possibility for development.

QUALITY OF ENVIRONMENTAL MANAGEMENT IN UPM FELLING OPERATIONS IN FINLAND



The Forest Division in Finland has monitored the ecological quality of its harvesting operations since 1996. Assessments are carried out by a third party, and the results show that a good level of environmental management has been established, although there is still room for improvement.



■ UPM has been involved in WWF Finland's heritage forest project since the beginning, and has already established 12 heritage forest sites in its own forests. WWF Finland's Forest Manager Harri Karjalainen (right) and UPM Forest Division's Environmental Manager Päivi Salpakivi-Salomaa.



“We will be deciding on whether to advance this Legitimacy Threshold Model during 2004. The aim is to involve such a wide range of stakeholders in the development work that the final model could be approved by everyone and enjoy validity throughout the world. It will probably take a couple of years, however,

before the scheme is fully functional,” Olav Henriksen points out.

“An international, universally accepted set of certification criteria would also be one way of combating illegal felling operations, which are a general concern for all forest sector stakeholders,” says Mr Henriksen.

UPM Wood Procurement in 2003, %

	Austria	Canada	Estonia	Finland	France	Germany	Russia	UK	USA	Average
Company or leased forests	0	53	0	6	0	0	0	6	18	9
Standing sales	2	0	0	37	5	3	0	42	27	31
Road side sales	13	0	18	2	0	31	0	0	0	5
Mill deliveries	21	0	5	0	0	0	0	19	0	3
Purchases through other companies	34	47	52	32	54	66	100	33	52	36
Wood import	30	0	25	18	41	0	0	0	3	16
Total	100	100	100	100	100	100	100	100	100	100

WOOD PROCUREMENT PRACTICES

Responsibilities in wood procurement vary depending on the source of the wood and the type of contract under which the wood is purchased and harvested. Wood purchases are handled by UPM's personnel, but the actual logging, transport and forest management operations are carried out by independent harvesting and haulage contractors. UPM provides them with training in quality and environmental issues and monitors the quality of their work.

Group-owned and leased forests. UPM is responsible for all forest management and wood harvesting, starting from tree planting. The Group's responsibilities also include the statutory obligations to be met by a forest owner and/or administrator.

Standing sales. UPM buys the wood from a private forest owner and is responsible for harvesting and transportation to the mill.

Road side sales. UPM buys wood felled and transported to the roadside. UPM is responsible for transporting the wood to the mill.

Mill deliveries. The forest owner delivers the wood to the mill gate.

Purchases through other companies. A company outside UPM buys the wood from the forest owner and delivers the wood to UPM, normally at the mill site.

Import sales. Normally, the seller of imported wood hands the wood over to UPM at the port of dispatch, the national border or the mill. The seller is responsible for the wood up to the point of delivery, and UPM takes over from there.

	Austria	Canada	Estonia	Finland	France	Germany	Russia	UK	USA	Total
Forests managed by UPM, 1,000 ha¹⁾										
Company forests	0	17	–	930	0	–	–	2	79	1,028
Leased forests ²⁾	0	938	–	0	0	–	–	0	–	938
Managed forests ³⁾	0	0	–	200	0	–	–	167	–	367
Total	0	955	–	1,130	0	–	–	169	79	2,333

¹⁾ In Uruguay UPM is a minority shareholder in Forestal Oriental SA, a company owning 57,000 ha of land, out of which 32,000 ha are Eucalyptus plantations

²⁾ Leased from the province of New Brunswick ³⁾ Owned mainly by private non-industrial forest owners

Wood consumption in 2003, million m³										
	0.980	2.080	0.060	20.910	0.460	0.520	0.200	0.690	0.410	26.310

Wood procurement in 2003, million. m³										
	1.500	3.100	0.100	25.800	0,700	0.700	0.200	2.100	0.600	34.800

Sources of wood in 2003, % of wood consumption										Average
Company forests	0	1	0	6	0	0	0	6	18	5
Leased forests	0	52	0	0	0	0	0	0	0	4
State forests	7	10	42	2	24	15	100	73	59	7
Private forests	63	37	33	74	35	85	0	21	20	67
Import	30	0	25	18	41	0	0	0	3	16
Total	100	100	100	100	100	100	100	100	100	100

Country of origin of imported wood in 2003, % of imported wood¹⁾										
Belgium		–			6		–	–		
Canada		–					–	–	100	
Czech	39	–					–	–		
Estonia		–		4			–	–		
Germany	58	–		0	85		–	–		
Latvia		–		2						
Russia		–	96	85			–	–		
Slovakia	2	–					–	–		
UK		–		7			–	–		
Uruguay		–		2			–	–		
Others	1	–	4	0	9		–	–		
Total	100	–	100	100	100		–	–	100	

¹⁾ Only countries from which at least 10,000 m³ of wood has been imported have been specified, other countries are in the group "Others"

State of forest certification in the countries or provinces/states where UPM has wood procurement units, million ha									
	NB								MN
Total forest area	3.9	6.1	2.1	22.8	15.3	10.7	851.4	2.8	6.0
PEFC certified forests	3.9			21.9	2.7	6.6		0.0	
FSC certified forests	0.0	0.0	1.1	0.0	0.0	0.4	1.4	1.2	0.3
SFI certified forests		3.7							0.3
ATFS certified forests									0.4

NB = New Brunswick, MN = Minnesota, PEFC = Programme for the Endorsement of Forest Certification Schemes, FSC = Forest Stewardships Council, SFI = Sustainable Forestry Initiative, ATFS = American Tree Farm System

Forest certification schemes used by UPM in forest management or wood procurement									
National	PEFC	–	–	FFCS	PEFC	PEFC	–	UKWAS	SFI
International	PEFC	SFI	–	PEFC	PEFC	PEFC	–	FSC	SFI

Percentage of certified wood delivered to the mills according to a verified Chain of Custody delivered to UPM mills, %									
	66	¹⁾	²⁾	71	³⁾	84	0	⁴⁾	⁵⁾

¹⁾ 53 percent of the wood consumed in 2003 was from the certified company and licensed forests of UPM, Chain of Custody is in progress.

²⁾ 9 percent of the wood consumed in 2003 was bought direct from the certified state forests.

³⁾ Chain of Custody was verified first in autumn 2003.

⁴⁾ More than 60 percent of the forests supplying the UPM mills with wood are certified. Chain of Custody was verified in December 2003.

⁵⁾ 59 percent of the wood consumed in 2003 was from either certified forests or forests audited by a third party.

TARGETS FOR 2004 AND ONWARDS:**SHARED IN ALL COUNTRIES**

- Increase in proportion of certified wood.

FINLAND

- Reduction in airborne emissions from transportation.
- Improvement of ecological quality in wood harvesting.
- Qualification in ecological management practice for all personnel requiring this expertise by the end of 2005.
- Development of co-operation with local environmental authorities and NGOs.

CANADA

- Reduction of impacts of harvesting and silviculture work on watercourses, and preservation and improvement of fish habitats.

- Inventory of habitats of rare plants in forest areas leased from the province.

GERMANY

- Exclusively certified wood to the Augsburg and Schongau mills.

UK

- Enhancement of employee safety awareness and reduction of accidents in the field.

USA

- Construction of roads, logging roads and warehouses in such a way as to minimise their impacts on the soil and water.

Miramichi: FROM WOODCUTTING TO SILVICULTURE

UPM was one of the last forest companies in the Miramichi region to gradually switch to mechanised wood harvesting at the beginning of the millennium. At the same time, the company began to undertake more silviculture work to replace the loss of jobs in harvesting.

Although the transition to mechanisation was gradual and occurred later than in other companies, it prompted protests in the area. The issue received considerable attention in the local media. The training and new jobs in silviculture that UPM offered woodcutters were forgotten.

The company invited representatives of the media to an orientation day to educate reporters on why mechanisation was a necessary change and about the new jobs in forest management. The provincial Minister of Natural Resources joined the meetings with the representatives of the woodcutters in which the repercussions of the change were clarified.

In co-operation with the local community college, the mill also organised training for woodcutters who wanted to work in silviculture.

Mechanisation of harvesting affected approximately one hundred woodcutters, some of whom were employed by UPM and others by contractors. Everyone was offered training and the opportunity to do silviculture work. The offer was accepted by 40 loggers at the time.

BOOK ON THE REPOVESI NATIONAL PARK

The Repovesi National Park was officially opened in June 2003. During the summer, the park had a record number of visitors – 65,000. The establishment of the national park became possible when UPM donated 560 hectares of forest land to the state. The company also protected 1,200 hectares of its own forest land in the area surrounding the new national park. Repovesi is the first area in Finland where joint planning is applied in the management and usage of a national park and a private conservation area.

In the autumn, UPM published an illustrated book entitled 'Repovesi – A Wilderness in Southern Finland'. Besides photographs, the book includes expert articles dealing with Repovesi's nature, forest use history and the area as it is today. In addition to Finnish, the book is also available in English, German and French.



VIRGIN AND RECYCLED FIBRE ARE BOTH IMPORTANT RAW MATERIALS

All paper grades are manufactured using wood fibre, which is produced either by chemical or mechanical pulping of fresh wood or by deinking recovered paper. Availability of the raw materials as well as the end use of the paper determine the fibre mix of paper products. The mechanical and recycled fibre pulp is processed on site and most of the chemical pulp is obtained from company-owned or associated mills.

UPM manufactures a wide range of paper grades for a variety of applications. The paper's quality requirements determine the type and proportions of the different fibres used. As a rule of thumb, the better the printing surface required of the paper, the more virgin fibre it will contain.

Virgin fibre is either mechanical or chemical pulp. Mechanical pulp is manufactured at the mills from fresh wood, either by refining or by grinding. Compared to chemical pulping, mechanical pulping has the advantage of offering a fibre yield of over 90 per cent. On the other hand, the process consumes large amounts of energy. The thermal energy generated by the TMP processes is, however, partly recovered and used for drying the paper. The substances dissolved during chemical pulp cooking are used as fuels, which means that modern chemical pulp mills produce energy in excess of their own needs.

MOST OF THE CHEMICAL PULP FROM THE GROUP'S OWN MILLS

UPM uses annually about 3.2 million tonnes of chemical pulp for papermaking. All speciality papers and high quality fine papers are manufactured exclusively from chemical pulp. Chemical pulp gives the magazine paper strength and improves its runnability.

UPM has five pulp mills and owns a 47 per cent share in the Finnish Metsä-Botnia Group. The production capacity of

these mills totals almost five million tonnes a year, making UPM almost 90 per cent self-sufficient in pulp.

The Group's Pulp Steering chooses the pulp suppliers together with the paper mills that use chemical pulp. This choice is made by taking into account, besides economical and operational factors, also environmental and social responsibility aspects in accordance with UPM's policies.

CHAIN OF CUSTODY OF PURCHASED PULP MONITORED

UPM's Pulp Steering monitors and audits its suppliers together with the paper mills. It gathers information about the origin of the wood used as the raw material for pulp and the amount of certified wood as well as on the environmental load of the production plants. When benchmarking its own mills and suppliers, UPM uses the indicative emission levels for BAT, issued by the EU Commission (graph, page 26).

Contract suppliers are required to commit themselves to the principles laid down in UPM's policies of corporate responsibility when the contracts are signed. The pulp suppliers submit reports on their operations, including the use of raw materials, on a yearly basis. When needed, UPM's Pulp Steering conducts audits that also cover environmental issues. Social responsibility issues will be included in both the reports and the audits.

UPM has paid special attention to continuous improvement of the environmental performance of North American and Asian



pulp suppliers. Co-operation has started with the North American pulp suppliers aimed at improving the level of environmental performance.

UPM has required that the Indonesian company, APRIL, improve its performance in raw material Chain of Custody. Since the beginning of 2004, the pulp supplied by the company to UPM has been exclusively manufactured from raw material procured from acacia plantations. Plans have been made to establish a national park in the Teso Nilo, near APRIL's acacia plantations. To promote this project, APRIL has signed a contract with the WWF concerning actions to prevent illegal logging operations and to improve the audits on the origin of wood.

A NEW DATABASE FOR ASSESSING SUPPLIERS

The assessment and selection procedure is facilitated by the new database implemented in autumn 2003. It contains data on the operations and particularly on the environmental issues of UPM's own pulp mills, of its associated company and of external suppliers. For example, the pulp suppliers that have a certified Chain of Custody management system for wood draw up a monthly report on the amount of certified fibre.

Three UPM pulp mills and several external pulp suppliers have a certified Chain of Custody management system for wood.

STRONG PLAYER IN RECYCLING

UPM is the world's largest user of recycled fibre in printing papers. In 2003, the use of recycled fibre increased further when the new deinking plant started up at the Shotton mill. Altogether, UPM's mills used a total of 2.3 million tonnes of recovered paper.

Recycled fibre is used most at UPM's mills in Central Europe, where large amounts of recovered paper are available near the mills. Seven UPM mills use recycled fibre – three in Germany and one respectively in the UK, Austria, France and Finland.

FIBRES LOSE THEIR STRENGTH IN RECYCLING

To make the use of recovered paper feasible, efficient collection and sorting systems are required. UPM mills mainly use graphic paper collected from households. This consists of paper products such as newspapers and magazines, sales catalogues and leaflets. The recovered paper used as raw material is purchased from waste paper collection companies. UPM has a special unit responsible for recovered paper procurement worldwide.

Theoretically, paper fibre can be recycled five to seven times. With each recycling process the fibres become shorter and weaken, until eventually they are no longer usable. An input of virgin fibre is essential to make paper recycling possible.

The use of recovered paper reduces the amount of landfill waste. If taken to landfill sites, the amount of recovered paper used annually by UPM would take up approximately 5 million cubic metres of space. At the same time energy is saved. Processing recovered paper into recycled fibre pulp requires only about 20–25 per cent of the electricity needed to produce mechanical pulp, which is the raw material recycled fibre pulp usually replaces.

UPM ■ CASE

PIETARSAARI PULP MILL REBUILD REDUCES ENVIRONMENTAL LOAD

The chemical pulp mill Wisapulp at Pietarsaari will complete the rebuild of its cooking chemical recovery department in spring 2004. It will then rank among the world's best chemical pulp mills – also in terms of environmental performance.

The mill's production capacity will increase by 180,000 tonnes, while discharges into the sea will be reduced – for example, the specific oxygen-consuming load in wastewater by about 50 per cent. The recovery line will activate the pulp cooking chemicals so that they can be reused. Special attention has been paid to improving the energy efficiency of the chemical pulp mill. The integrated Pietarsaari mill complex is completely self-sufficient in thermal energy and electricity. Thanks to the use of renewable fuel, production will not give rise to fossil carbon dioxide emissions. In addition, the dust content in flue gases will decrease by almost 70 per cent according to the plans.

The world's largest single-line chemical recovery line consists of a soda recovery boiler, a lime kiln, an evaporation plant and a causticising plant. The new line will go on stream progressively starting from spring 2004, and the various mill departments are developing running models in order to ensure stable and optimised production. In 2006, the mill should be running at full capacity and is expected to produce 800,000 tonnes of chemical pulp.

The additional production volume will be utilised by UPM's own paper mills.

Once completed, the project will increase wood raw material consumption at Wisapulp by about half a million cubic metres a year.

The new recovery line will improve Wisapulp's competitiveness significantly.



■ The rebuild of the recovery department at Wisapulp chemical pulp mill will be completed in spring 2004. Production capacity will increase significantly, but discharges into the sea will decrease from their present level.

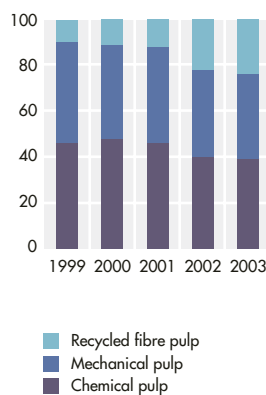


Recovered paper is processed into recycled fibre pulp by deinking, a process which consists of removing printing ink and excessively short or otherwise damaged fibres from the pulp. The fibrous waste remaining from the process is recovered in different ways, normally for energy production at the mills.

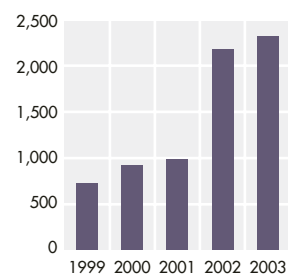
RECYCLED FIBRE MOSTLY USED FOR NEWSPRINT

UPM does not use recycled fibre for all paper grades. Its main applications are newsprints, which can be produced from up to 100 per cent recycled fibre. About 80 per cent of UPM's total recovered paper input is used for the production of newsprints, which have an average recycled fibre content of approximately 70 per cent. Recycled fibre is also used in the production of some of UPM's uncoated and coated magazine paper grades.

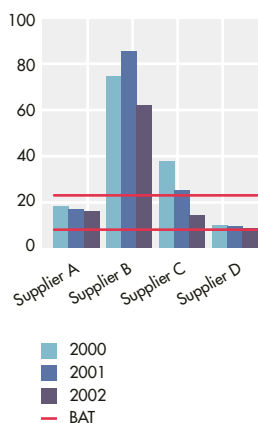
Fibre raw materials used in paper manufactured by UPM, %



Use of recovered paper at UPM, 1,000 t



COD load of purchased pulp, kg/t



UPM's Pulp Steering uses the EU's BAT emission levels to benchmark its suppliers in terms of environmental load. The graph compares the chemical oxygen demand (COD) for four suppliers operating on different continents. Apart from some North-American suppliers, all chemical pulp mills use the best available techniques.

TARGETS IN 2004 AND ONWARDS

PULP STEERING

- To continuously improve the environmental performance level of the North American suppliers.
- To continuously increase the proportion of Chain of Custody-certified wood and to include suppliers in the database.
- To develop and implement a systematic approach to social responsibility issues.

RESPONSIBILITY REQUIRED OF SUPPLIER NETWORK

Apart from fibre, mineral fillers and coating pigments, adhesives and binders are also important raw materials in papermaking. Several different chemicals are used in stock preparation, bleaching and process management. These raw and auxiliary materials are procured on a centralised basis by UPM's Materials Management department, which assesses its suppliers in terms of both environmental performance and level of social responsibility.

The papers manufactured by UPM are safe to use. The substances used in the production and bleaching processes do not release any harmful chemicals into the product itself. A number of UPM's papers, which are converted into food packages, have been approved for use in the food industry.

The fillers and coating pigments used in papermaking are mostly natural substances, such as kaolin or light clay and lime. During the deinking process, some of the fillers contained in the recycled paper are recovered with the fibres for reuse in the paper production process. Pigments are needed to give the paper the desired properties, such as a smoother printing surface and high opacity.

The use of pigments at UPM has increased in step with the increasing manufacture of coated papers. Thanks to pigments, a lower basis weight can be obtained without affecting the paper's printability. This in turn reduces transportation costs and the resulting emissions. The use of fillers and pigments also saves fibre raw material.

Papermaking also requires binders, most of which are adhesives made from vegetable starch and synthetic latexes. The binders make the coating pigment adhere to the paper surface.

CHEMICALS FOR BLEACHING AND CLEANING

The chemicals needed for cooking pulp are sodium hydroxide and sodium sulphide. To reduce their environmental im-

pact, the cooking chemicals are recovered and reused in the process.

The changes in the pulp bleaching processes and efficient effluent treatment plants have clearly reduced the environmental load caused by bleaching. The chemical pulp bleaching agents used at UPM are chlorine dioxide, oxygen and peroxide. Chlorine gas is no longer used in the pulps manufactured by the Group nor is it present in purchased pulps.

Certain soap-like chemicals are used for deinking recovered paper. Mechanical pulps are bleached using hydrogen peroxide and dithionite, for example.

The paper and pulp production processes also require auxiliary materials, such as slime control agents, i.e. biocides. Various alternative methods have been investigated to reduce the use of biocides. Several UPM mills have already introduced an electrical method developed in-house for keeping surfaces in the water cycles clean, thus reducing the use of slime control agents.

HARMFUL CHEMICALS INVENTORIED

In 2003, UPM launched a research and development project, called Environmentally Sound Chemicals, aimed at inventorying the chemicals used in paper and pulp production within the Group that may be hazardous to humans or to the environment. Efforts are being made to find substitute chemicals to replace them.



UPM ■ CASE

MATERIALS MANAGEMENT RATES SUPPLIERS' RESPONSIBILITY

In 2003, the Materials Management department conducted a survey among its key suppliers to encourage them to operate responsibly and in a way that complies with UPM's policies.

The survey was sent to 60 major international companies and to 22 partners operating in Asia.

A variety of different sectors were represented: suppliers of chemicals, minerals and binders, suppliers of maintenance and other services and suppliers of production consumables.

By the end of 2003, 97 per cent of the international companies had responded. About 60 per cent were found to operate in compliance with the requirements laid down in UPM's policies.

All the regional companies operating in Asia responded to the survey and 32 per cent of them showed compliance with UPM's policies. Cultural differences were taken into account when evaluating the responses.

The cases of non-compliance with UPM's policy were attributable to the fact that one or several survey areas had been understood in a different way. In some of the cases, the supplier did not have an appropriate policy, even though the principles laid down in UPM's policies were generally respected. Although some deficiencies were detected, none were considered alarming, however.

One of the positive findings was that more than half of the suppliers already adhere to the same principles as UPM. Many subcontractors still have development needs in this area, though.

As far as the follow-up of the survey is concerned, Materials Management highlights the importance of responsible practices, particularly among the subcontractors whose operations do not yet comply with UPM's responsibility criteria.

CHEMICALS USED IN THE MANUFACTURE OF WOOD AND CONVERTED PRODUCTS

The Wood Products Division uses glues for plywoods and lam-wood panels. Some impregnating agents are used in the insecticide and preservative treatment of plywood and in the preservative treatment of sawn goods. The Finnish timber impregnation plants will start using arsenic-free preservatives in summer 2004.

Within the Converting Division, WalkiWisa only uses water-based printing inks with a maximum solvent content of a few per cent. The Valkeakoski mill plans to discontinue the use of solvent-based lacquers as soon as it is technically feasible. Some Loparex mills use solvent-based silicones, but are currently reducing their use. Raflatac uses exclusively solvent-free silicones. Less than one per cent of the adhesives used are solvent-based.

SUPPLIERS ASSESSED IN TERMS OF RESPONSIBILITY

Raw materials other than wood fibre are purchased on a centralised basis by the Group's Materials Management department. Priority is given to suppliers who have certified quality and environmental management systems in place. However, responsible action is required of all suppliers of raw materials, goods and services as regards both environmental and social issues.

The Materials Management department has a database of more than 500 partners. Suppliers who do not have a quality and environmental management system are audited regularly. All eight European subcontractors audited in 2003 were found to operate in full compliance with UPM's standards. Twelve further supplier audits will take place during 2004, and additional audits will be carried out as needed.

NEW AUDIT AND ASSESSMENT PROCEDURE FURTHER DEVELOPED

During the past couple of years, Materials Management has been developing a new audit and assessment procedure for key suppliers. The project is to be piloted in the supply chains starting at two Brazilian kaolin quarries. The audit will cover mining operations, transportation to the Brazilian port and shipping to Finland. UPM Logistics helps in assessing the transport chains.



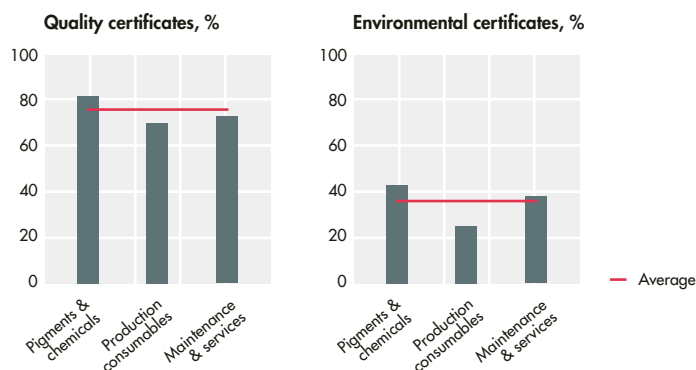


Material Management's comprehensive assessment covers a wide range of aspects, including environment, quality, financial issues, work safety and social responsibility. During 2003, the model was tested on the basis of data gathered previously and compared against the assessment method currently in use. The work will continue in 2004.

ANTI-CORRUPTION MEASURES ARE A PRIORITY

Actions against corruption have come under special scrutiny within Materials Management. This was a key theme at the in-house training event organised in 2003. The participants were given an insight into identifying and controlling corruption by an international expert.

QUALITY AND ENVIRONMENTAL CERTIFICATES AMONG MATERIAL MANAGEMENT'S SUPPLIERS IN 2003



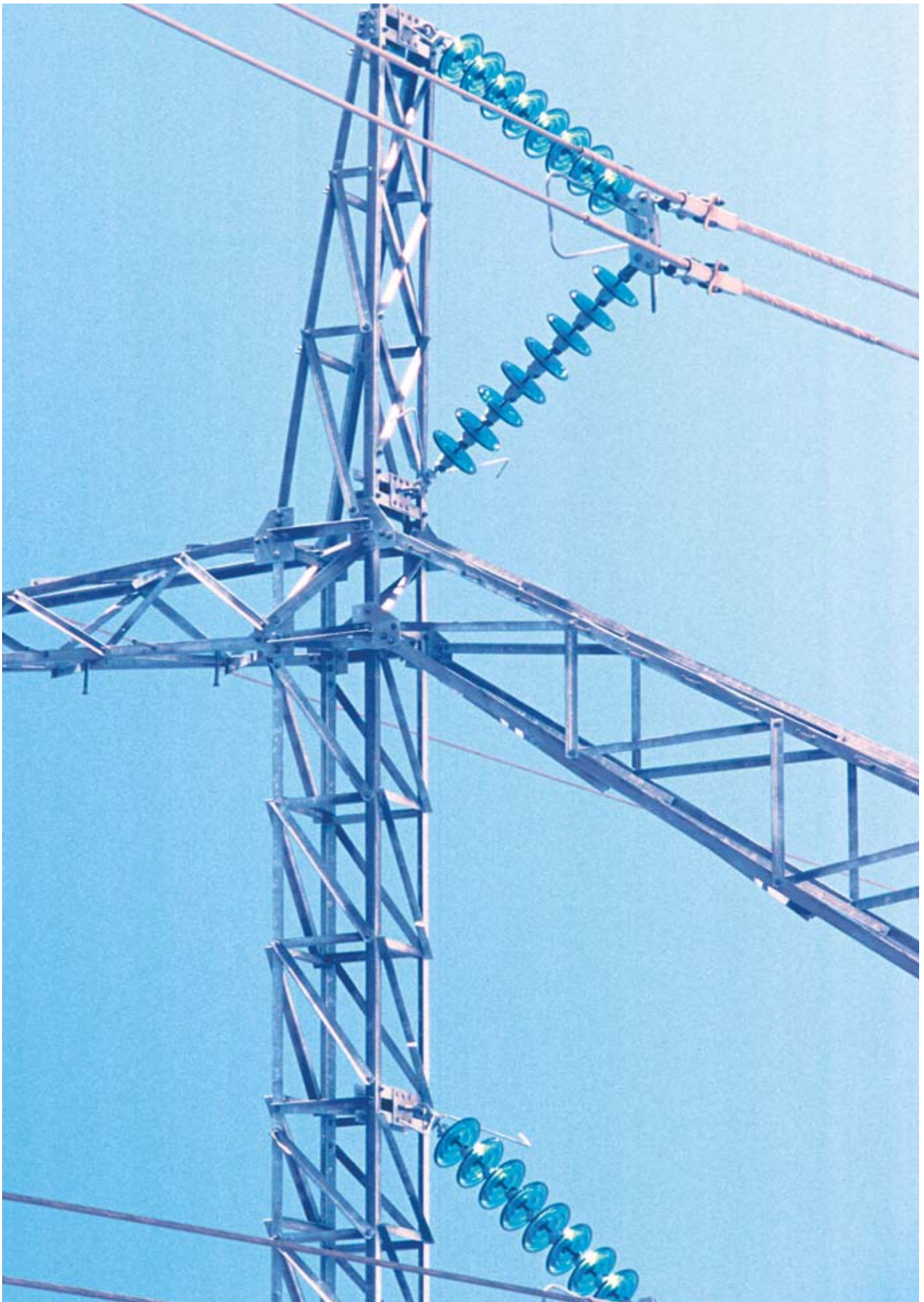
TARGETS IN 2004 AND ONWARDS

MATERIALS MANAGEMENT

- To encourage partners to operate in compliance with UPM's Corporate Social Responsibility policy.
- To further develop the key suppliers' audit and assessment procedure.

PAPER DIVISIONS

- To analyse the current situation in the framework of the Environmentally Sound Chemicals project.
- To reduce and optimise the use of chemicals.
- To renovate the chemicals unloading and storage facilities at several mills.



ENERGY



UPM has for many years aimed to favour those methods of energy production that do not give rise to fossil carbon dioxide emissions. One method has been to increase the use of biofuels, especially forest energy.

Considerable attention has been paid to improving the energy efficiency of the mills. The audits carried out at the mills over the past six years and the subsequent improvements made have produced good results.

ENERGY MANAGEMENT STEERED BY CLIMATE CHANGE CONTROL AND EFFICIENCY DEMANDS

UPM has consistently invested in energy management in order to reduce the environmental load by developing and increasing the use of energy production methods that do not cause fossil carbon dioxide emissions. The company has for years carried out reviews aimed at improving energy efficiency, and as a result the mills' energy management systems have improved. Important challenges for the future include emissions trading, and the company is preparing to meet these challenges.

As a major energy user, UPM must take responsibility for ensuring that its mills are supplied with competitively priced energy causing minimum emissions. In Finland UPM is all but self-sufficient in electricity, while in other countries the Group relies on its solid know-how as a buyer in the deregulating energy market. In 2003, UPM sold renewable energy certificates to the Netherlands.

"UPM has for many years worked persistently on energy procurement issues, in order to reduce emissions of greenhouse gases. The amount of coal-based power generation has been cut, biofuel power plants have been built and hydropower plants modernised. UPM is a pioneering developer of forest-based energy in Finland and the company is also involved in a few wind power projects. Reviews on the efficiency of energy utilisation and improvements made as a result of these have also contributed to lower emissions," states Pertti Simola, Vice President, Energy.

BIOFUELS A SIGNIFICANT ENERGY RESOURCE

The share of biofuels in the mills' power and heat production was 56.4 per cent (54.4 per cent in 2002).

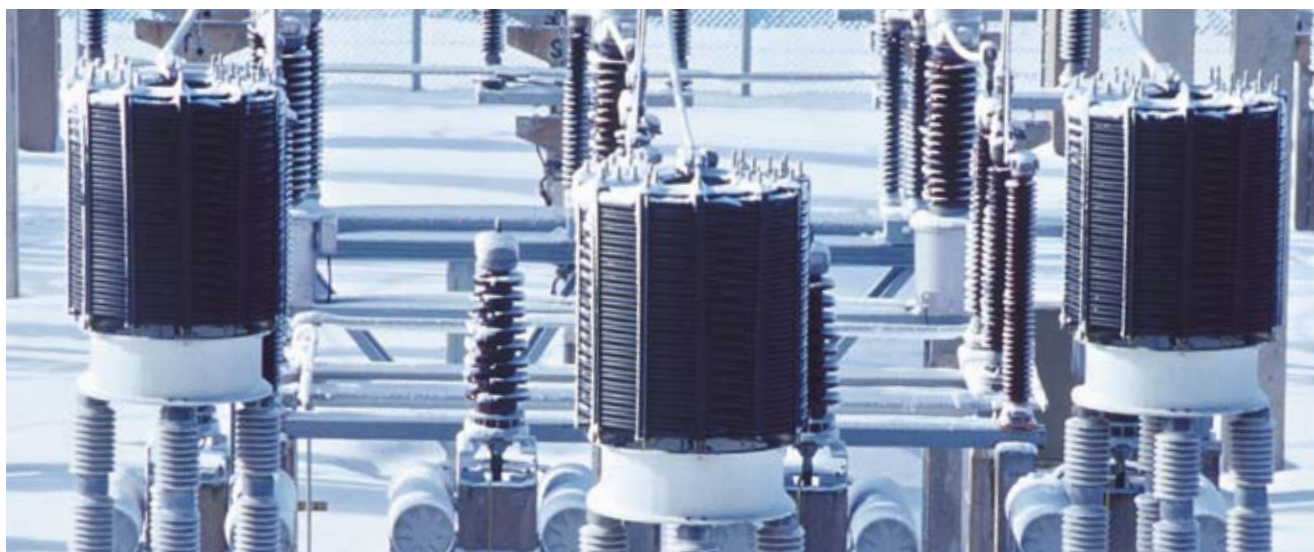
The paper mills' power plants burn bark, energy wood, and fibre and deinking sludge. The chemical pulp mills burn black liquor from the cooking process.

In the mills operating in central Europe, whose main raw material source is recovered paper, the main fuel used is natural gas. At the Changshu, Caledonian and Blandin mills most of the fuel used is coal.

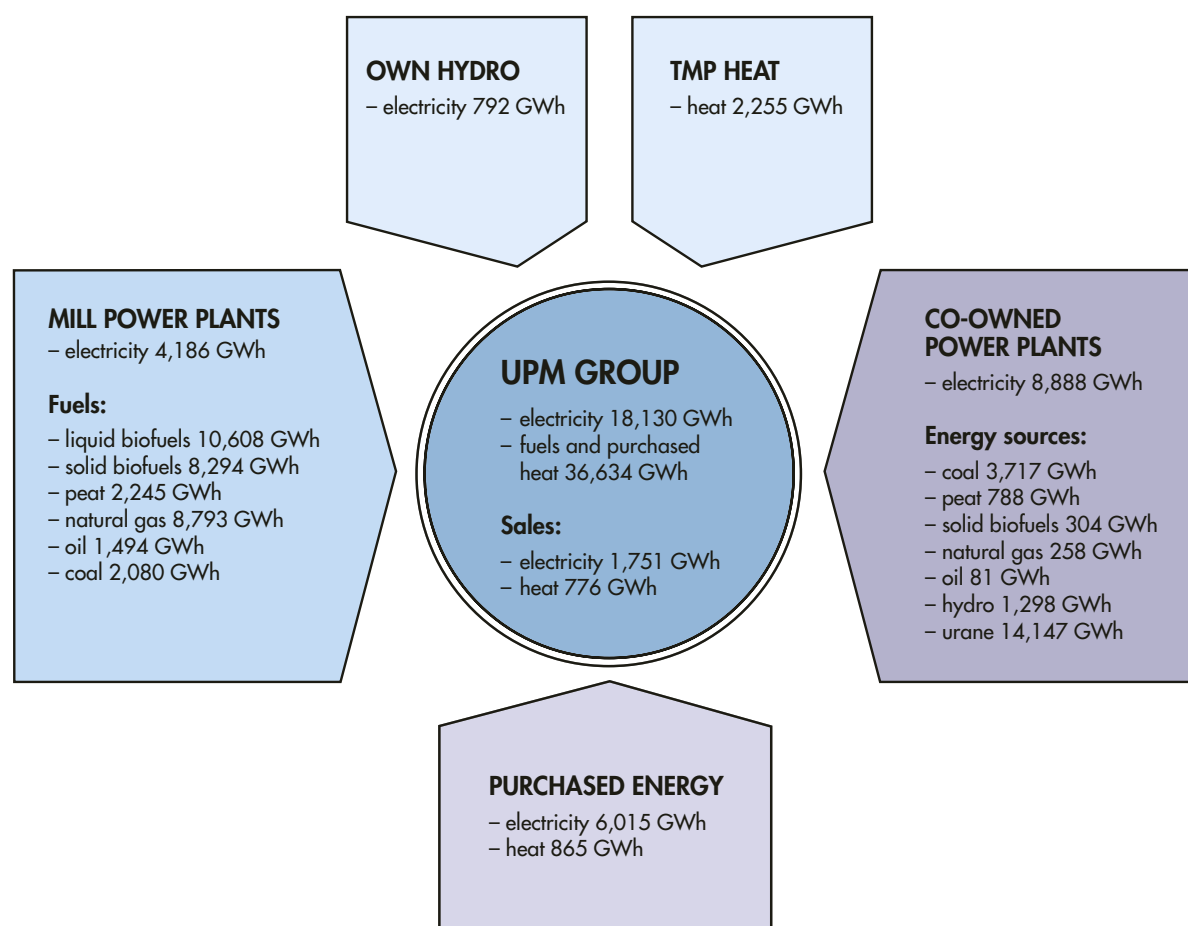
During the past four years, five new power plants have been built to meet the needs of the Finnish mills, increasing the production of Combined Heat and Power (CHP) and the use of renewable fuels. The last of these plants was completed in 2003 in Savonlinna, eastern Finland, and there are plans for building new ones.

GROWTH OF FOREST ENERGY UTILISATION HIGHER THAN EXPECTED

The use of biofuels has increased as a result of close co-operation with the UPM, Forest, which has headed the field in terms of developing the recovery of forest-derived energy sources – "energy wood". Energy wood in Finland refers to the waste generated



ENERGY SOURCES AND FUELS USED AT UPM



during timber harvesting – branches, tops, small-diameter trees removed during thinning and clearing operations, and stumps.

Originally our intention was for at least one terawatt hour of our total energy consumption to be from energy wood by 2005, but this goal was already reached in 2003. The use of energy wood is expected to grow during the next few years, and this would allow for less use of peat as a fuel.

The Blandin mill has also experimented with the use of energy wood, mainly tops and small-diameter wood, and they are studying the possibilities for increasing its use to replace coal.

HYDROPOWER DIVERSIFIES ENERGY SOURCES

Hydropower accounts for some 20 per cent of the electricity used by UPM's Finnish mills. The dry summers of the past two or three years have had a significant impact on hydropower supply, and the deficiency had to be made up by power from other sources, mainly coal and natural gas or purchased electricity. As planned, the company has modernised several of its hydropower plants completely in the past few years, thus improving

their energy efficiency. In 2003 the overhaul of the Tyrvää hydropower station was completed.

UPM is also a user of wind power, although this energy form accounts for only a marginal proportion of the whole Group's energy production. However, the company wants to be involved as a shareholder in projects developing this form of energy. So far wind energy is not competitively priced in Finland from the industry's point of view.

NUCLEAR POWER RAISES QUESTIONS

In spring 2002, the Finnish Parliament approved the building of a new nuclear power station in Finland. The project will be carried out by Teollisuuden Voima Oy, in which UPM has a holding through its interest in Pohjolan Voima. UPM has reserved about 470 megawatt share in the 1,630 megawatt power plant, which will be built in Olkiluoto, Eurajoki, on the west coast of Finland, to be completed at the end of this decade.

Finland's nuclear power decision has given rise to questions among UPM's stakeholders.

During the autumn, the Group received several queries about nuclear power. In its response UPM reviewed the company's energy management principles and the grounds for building an additional nuclear power plant

"Nuclear power is one of the means in our arsenal for controlling the Group's carbon balance, at the moment accounting for about one third of the Group's energy production. Nuclear power has been seen in the company as the alternative among the current forms of energy that is capable of ensuring a reliable and flexible power supply at competitive prices, without fossil carbon dioxide emissions," Simola explains.

REVIEWS TO IMPROVE ENERGY EFFICIENCY

UPM has been active in taking measures to improve the energy efficiency of its pulp and paper mills. The internal reviews carried out for six years now have already produced good results. The mills have identified various points where energy could be saved and utilised more efficiently through minor changes or investments. Major changes have usually been made in connection with other investments, for example, in machine line modernisations. The general principle followed in improving energy utilisation has been to transfer best and proven methods and practices from one mill to another.

Often the efficiency of energy use is connected with water consumption; the less water consumed per tonne of paper produced, the more efficient energy utilisation has been. Many of the improvements made at the mills have in fact been connected with water consumption and better heat recovery at TMP plants.

Good results have been achieved, for example, at Chapelle Darblay, in 2003, when water consumption fell by ten and energy consumption by eight per cent. By improving heat recovery from TMP plants energy savings have also been made at the Stracel, Jämsänkoski and Kaipola mills.

By 2003, the first round of reviews had been completed at all the Group's paper and pulp mills. The group of internal experts

responsible for the review is now continuing to develop and co-ordinate energy efficiency. New methods and practices will first be tested at one mill, and if the results warrant it, transferred to other mills.

Although Converting and Wood Products' energy consumption is low compared with the Group's total consumption, boosting the energy efficiency at their factories and mills is equally important. Raflatac's factories and the mills in the Wood Products Division have efficiency targets and are currently introducing systematic monitoring of their energy consumption.

THE GROUND RULES FOR EMISSIONS TRADING STILL TO COME

The objective of the Emissions Trading Directive approved by the EU is to ensure that the targets of the Kyoto Treaty for reducing greenhouse gas emissions are reached. The directive will initially only apply to fossil carbon dioxide emissions. Emissions trading in the EU area is set to start at the beginning of 2005.

In emissions trading the competent national authority issues the mill with an emissions quota. If this quota is exceeded, the mill has to pay for the extra emissions allowance, and if the emissions remain under the quota, emissions allowances can be sold. So far, the ground rules for emissions trading are still under discussion, and it is not known what the real impacts will be. The directive will, however, apply to all UPM's mills operating in the Union's area.

INCREASED ASH UTILISATION

The ash from power plants is the biggest single waste fraction from the whole Group. All the mills have made progress in their ash utilisation, and the amount of ash taken to landfills has decreased. Read more about ash utilisation on pages 45–46.

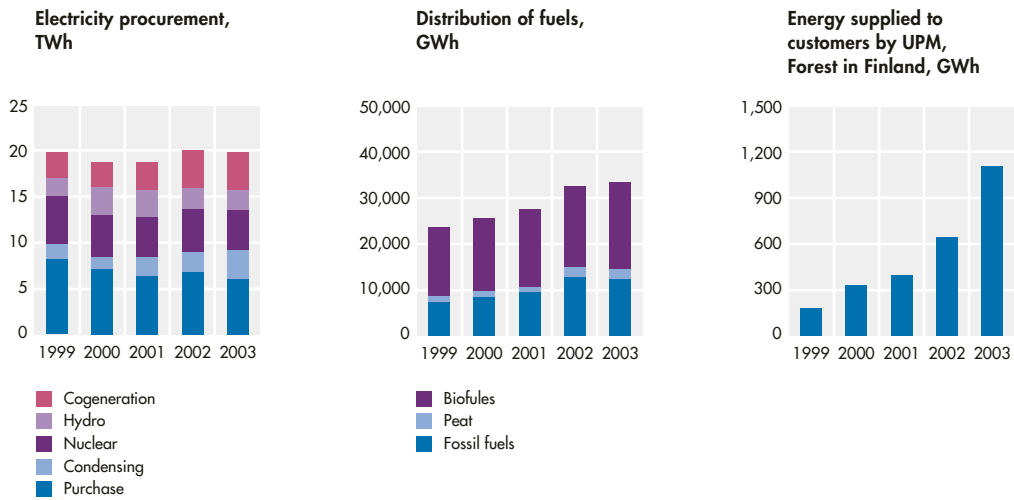
There is further information about airborne emissions from energy production on page 42

TARGETS FOR 2004 AND ONWARDS

- Readiness for controlling carbon dioxide balance and emissions trading.
- Environmental management systems of hydropower plants to be updated.
- Project analyses for mill power plants to be continued.
- Changshu mill to be connected to national grid supply.

IMPORTANT EVENTS IN 2003

- Energy efficiency reviews carried out at all pulp and paper mills.
- Biofuel-burning power plant completed in Savonlinna.
- Building of an energy management system to include all the central European paper mills started.
- New bag filter for RCF sludge burning boiler at Schongau mill. Particulate emissions reduced considerably.
- Start-up of Shotton mill's new RCF plant and closing down of groundwood plant contributing to reduced power consumption.





ENVIRONMENTAL IMPACTS



The operations of UPM affect the environment in many ways, both directly and indirectly. Harvesting and silviculture operations influence the landscape, structure and biodiversity of forests. Production at the mills generates emissions into the water and energy production emissions into the air. The mills also generate solid waste and give rise to some noise and odour problems.

Indirect impacts arise from the preparation and transportation of raw materials and from the transportation of finished products.

During the past five years, UPM's paper production has increased by 37 per cent. UPM's aim is to ensure that growth of production does not automatically lead to an increase in emissions. For example the amount of waste taken to landfills has remained the same despite higher production figures. The COD level of wastewater and the nitrogen oxide content of airborne emissions increased only slightly in relation to production. This means that specific emissions per tonne produced have gone down. The positive trend is expected to continue in 2004.

WATER CONSUMPTION CONTINUES TO DECREASE

The mills use water, an essential element in paper and pulp manufacturing, economically.

The same objective is adhered to in the use of other raw materials, too. The lower the volume of water run off from the process as wastewater, the easier is its treatment.

The otherwise successful environmental operations were overshadowed by a serious wastewater discharge that occurred at the Kaukas pulp mill in summer 2003.

The paper mills need water as an auxiliary material for the paper-making process and to cool the machinery and other equipment. The water used in production circulates in the processes several times, and only a small part at one time ends up as effluent.

UPM's paper mills generated on average 15.5 cubic metres of wastewater per paper tonne in 2003. The corresponding volume in 1999 was 20.0 cubic metres. The volume of wastewater per tonne of chemical pulp at the pulp mills was 47.7 cubic metres in 1999 and in 2003 correspondingly 50.0 cubic metres.

Before wastewaters are released into the watercourse, they are purified mainly in the mills' own effluent treatment plants. A few of the mills use the local municipal effluent treatment facility. The wastewaters contain suspended solids from wood fibre and oxygen-consuming compounds, most of which are removed or made innocuous before being released into the watercourse. Wastewaters from the bleached chemical pulp mills also contain small amounts of organic chlorine compounds. Wastewaters also carry traces of nutrients, mainly nitrogen and phosphorus, into water bodies. The wastewaters are not toxic and are monitored regularly, as are their impacts on the watercourse.

LOW WATER CONSUMPTION BY CONVERTING AND WOOD PRODUCTS DIVISIONS

There are no discharges into the watercourse from the converting factories, as water is mainly used only for washing and cooling the equipment. The wash waters from the coating heads at the Raflatac factories contain adhesives and are usually treated at the

factories' own treatment plants. The cooling waters at Walki Wisa's and Loparex's factories circulate in a closed system. The wash waters for the printing machines are treated in the factories' own or in municipal treatment plants.

Water at the plywood mills is used prior to the actual production process for soaking the logs. Soaking is an essential part of the plywood manufacturing process and affects the properties of the veneer. Water containing suspended solids and nutrients is released into the watercourse as overflow from two plywood mills. At the other mills the water is either treated in the mills' own water treatment plant, fed into the municipal treatment plant or filtered through a layer of sand before being released into the watercourse. The water for the glue rollers at the plywood mills circulates in a closed system.

The sawmills use water to sprinkle the logs employing a system which functions automatically according to variations in the local weather. The amounts of water are small and contain only minimal traces of compounds from the wood. Sprinkler water at the sawmills operating within the integrated mills is collected at a joint effluent treatment plant.

CONTINUOUS FOCUS ON WATER ISSUES

The treatment of wastewater at the paper and pulp mills is the most significant individual environmental protection undertaking, both in terms of cost and size of the purification equipment.

In line with the principle of continuous improvement, the



paper and pulp mills aim to reduce both water consumption and the volume of wastewater as well as their load. The obligations laid down by the EU regarding environmental emissions, which must be met by 2007, apply the concept of Best Available Techniques (BAT). The volume of effluents at UPM's mills, for example, is below the set target at 75 per cent of the printing paper machines.

In 2003, the environmental targets of many of the mills involved reducing water consumption. In accordance with the targets, water consumption decreased at the Changshu, Chapelle Darblay, Kaukas, Miramichi, Stracel, Nordland and Shotton mills. Reduced water consumption at the Shotton mill will be more clearly discernible in 2004 when the new deinking plant is completely in use.

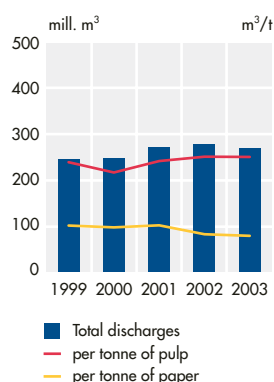
Reduction in wastewater volume and its load was the target at seven mills in 2003. The Changshu mill achieved its target to an admirable degree as, among other things, the volume of wastewater per paper tonne decreased by about four cubic metres and the COD load by 30 per cent compared with the previous year. The targets were achieved, for example, through technical improvements and by training the operating personnel responsible for wastewater treatment. The Kymi mill is also within its target; the COD load has decreased by 30 per cent from 1994. Wastewater and the suspended solids load declined at the Miramichi mill. Trials to further reduce the already low COD load are being continued at the Nordland mill. The long-term objective at the Schwedt mill is to reduce the COD load by 25 per cent. During 2004, work will be started to expand the biological treatment plant. The nutrient load at the Stracel mill decreased substantially, but the nitrogen load still lags behind the target.

Many of the mills will continue to aim to reduce water consumption and effluents or lower the load in 2004.

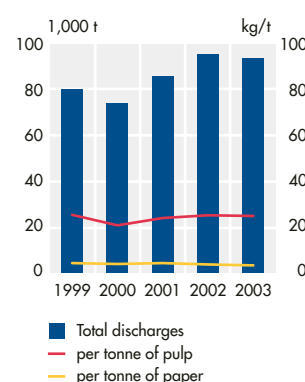
INFRINGEMENTS OF PERMIT LEVELS

The most serious infringement of permit levels in 2003 was the discharge of black liquor that occurred in conjunction with the

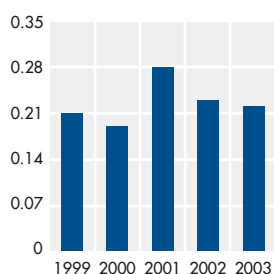
Volume of process wastewater from paper and pulp mills



COD load from paper and pulp mills



AOX load from pulp mills, kg/t



The specific volume of effluents has decreased during the past five years. The wastewater load shows a positive trend as well. The AOX load of the Canadian pulp mill is now almost at the same level as that of the European mills.

WHAT DO COD AND BOD VALUES INDICATE?

- Wastewater from the mills contains organic compounds that consume the oxygen in water on decomposing.
- A low oxygen content in fresh and sea water can be detrimental to the life of flora and fauna.
- Both BOD (Biochemical Oxygen Demand) and COD (Chemical Oxygen Demand) in the mills' wastewaters are measured and monitored.
- The BOD and COD values of wastewaters describe the amount of organic compounds contained in purified wastewater, in other words how efficient the purification process has been. BOD expresses the amount of oxygen

needed by micro-organisms in seven or five days for consuming degradable organic matter in water. COD expresses the amount of oxygen required for the decomposition of organic compounds in water, determined by chemical methods.

- The effluent treatment plants at UPM's mills remove 99 per cent of the BOD₇ load and 85–90 per cent of the COD load. In 2003, the average COD value was 3.1 kg per paper tonne (4.1 kg in 1999) and correspondingly 24.7 kg per tonne of chemical pulp (25.2 kg in 1999).



restart of production following the maintenance shut-down at the Kaukas pulp mill (more on page 41).

There were some temporary infringements of permit levels. There were a number of emissions into the water in infringement of the permit levels at the Blandin, Schongau and Schwedt mills. Untreated wastewater at the Blandin mill was released a few times into the River Mississippi resulting in clean-up operations each time. The mill has carried out improvements designed to reduce the chance of emissions of this type occurring in future. Nitrogen emissions from Schongau into the watercourse were the result of the mill shut-down and the high summer temperatures. The COD load at the Schwedt mill was exceeded in July. The requisite corrective measures were implemented at the mills immediately after the incidents in question.

ENVIRONMENTAL ACTION AT CHANGSHU PAPER MILL AWARDED

China's state environmental protection agency granted the Changshu paper mill a respected award in the Top 100 Environment Protection Project. The Changshu mill was one of the 77 companies out of thousands of participants to receive an award. There were only two paper mills among the winners.

The Top 100 Environmental Protection Project was set up to facilitate environmental protection programmes in China and to encourage and commend environmentally aware companies who are well advanced in this sphere. The project was realised throughout all the provinces in China and every sector of industry was eligible to participate.

WATER CONSUMPTION TARGETS FOR 2004 AND ONWARDS

- Reduction of water consumption and wastewater volume: e.g. at Changshu, Chapelle Darblay, Jämsänkoski, Kaipola, Shotton and Voikkaa.
- Reduction of load in mill's wastewater: e.g. at Blandin, Changshu, Nordland, Rauma, Stracel and Schwedt.
- Schwedt: application of new technology in expansion of biological treatment plant to reduce COD load.

UPM ■ CASE

WASTEWATER DISCHARGE AT KAUKAS PROMPTS NEW RISK ASSESSMENTS AT ALL MILLS

The serious discharge into the watercourse that occurred at the Kaukas pulp mill in June 2003 was in the Finnish news throughout the whole summer. Even though it did not leave any permanent traces in the local waters, the accident which took place right in the middle of the summer holiday season still affected the lives of hundreds of holiday-makers.

Exceptional under the present circumstances, this incident prompted a series of actions, not only at the Kaukas mill, but also at other UPM mills. All mills have reassessed the operations that are subject to potential environmental risks. The existing protection and warning systems have been checked, and new guidelines for internal communications have been drawn up. The mills have also verified their guidelines and responsibilities in the area of crisis communications. All UPM's chemical pulp mills have already taken or are currently taking specific corrective action to prevent recurrence of similar incidents. All in all, the mills' personnel have received hundreds of days of training on this issue.

The case has also been discussed in detail with a number of external parties to raise their awareness of such risks.

WHAT HAPPENED AT KAUKAS?

The start-up after a major maintenance shut-down at the Kaukas pulp mill in June 2003 was unusually problematic. As a result of problems accumulating at the evaporation plant, the effluent treatment plant received condensates containing exceptionally large amounts of neutralised black liquor. The operation of the effluent treatment plant was impaired by the high wastewater load and, in the course of 24 hours, an amount of inadequately purified wastewater almost equivalent in volume to a normal two-month load, was released into the watercourse.

"The seriousness of the situation was realised too late. In the past, the mill has been started up dozens of times without any problems. This time, there were exceptional problems at the evaporation plant, and since we had not come up against such problems before, we did not understand their consequences right away", says Harry Sundqvist, Vice President and General Manager of the Kaukas mill.

IMPACTS ON THE WATERCOURSE

The quality of the water in Lake Saimaa deteriorated visibly, the water turning brown and foamy. Fish deaths were observed within a radius of three kilometres from the mill, which indicated a decrease in the water's oxygen content. Water consumption was restricted in the households using lake water, swimming was prohibited for three weeks in the area, and restrictions of brief duration were placed on the recreational use of the watercourse.

The impacts were greatest in the vicinity of the mill, but extended in a less severe form as far as 15 kilometres from the mill. Some areas started to recover very quickly, but in shallow waters with weak currents the impacts lasted longer.

"Three months later, the part of Lake Saimaa affected downstream from the mill was as clean as it had been before the accident, and no permanent damage is expected," says Esa Simpura, Environmental Manager of the Kaukas mill.

CONSEQUENCES

UPM will pay compensation for the damage caused by the discharge. The company has commissioned third-party experts to investigate the damage and recommend adequate remuneration. By the end of 2003, the company had received about 400 requests for compensation, to be processed during spring 2004.

The local environmental authorities and a few private citizens have requested a police investigation of the discharge. The police are investigating the matter as negligence leading to environmental contamination.

UPM estimates that the production losses and the additional costs caused by the discharge amount to more than two million euros. This figure does not include any compensations paid for the damage.

The Kaukas mill will carry out an investment programme worth about five million euros to prevent accidental discharges and to boost the efficiency of external wastewater treatment.



■ Harry Sundqvist, Vice President and General Manager of Kaukas (left) and Esa Simpura, Environmental Manager, in the chemical pulp mill's control room.

GREATEST AIRBORNE EMISSIONS FROM ENERGY PRODUCTION

The most significant emissions into the air are caused by energy production at the mills. Emissions can be reduced by using renewable and low-emission fuels, purifying the flue gases and using energy efficiently.

The main emissions generated through energy production are carbon dioxide, sulphur dioxide and nitrogen oxides arising from fossil fuels. Fossil carbon dioxide contributes to global warming, while sulphur dioxide and nitrogen oxides cause acidification of soil and waters.

Emissions at UPM have been reduced by increasing those methods of energy production that do not give rise to fossil carbon dioxide emissions. Moreover, many of the measures which have increased production efficiency whilst simultaneously lowering energy consumption have reduced the amount of emissions.

Considerable amounts of emissions are also generated by the transportation of raw materials and products. Information about these is reported separately on pages 48–51.

NOISE AND ODOUR PROBLEMS LOCAL

Emissions into the air from UPM's primary production processes have no significant impact on global warming. In contrast, water vapour from the paper mill processes, particle emissions or occasional dust from the Wood Products Division's mills may be considerable at the local level. Residents living in the vicinity may also be disturbed by noise or odour from the mills.

Chemical pulp production generates malodorous sulphur compounds which are detectable even at very low concentrations. These unpleasant odours arising from TRS emissions are reduced by collecting and burning the malodorous gases. For example, complaints about odour made by residents in the vicinity

of Tervasaari in Valkeakoski have decreased in a three-year period by over half.

Locally unpleasant odours can also stem from the paper mills, for example, from wastewater treatment. The Kaipola and Jämsänköske mills have investigated the origin and causes of unpleasant odours from the effluent treatment plants. To remedy the situation, the sludge treatment plant at Kaipola was modernised. Surveys and research into reducing odour problems are continuing.

Reducing noise caused by operations has been and still is an important area requiring improvement at many of the mills. Noise measurement and surveys have led to specific measures to reduce this problem – often with good results.

FEWER VOC EMISSIONS FROM CONVERTING

The most significant airborne emissions from the converting factories are VOCs (Volatile Organic Compounds). These are produced by solvent-based adhesives, printing inks, lacquers and silicones used in product manufacturing. Water-based adhesives, printing inks and lacquers may also contain small amounts of solvent. VOC emissions increase the formation of ozone in the lower layers of the atmosphere. This may be harmful to vegetation.

VOC emissions have continuously decreased at all the factories because, thanks to product development, it has been possible to increasingly replace solvent-based substances with environmentally less harmful alternatives. The Raflatac factories,



for example, use solvent-free compounds in almost all coating and siliconising. Of the Walki Wisa factories, only Valkeakoski uses solvent-based lacquers – in certain products on account of the special properties that they require. Development work to replace solvent-based lacquers is underway, though.

At Loparex, VOC emissions are generated by five factories. In order to reduce emissions, the solvents are recovered by burning – except at the Cullman factory in the United States. The use of solvent-based substances is being reduced at all the factories.

FEW AIRBORNE EMISSIONS FROM WOOD PRODUCTS DIVISION

The processes of the Wood Products Division do not generate any significant emissions into the air. Complaints about dust were made by residents living in the vicinity of the facilities in some locations. Dust collecting and filtering systems are in use at the plywood mills and at the sawmills.

The lacquering line at the Lahti plywood mill modernised in 2002 has reduced solvent-based VOC emissions.

INFRINGEMENTS OF PERMIT LEVELS

The permit levels for air pollution control were temporarily infringed in 2003 at the Miramichi, Pietarsaari, Schongau, Shotton, and Voikkaa mills. Corrective measures were carried out immediately and future amendments to environmental targets were defined as needed for each mill. At Schongau, for example, improvements to the fluidised bed boiler have reduced particulate emissions substantially.

For more information on energy production and emissions, see pages 31–35.

Emissions from transportation are handled on pages 48–51.

UPM ■ CASE

EMISSION WORKSHOP PROVED HELPFUL IN AUGSBURG'S ODOUR PROBLEMS

When the new paper machine and deinking plant went on stream in 2000, the mill received numerous complaints from residents in the vicinity about odour, noise and vapour.

In line with EU practice, the permit application for the new paper machine was made available for public scrutiny and comment beforehand. The final permit set out strict limits for airborne emissions and noise as well as provisions for, among other things, odour and vapour.

When the new machine started up, a group of residents brought a suit against the City of Augsburg for deficient or excessively vague permit conditions. The suit was dropped, however, after two court hearings.

The mill put considerable effort into dealing with the residents' complaints, and the problems relating to noise and vapour were soon rectified. Noise measurements show that the level of noise emissions is well below the limits. Water vapour – a common phenomenon in paper machines – was shown to be harmless to the environment and to the neighbourhood.

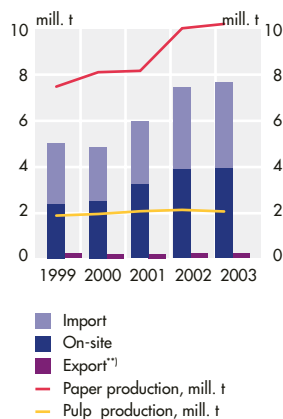
The odour problems caused by the pulper, paper machine, coater and deinking plant have proved to be more complex. The mill swiftly implemented improvements to reduce the malodorous emissions.

The most efficient way of accomplishing this goal proved to be the monthly Emission Workshop set up in spring 2001. This group, consisting of representatives from all the relevant departments, analysed the problems, sought solutions and decided on measures and methods of implementation.

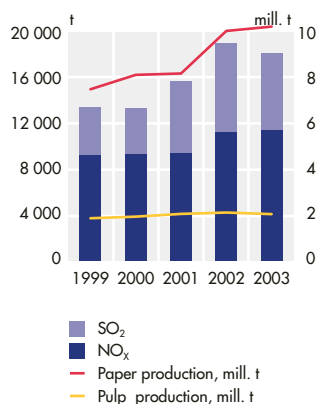
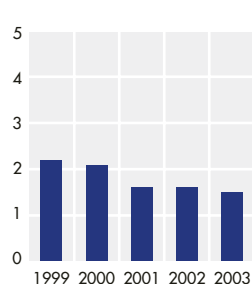
The most serious cause of odour was the stagnant water from effluent treatment, which produced malodorous hydrogen sulphide. Improvement of water circulation rapidly reduced the odour. Unpleasant odour no longer occurs in normal production circumstances. In exceptional situations, for example, during shut-downs, the recently installed hydrogen sulphide indicators quickly show whether odorous emissions are likely.

Info meetings for residents in the neighbourhood and representatives of local authorities were held in autumn 2001 and summer 2003. The participants were given information about measures implemented and future plans.

The sustained work to improve the odour situation has also generated additional information about the interdependency between production and odour problems, a fact which reduces the incidence of critical situations. "The motivation of the employees and, in particular, the commitment of the Emission Workshop and mill's management have been of prime importance to the whole process," says Augsburg's Environmental Manager Bernd Appelt.

Fossil carbon dioxide emissions

** Energy sold by production plants.

Acidifying flue gases**VOC emissions from Converting Division, kg/t'**

' Data on factories sold in 2003 or earlier is not included in these figures. Data on Raflatac is not included in the figures for the years between 1999 and 2000.

AIR POLLUTION CONTROL TARGETS FOR 2004 AND ONWARDS

- Jämsänkoski and Kaipola mills: further improvement of odour situation at effluent treatment plants.
- Mäntymäki and Kymi mills: further reduction of airborne emissions.
- Noise abatement at several mills.
- Reduction of VOC emissions at the Converting Division's factories.

The Group's airborne emissions increased at the beginning of the decade. This was due to the acquisition of the paper mills in China and Canada, which use fossil fuels in their power plants. In 2003, total carbon dioxide emissions remained at the previous year's level, even though total production increased. The sulphur dioxide load decreased by 10 per cent. Emissions of volatile organic compounds have decreased markedly in the past five years.



WASTE MANAGEMENT ONE OF THE MOST IMPORTANT DEVELOPMENT AREAS

Reducing the amount of wastes and increasing utilisation are key objectives at all of UPM's mills. Most of the solid waste is ash from the power plants. Wood-based residuals generated in production, such as bark and sludges, are used mainly as biofuels in energy production. The aim is to continuously expand waste utilisation.

Industrial production always generates solid wastes. At UPM, the largest volumes of waste come from the paper and pulp processes and from energy production. Transporting waste to a landfill site is often the easiest solution and sometimes even less costly than recovery. The priority of UPM is to reduce the overall volume of wastes and increase utilisation. The aim is to encourage utilisation and new applications have been found or are in the process of development.

UPM is a major consumer of recovered paper. When excessively short or otherwise damaged fibres are removed from the pulp, so-called "deinking sludge" is all that remains. This fibrous deinking sludge is usually used as a biofuel. The ash generated from burning deinking sludge and other biofuels as well as from coal is the most significant solid waste fraction. A significant amount of waste also comes from the effluent treatment plants. Their sludge contains wood fibres and paper fillers. Many of the mills also use fibre sludge as fuel.

The treatment and utilisation of wastes vary considerably from one mill and country to another. Ash recovery is efficient, especially in Germany, France and China, where it is recycled almost 100 per cent, for example as raw material for the cement and brick industry. In Finland, the use of ash has been started in soil construction, for instance, and in the UK the utilisation of ash is still being developed.

Recovery of sludge for use other than energy production has also increased, and several projects are underway to find new ways of using these materials. Mills in Central Europe usually burn these sludges to produce energy, whereas in Finland they

are utilised, among other things, in landfill construction and landscaping.

MORE STRINGENT REQUIREMENTS FOR LANDFILL SITES

The amount of wastes taken to landfill sites has decreased considerably at many mills, but UPM's mills still conveyed approximately 234,000 tonnes of solid waste to landfills last year. The Group's paper mills have 11 landfill sites of their own: eight in Finland, one in Germany, one in Austria and one in Canada.

The EU's Landfill Directive sets certain structural requirements for industrial landfill sites that must be met in Finland by 2007 and in Germany by 2009. Similar requirements have also been set for landfills due to be decommissioned. Only some of the landfill sites owned by UPM currently meet the coming requirements. In 2003, UPM set up a working group to assess the current situation and make proposals for action.

The national interpretation of the new EU Waste Incineration Directive may also in the future have an impact on the utilisation of deinking sludge from some paper mills and production residues from the converting factories in energy generation.

WASTE MANAGEMENT IN WOOD PRODUCTS DIVISION TROUBLE FREE

Only minimal amounts of waste are generated in the Wood Products Division, as almost all the residuals such as bark, sawdust and chips are used as raw materials for the paper and pulp mills



UPM ■ CASE

WASTE BECOMES A USEFUL PRODUCT

In recent years, UPM's mills have focused considerable efforts into exploring constructive ways of using the waste arising in production. Thanks to research and trials, new applications and occasionally even entirely new products have been found. A few examples of the results of the work are presented below.

The fibre and deinking sludge, i.e. fibre clay, from the **Kaipola** and **Jämsänkoski** mills and ash from the power plants were used to raise the height of the slalom slope at the ski resort of Himosvuori. Ash was also used in the repair of gravel roads and fibre clay as covering material for the landfill.

Landfill waste at the **Miramichi** mill has decreased during the past three years by almost half, thanks to composting. The mill co-operates with a local company called Envirem Technologies Inc that produces compost from the mill's ash, fibre clay and wood waste. In summer 2003, the mill, together with Envirem and the local residents' association, donated 10 sacks of compost to each of the residents of Miramichi visiting the composting area as part of the national Communities in Bloom campaign.

At the **Shotton** mill, fibre sludge has been used in the development of cattle bedding products. Limited trials have been carried out on composting fibre and deinking sludge for soil improvement. The potential use of deinking sludge and ash in coal mining tip recovery projects has been investigated and trials are planned in 2004. A pilot project is being planned to recover the fillers in deinking sludge for reuse.

The **Schongau** mill co-operated with a chemicals manufacturer to develop a pigment containing ash from deinking sludge incineration. The ash is used to replace lime.

Chapelle Darblay will continue the Calcichap project whereby the organic residue from the deinking sludge is processed into a calciferous fertiliser for use in agriculture.



■ Fibre sludge from the Shotton mill has been used to develop animal bedding products, which are manufactured and marketed by the mill's partner EnviroSystems.

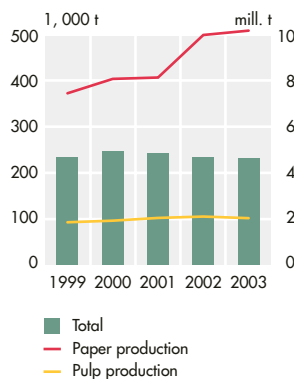
or in energy production. In compliance with their environmental targets, the mills have succeeded in reducing the amount of landfill and hazardous wastes. The plywood mills, for instance, have reduced packaging waste from incoming goods by switching to pallet recycling.

CONVERTING DIVISION AIMS TO REDUCE AND RECYCLE PRODUCTION RESIDUES

Most of the waste from the converting factories consists of residues arising in production. Often production residues containing plastic or silicon are used for energy, but new methods of recycling have been and are currently being developed. Some of the production residue ends up at landfill sites, however, because recycling systems of the converted products are still inadequate. The volume of landfill waste and the methods for treating it vary widely from country to country.

The aim of all the converting factories is to reduce the amount of residues and boost recycling. Good results have been obtained, especially at the factories located in Europe, although recycling of aluminium-containing residues at Walki Wisa's factory in Valkeakoski had to be discontinued because of technical difficulties. New options for recycling this waste are being investigated, but in the meantime it has to be removed to the landfill site.

Waste to landfills



In proportion to paper production, the amount of solid waste taken to landfill sites has decreased by a third. Efforts continue to improve the level of waste management even further.

TARGETS IN WASTE MANAGEMENT FOR 2004 AND ONWARDS

- Reduction of volume of solid waste and increase in recovery at most of the pulp and paper mills.
- Tervasaari and Pietarsaari: planning of new landfill site and permit application.
- New applications for ash reuse in Finland and the UK.
- New applications for increased deinking sludge from the Shotton mill.

UPM ■ CASE

UPM HANDLES SOIL CLEAN-UP OPERATIONS AT ITS INDUSTRIAL SITES

As a legacy from its preceding companies, UPM owns various former mill sites whose operations closed down decades ago. There are some 90 of these sites located around the world, and a number are cleaned each year to eliminate any risks to the environment. Moreover, remediation on old deposit sites and landfills of production plants still in operation is carried out every year.

The sawmills, for example, have used chemicals which, according to the information prevailing at that time, were classified as safe. UPM has cleaned up the soil at several of its former industrial sites which have been found to contain substances that are currently classified as toxic.

One of the largest projects carried out in Finland was the soil clean-up operation at the residential area of Huhmarniemi in Lappeenranta, which was implemented in co-operation with the town of Lappeenranta in summer 2003. UPM and the town of Lappeenranta came to an agreement on how the costs should be divided. No costs were incurred by the residents, who were compensated for the inconvenience and damage. A total of 30 families moved elsewhere for the duration of the work.

Huhmarniemi was once the site of a sawmill which closed down in 1959. The sawmill had used, for example, the chlorinated phenol-based biocide Ky-5, which was used to prevent blue staining, since the 1940s. In 1986, Kymi-Strömberg, one of UPM's predecessor companies, sold part of the area to Lappeenranta, which zoned it for residential use.

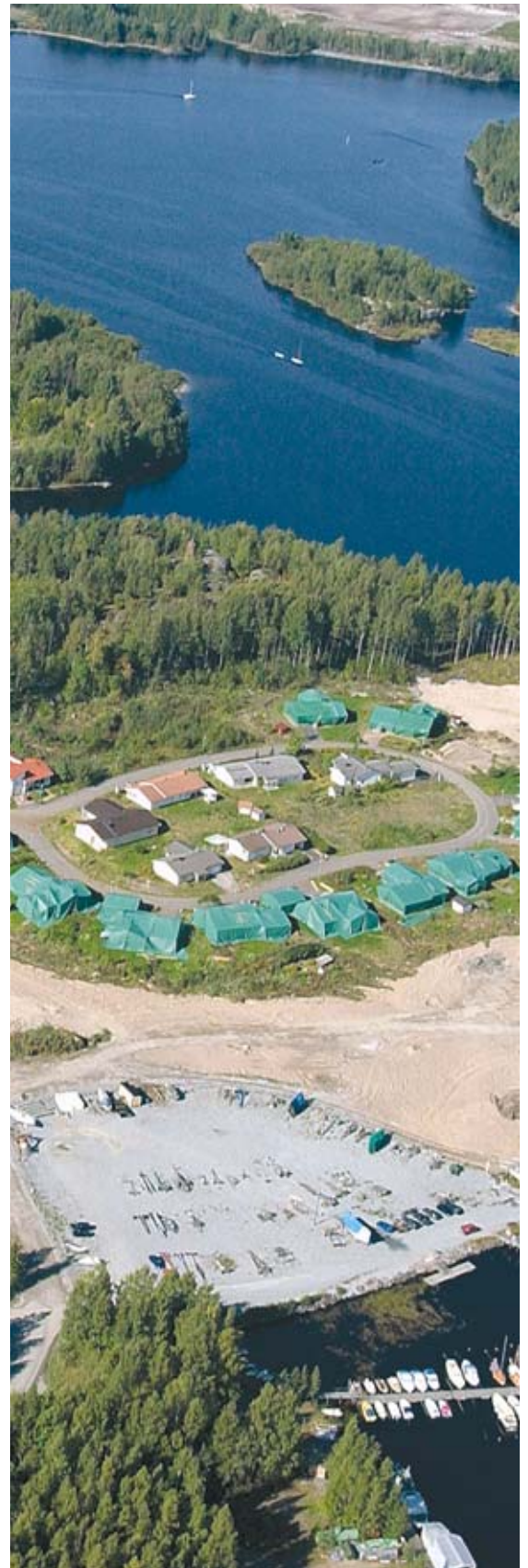
The first soil surveys were carried out in 1986 and areas contaminated with chlorinated phenol were remediated. At that time it was not yet known that chlorinated phenol containing products always contain dioxins and furans, which are classified as super toxins. New investigations at the beginning of 2000 revealed that in places dioxin and furan concentrations in the soil substantially exceeded the guideline values. Studies carried out by the National Public Health Institute found that the harmful substances in the soil do not constitute a health risk for people living in the area.

Remediation of the soil at Huhmarniemi began in summer 2003 in accordance with the plan approved by the Regional Environment Centre. In the plot areas, all the contaminated soil other than that immediately under the buildings was replaced with clean material. Contaminated soil in the park areas was also replaced. The contaminated soils, totalling about 60,000 tonnes, were removed to a special landfill site.

The residents of Huhmarniemi and the media were actively informed and they participated in discussions on remediation options. The town arranged temporary accommodation for the residents for the duration of the work. They were able to move back into their homes in December 2003.



■ The soil in the residential area of Huhmarniemi was remediated in summer 2003. The residents moved elsewhere for the duration of the work and the buildings were covered. The contaminated soil in the plot area was removed and replaced with clean soil.



TRANSPORTATION: ENVIRONMENTAL IMPACTS HARD TO MONITOR

The transportation of raw materials and finished products puts a heavy burden on the environment. The most significant impacts come from fuel derived emissions and noise. Most of UPM's transportation is handled by long-term contract partners whose operations have been audited by Group Logistics for several years.

The environmental impacts of transportation can be reduced through sensible routing and by favouring rail and ship transportation and low-emission fuels.

Partners holding long-term contracts with UPM carry out the bulk of transportation. Close co-operation allows UPM to encourage its partners, for instance, to invest in environmentally less harmful technology. For some years now, contract partners have been expected to have certified quality and environmental systems in place.

AUDITING COMPLETED WITH MOST PARTNERS

The goal is to have some 70 per cent of all transportation assignments covered by long-term partners. Group Logistics has, for several years now, audited its partners and classified them according to their quality and environmental performance. By the end of 2003, some 80 per cent of ports and shipping companies had been audited. Roughly half of the companies audited get excellent ratings for their performance.

Future audits are expected to cover social responsibility aspects as well, and discussions on the topic have been launched with partners. Group Logistics is providing the transportation assessment for Materials Management's pilot audit, which will yield information on the initial experience of broad-based auditing work (page 28).

QUALITY SYSTEM READY FOR CERTIFICATION

The Group's Logistics function has prepared a quality system complying with the ISO 9001 standard and this will be ready for certification in spring 2004. The next goal is to build worldwide environmental and occupational health and safety (OHS) systems for Group Logistics. The aim is to have an integrated management system covering all three aspects in place by the end of 2004.

The logistics function has prepared Cargo Handling Guidelines for its subcontractors containing advice and requirements for the proper handling of paper and wood products. It also addresses safety aspects. The Guidelines will be distributed to service providers early in 2004 and appropriate training will also be provided.

EXACT ENVIRONMENTAL IMPACTS HARD TO MONITOR

Finished UPM products are mostly transported in the main market areas within Central and Western Europe. A rough estimate is that some 80 per cent of mill-to-port transportation takes place by rail. Of the direct distribution deliveries from mill, port or intermediate storage to customers, trucks carry out over 80 per cent.

So far, UPM Logistics lacks a system that would keep track







NEW SYSTEM IMPROVES THE EFFICIENCY OF TIMBER HAULAGE

The Group's Forest Division in Finland has developed a new logistical system titled Kotka (Eagle) to increase the efficiency of timber haulage. Traffic congestion at mills has been reduced and the efficient use of vehicles has brought savings.

The Forest Division in Finland transports 13–14 million cubic metres of wood a year to Group and other mills. Some 77 per cent of this is carried by contract hauliers on 350 trucks.

Wood and chips are transported to some 200 destinations: mills, railway stations and shipping docks. Depending on the time of year, 5,000–7,000 truckloads of timber arrive at these stations each week. Since up to two hundred timber trucks may enter large integrated mills each day, it is clear that queues cannot be avoided. To get rid of these queues, the Forest Division started to develop a special logistics system to improve efficiency and save both costs and the environment.

From the beginning of 2001, the Kotka System has been in place to co-ordinate the division's timber haulage.

The system includes a multipoint transportation model, which means that haulages are combined whenever possible to reduce driving without cargo. The Forest Division has calculated that the system has brought fuel savings of 830,000 litres through shortened haulage distances in 2003. The savings translated into significant emission reductions: emissions of hydrocarbons went down by 974 kg, nitrogen oxides by 38,967 kg, sulphur dioxide by 21 kg and carbon monoxide by 2,533 kg.¹⁾

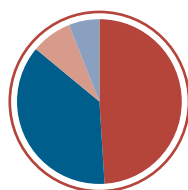
The Kotka System has also aroused interest in the United Kingdom. Staff from UPM's subsidiary Tilhill visited Finland with their haulage partners in autumn 2003 to learn about the system. Tilhill intends to develop a similar model of its own suited to the British conditions.

¹⁾ The emission figures have been calculated using the eco-calculation model by the company Metsäteho, which applies the emission coefficients estimated by the Technical Research Centre of Finland (VTT) for a timber truck driving without a load.

of total tonne-kilometrage. An important future target is to set up a system for measuring total transportation to assist in reducing transportation emissions.

The comparison of environmental impacts from various means of transportation is not a simple task. The European Union encourages companies to favour sea and rail transport. But if the trains run on diesel fuel, emissions will not fall much. On the other hand, rail transportation relieves road congestion, which has a positive impact on total emissions. Engine manufacturers assign trucks emission coefficients derived in laboratory conditions. The style of driving, however, affects the level of emissions just as much. Furthermore, the sulphur content of diesel fuels, for example, varies from one country to the next.

Quality and environmental ratings of logistics partners audited in 2003



■ Excellent (49%)
 ■ Good (37%)
 ■ Satisfactory (8%)
 ■ Poor 0%
 ■ Insufficient (6%)

UPM ■ CASE

UPM SEAWAYS CHOSE LOW-SULPHUR FUEL

In summer 2003, UPM Seaways started to use low-sulphur fuel in its two time charter vessels, mv Nordland and mv Wisaforest. The change means a reduction in the sulphur content of fuel from 1.9 to 0.9 per cent.

The still unratified Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) sets an upper limit of 1.5% for the fuel sulphur content in vessels plying the area.

The use of low-sulphur fuels means that the annual sulphur dioxide emissions from these ships will decline from 260 tonnes to 125 tonnes, and fuel consumption has also decreased. Low-sulphur fuel is more expensive than ordinary fuel, so its use has some impact on the operating costs of the vessels.

The two vessels are used in regular weekly traffic from Pietarsaari to Emden, where their primary cargo, chemical pulp, is unloaded into river barges that carry it directly to Nordland Papier's mill in Dörpen. In 2003 some 350,000 tonnes of pulp, paper and sawn goods were transported, and the volumes are still rising. Return freight to Finland consists of wood or kaolin for the UPM mills.

The availability of low-sulphur fuel is still limited and so UPM Seaways had to ensure its steady flow before the final decision.

Efficient transportation with a full return cargo and the adoption of low-sulphur fuel support UPM Seaways' goals of improved environmental performance. UPM Seaways has a certified environmental management system.

TARGETS IN 2004 AND ONWARDS

- To acquire certification of the quality, environmental and OHS management system in 2004.
- To develop computation models for transportation and emission volumes.
- To extend contract partner auditing to cover social responsibility aspects.



■ The vessels mv Nordland and mv Wisaforest sailing between Pietarsaari and Emden use low-sulphur fuel. The sulphur content is well below the upper limit proposed by the Convention on the Protection of the Marine Environment of the Baltic Sea Area.



PEOPLE AND SOCIETY



A responsible approach to business activities in UPM means concisely that the company operates profitably without compromising the well-being of people or the environment.

A considerable number of people throughout the world are within the company's sphere of influence.

Responsibility is measured, among other things, by how the company acts in relation to its personnel and the surrounding society it affects in many ways.

UPM'S CORPORATE CULTURE ENCOURAGES INITIATIVE

On account of the Group's general savings targets, hardly any new personnel were employed in 2003.

Some of the mills have reported personnel cutbacks. Special areas selected for development in UPM's human resources policy were promotion of equal opportunity and improvement of occupational health and safety. International career rotation in the Group has increased.

The management of human resources at UPM is based on the company's values, which are openness, trust and initiative. UPM aims at a corporate culture which respects the individual and is conducive to creativity and initiative, and where the success of the company and its personnel is seen as a common goal.

The company complies with international, national and local regulations and agreements. In the event that these prove to be insufficient or open to various interpretations, the company acts in accordance with its operating principles and best practices.

At the end of 2003, there were 34,482 people in UPM's employ. The number of personnel decreased somewhat compared with the previous year as, due to the company's cost savings, almost no new personnel were recruited. The situation is expected to normalise, however, during 2004.

In Finland, the Finnish Paperworkers' Union, to which most of UPM's pulp and paper mill employees belong, organised a day-long demonstration in protest against the personnel cutbacks implemented and planned by the forest industry. A total of 6,300 working days were lost due to strikes most of which were in Finland.

INTERNATIONAL CAREER ROTATION INCREASED

The average age of the employees is high, especially in Finland and France. Preparation for the retirement of the so-called 'large age groups' has been made by drafting successor plans and ensuring that diverse experience in a variety of tasks is accumulated. UPM has improved career rotation, particularly in the case of young people.

During 2003, more employees than ever before relocated from one country to another. Another factor besides career planning contributing to this trend is the internationalisation of the company's business.

Mill workers were also actively involved in international trainee exchange programmes. For example, a number of students from the Group's industrial institutes and employees from the mills in Finland worked in the investment project at the Shotton mill. Correspondingly, trainees from our mills in various parts of the world have come to Finland.

The company has also schemes to promote international hands-on-training for university students. Recently graduated, able young people are selected to participate in the International Development Programme, or IDP. The year-long training programme includes periods of work in a range of various tasks. One stage of the training is always held at a UPM mill in another country.

The InternShip programme provides university students with summer jobs where they can obtain some idea of what the company is like. If a student has previously had a summer job at one of UPM's mills, he or she can apply for summer work in another country the following year.

ATTENTION CALLED TO PROMOTION OF EQUALITY

The promotion of equality has been chosen as one of the areas for development at UPM, with focus on improving equal opportunity between women and men.

The first woman was appointed to the Board of Directors in 2001, and the Group's Executive Team got its first female member



UPM ■ CASE

PERSONNEL CUTBACKS SOMETIMES UNAVOIDABLE

During 2003, UPM announced cuts in personnel at its Kajaani, Voikkaa, Steyrermühl and Blandin mills. Why would a profitable company reduce its staff?

"The paper markets are not growing as fast as before and product prices are falling steadily. We must constantly develop our activities and keep a tight rein on costs. It is wrong to claim that we do not feel any social responsibility because we are downsizing our personnel. Only by continuously taking care of costs and efficiency can we ensure that we are able to provide employment in the future, too," says Harald Finne, Executive Vice President, Human Resources.

"It is a normal part of development for old machines, which are no longer worth repairing, to be taken out of production. This is the case at the Voikkaa and Blandin mills, while at Kajaani and Steyrermühl work is being done to increase the efficiency of the mills. Technology and working methods have developed to the extent that fewer employees are needed in basic production. The need for physical labour seems to be decreasing all the time, but new jobs are springing up elsewhere, for example in maintenance, product development and marketing."

In compliance with UPM's principles, negotiations on personnel cuts are conducted at the local level between mill management and employees. "Our approach is the desire to carry out cutbacks as compassionately as possible, using retirement solutions, for example. This is possible in Finland, where the social security system is set up to enable such an option," Finne explains.

The **Steyrermühl** mill began a programme in 2003 to improve cost efficiency. The plans include closure of a groundwood plant and improving efficiency in all the departments. Through these measures, the number of employees will decrease by about a hundred by 2007.

Negotiations on this have been conducted between mill management and representatives of the employees in an open and constructive atmosphere. The relevant parties signed an agreement on the various procedures in November. In accordance with UPM's principles, every effort is made to avoid redundancies and employees transferring to new positions are supported through training. Furthermore, full- or part-time retirement is used whenever possible. Those employees for whom no other solution can be found and who will have to leave the company will be provided with severance pay in accordance with Austrian legislation. This arrangement will affect no more than 30 employees.

The **Voikkaa** mill's old paper machine dating from 1936 will be shut down at the end of April 2004. Around the same time, the mill's old groundwood plant will discontinue operations. This will mean that the number of employees will decrease by about 160. It has been possible to prepare for the coming situation in agreement with the personnel over a long period of time. The mill has exercised caution in recruitment and personnel arrangements have been made with the shut-down of the machine in mind.

Because of the age structure of the personnel at Voikkaa, many employees have the opportunity to take advantage of the so-called "unemployment pension tube" enabled by Finnish social security legislation. In practice, this means that when employees are laid off they become unemployed jobseekers, and thus available for the labour market. After a certain period of unemployment, they are entitled to receive a pension at the age of 60. Voikkaa has increased co-operation with the Group's other units in Finland and elsewhere in anticipation of employee interest in relocation. The basic principle is to ensure job security for permanent staff.

The **Kajaani** mill has begun a productivity development programme, lasting until 2007, aimed at securing the mill's competitiveness. The programme consists of a wide range of elements, including investments to improve production efficiency. According to the initial target, the plan is to cut the number of employees by 148 by 2007. The mill will make every effort to employ solutions that are both flexible and respect the individual.

The mill aims to manage without having to terminate employment contracts for "production and financial reasons". There are a considerable number of employees at Kajaani who will be able to move to the unemployment pension "tube" or retire. The mill expects to achieve the target through natural attrition. People will also be motivated to consider career rotation within the business unit.

The **Blandin** mill decided to close the paper machines built in 1931 and 1963. The decision affected some 300 people, some of whom have been offered recall. A large number of the employees laid off have taken advantage of the mill's tuition reimbursement and enrolled in university. The mill has been working closely with various authorities in Minnesota and with local colleges. A number of these have organised special courses that run all year long so employees can complete them faster.



at the beginning of 2004. Two female directors report to the President and CEO.

Human Resources started a project in 2003, which initially assessed the equal opportunity situation throughout the Group. Generally speaking, there is considerable room for improvement and there are wide differences in the countries in which the company has operations. Based on the survey, there are various impediments to the realisation of equality starting from prejudice and training systems to employment legislation and lack of staff facilities.

The aim of the project is to put the clause concerning equality in the Group's Human Resources policy into practice. For example, based on the responses, a list of issues that UPM should address to promote the realisation of equality has been drawn up. The plans include concrete proposals for action to remedy the main shortcomings. The Group's Human Resources department will monitor the fulfilment of these goals.

REACHING GOALS THROUGH PERSONAL PERFORMANCE REVIEWS

The one-on-one Personal Performance Reviews (PPRs) between supervisor and subordinate are among the basic pillars of UPM's management practice. The aim of these discussions is to implement the Group's strategy by breaking it down into specific targets for each function and individual. Another important objective is to support continuous personal development based on the needs of the business.

The PPRs are intended for every employee working for the Group. Group discussions are used in the review of employees at the mills.

According to the feedback, the performance reviews have been very well received and after a little initial practice they went even more smoothly. In some countries PPRs have been held for a number of years already, while in others they have been started more cautiously. The aim is to hold PPRs twice a year during 2004.

SURVEYS HELPFUL IN IMPROVING OPERATIONS

Since 1997, UPM has appraised the working atmosphere and assessed local development areas through regular opinion surveys. Some of them have been conducted using a tool developed by UPM called the Human Potential Index (HUPO). An index num-

ber is calculated on the basis of the results of the surveys. Using the HUPO index it has been possible to show that there is a clear correlation between fluctuations in economic performance in the units and the results of opinion surveys.

The surveys provide help in improving operations and promote well-being at work. The units analyse the results with the personnel groups and make plans to remedy any problems detected.

EMPLOYEE PARTICIPATION

Employees at UPM-Kymmene are encouraged to participate in the company's decision making in accordance with international and national legislation. An important form of co-operation at UPM is the management team work at the mills.

The European co-operation body, the UPM European Forum, which has operated since 1996, meets twice annually chaired by the President and CEO or his deputy. Representatives of all employee groups from UPM's operations in Europe convene to participate in the Forum.

NEW IDEAS THROUGH AN INNOVATION CONTEST

In 2003, UPM organised its second innovation contest for employees. The purpose of the contest is to promote initiative and develop innovation processes within the whole Group. There are different categories in the competition, which are based on UPM's various key success factors.

By the end of the year, a record number of 1,120 new ideas and initiatives had been submitted to the organisers. Last time, the number of ideas was 450. All ideas and innovations are first processed at the local level and finally those chosen are submitted to the Grand Jury for evaluation. The results of the contest will be announced and the prizes awarded in April 2004. The best innovation in each category will be awarded a prize of 10,000 euros.

TARGETS IN 2004 AND ONWARDS

- Promotion of equal opportunity between men and women.
- Development of indicators relating to HR issues and data collection.

Personnel by country at end of year

	2003	2002	2001
Finland	19,401	19,873	20,642
Germany	4,333	4,385	4,411
UK	1,960	2,001	2,030
France	1,771	2,032	2,170
Austria	712	737	721
Russia	660	571	514
Ireland	345	315	283
Spain	272	255	193
Danmark	234	233	241
Estonia	173	22	21
Netherlands	169	185	196
Italy	81	65	61
Belgium	66	128	139
Sweden	62	69	77
Poland	50	53	51
Portugal	7	88	73
Other Europe	73	71	82
USA	1,526	1,968	1,915
Canada	1,414	1,449	1,473
China	834	772	726
Malaysia	126	103	89
Australia	96	90	80
South Africa	78	73	74
Rest of the world	39	41	36
Total	34,482	35,579	36,298

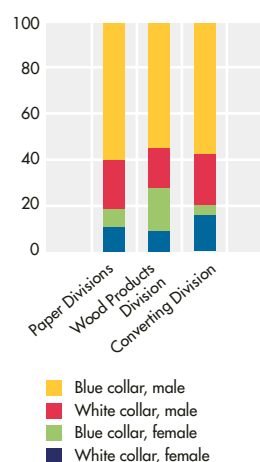
INDICATORS TO MONITOR THE FULFILMENT OF CORPORATE RESPONSIBILITY

In the UK, a project has been started with a view to developing practical indicators to monitor the fulfilment of corporate responsibility in the Group. This pilot project will assess aspects included in UPM's policies on Environmental, Social Responsibility, Human Resources, and Occupational Health and Safety. UPM's paper mills in the UK, the Wood Products Division and the wood procurement company Tilhill are included in the project. The aim is to apply the lessons learned elsewhere in the Group, once the project is completed.

First, a personnel survey will be conducted to assess how the different aspects of the policies have been managed within the Group. The associated risks and opportunities will also be included. A sample survey of external stakeholders, such as customers, subcontractors, representatives of local communities, relevant authorities and non-governmental organisations will also be conducted.

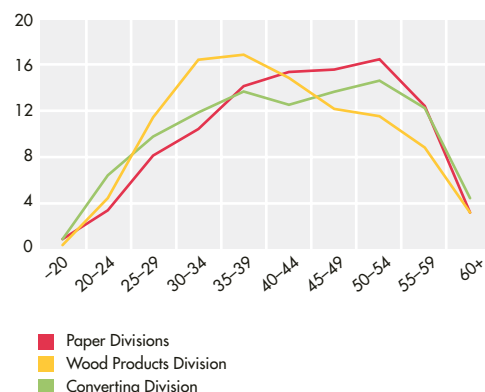
Based on the results of the survey the Group will define the objectives and indicators by means of which fulfilment of the objectives can be monitored. The aim is to develop preliminary indicators during 2004.

Personnel gender distribution in 2003, %*



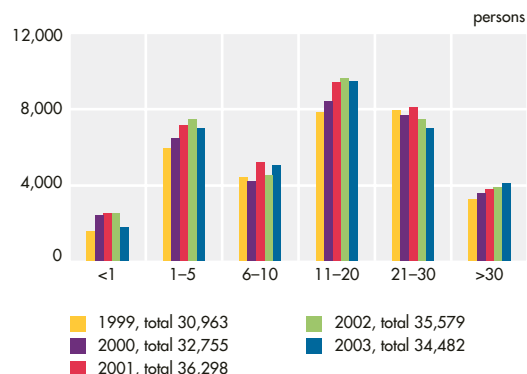
* The figures cover 94 per cent of the personnel, status at the end of the year

Age structure of Group personnel by age group, %*



* The figures cover 94 per cent of the personnel, status at the end of the year

Employees' years of service with UPM



UPM'S GOAL: TO BE THE SAFEST WORKPLACE IN THE INDUSTRY

In matters concerning occupational health and safety (OHS) UPM observes international, national and local laws, regulations and agreements. The cornerstone of the Group's Occupational Health and Safety Policy is responsibility for the personnel's physical, mental and social well-being.

The overall objective of OHS work is to ensure that the personnel does not suffer from work-related diseases or injuries while working for UPM or during retirement. UPM aims to be the safest workplace in the industry.

The Group's OHS policy was approved by UPM's Board of Directors in 2002. Most of the mills already have in place or are working on OHSAS 18001-based occupational health and safety specifications. The main focus of occupational safety training is on risk management, induction training and guidance. Recognising the dangers and assessing the risks at one's own workplace play a central role in safety at work.

During five years the number of accidents throughout the whole Group in relation to the number of hours worked has fallen somewhat. Absences due to accidents at work have remained more or less at the same level.

The positive trend in accidents is mainly due to systematic labour protection work and more effective recognition of dangers and risk assessment.

RISING TREND IN ABSENCES IN FINLAND

Absences from work due to sickness have risen slowly but steadily. The trend in absences due to sickness in the Group seems to be worse in Finland than elsewhere. Compared with

the paper industry in Finland in general, however, UPM has fewer absences than other companies. Within UPM the situation varies considerably between different mills. Some mills have made excellent progress in reducing both accidents at work and absences due to sickness.

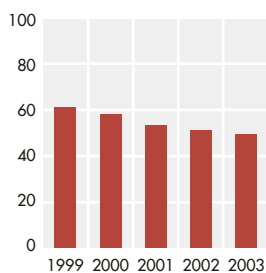
UPM's Executive Team want a strengthened commitment to OHS issues among the Group's executives. For this reason OHS has been made part of the rewards system through which supervisors are encouraged to improve OHS. As a further measure the division of responsibility among management has been defined in more detail. There are also plans for campaigns to support the Group's OHS policy.

THE MISSION: TO INCREASE WELL-BEING AT WORK

The Group has developed its own programme for ageing employees, especially at the Finnish mills. This programme is intended to help older employees to cope at work and to postpone retirement until later. During 2003, due to general savings targets, the programme has not been continued at full scale.

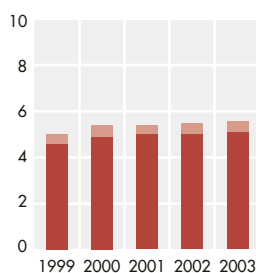
The overall aim is to increase the well-being of the whole working community, which in turn will make working life better for employees of all ages. General well-being at work helps to reduce absences due to both sickness and accidents.

Accident rate, blue collar workers 1999–2003*



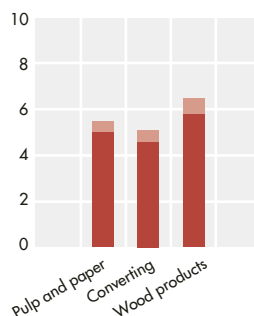
* accidents, resulting in one or more days lost, per million hours of work

Absence, blue collar workers (in % of regular contracted hours)



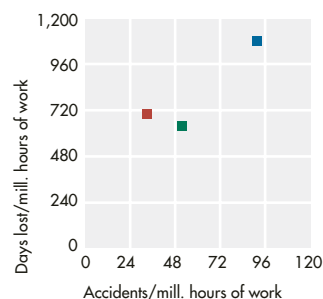
■ Accidents at work
■ Sickness

Absence by division 2003, blue collar workers (in % of regular contracted hours)



■ Accidents at work
■ Sickness

Days lost rate vs. accident rate in 2003



■ Pulp and paper
■ Converting
■ Wood products

The figures cover 89 % of UPM's employees

OCCUPATIONAL SAFETY CARD FOR SUBCONTRACTORS

In Finland, UPM has been actively involved in developing an Occupational Safety Card, to be required from subcontractors. From the beginning of 2005, only maintenance subcontractors who have received OHS training will be employed by UPM's mills.

Major projects under way, such as the modernisation of the Wisapulp chemical pulp mill in Pietarsaari have gone well as far as occupational safety is concerned. The set targets have been met and there have been no serious accidents, even though there were 900 subcontractors' employees working on the site at maximum.

SERIOUS ACCIDENTS

In 2003 one fatal accident occurred to a member of the Group's own personnel in Finland and one to a subcontractor's employee in Russia.

In January 2004 at the Halla harbour in Kotka, two sailors died from lack of oxygen while fetching supplies from the ship's hold before unloading had begun. UPM Seaways had chartered the vessel for a cargo of chips and wood. There are international regulations for preventing accidents with such loads, and the crew was acting under the directions and supervision of the ships' officers and on their responsibility.

TARGETS FOR 2004 AND ONWARDS

- To take measures to improve the trend at those mills where there has been unfavourable development in the number of accidents and absences due to sickness.
- To include OHS issues in the personal performance review targets at all levels of the organisation.
- To develop reporting so that senior management can actively follow progress in OHS.

OCCUPATIONAL SAFETY PROJECT IN RUSSIA

UPM is participating in a project in Russia aimed at improving forest workers' knowledge of occupational safety. The project is being implemented among subcontractors who supply wood from Russia to UPM. The initiative came from a German customer of UPM.

UPM is drawing up a suppliers' manual for imported wood suppliers, covering many aspects of OHS. In addition, during 2003 two two-day training sessions were held for forest workers, one in Lappeenranta, Finland, and Svetogorsk, Russia and the other in Vologda, Russia.

Representatives of 10 different wood harvesting companies were present, about 40 people altogether.

These training sessions will be continued and the number of participants will be increased.

UPM ■ CASE

EMPLOYEE ASSISTANCE PROGRAM HELPS THE WHOLE FAMILY

For a number of years, the Miramichi mill has had a workplace help service for employees and their families. It is called the Employee Assistance Program, or EAP. Workplace assistance programs are widely used in companies throughout North America.

Through the EAP employees can access counselling for just about any problematic situation in life – from divorce to financial difficulties. There are many types of EAPs at Miramichi. For example, peer programs with employees trained to act as crisis counsellors. Fellow employees are trained as referral agents, who are familiar with all the community resources available and know how to guide the employee to the proper resource for help. The mill also has a contract with a local family counselling agency to which employees can go for professional help either alone or with their whole family. The service is based on complete confidentiality and the names of clients are never reported to the employer.

Studies have shown that two out of three workplace problems, such as accidents and absenteeism, can be traced to an employee's personal life. Across Canada, EAPs have proven their worth in increased productivity and improved safety and, above all, in a better quality of life for employees and their families.

In Finland, EAPs have been introduced on a trial basis in Kuusankoski at the company's Kymi and Voikkaa mills. It has been jointly agreed with personnel groups that it is worth while to test the suitability of the EAP for Finnish personnel.



■ The Belozero wood harvesting company is one of UPM's partners in Russia. The picture shows the company's head engineer Sergei A. Tobolkin (left) and loggers Aleksei Zagamnov and Nikolai Smirnov.

CAREER-LONG PROFESSIONAL DEVELOPMENT

UPM places emphasis on maintaining and developing individual professional skills. The Group invests in people who are committed to the company and want to develop both themselves and the organisation. The aim is to provide first-class training opportunities for everyone at UPM.



The vocational training provided by the Group has traditionally been of a very high standard. At its two industrial institutes in Finland, basic training is provided for various tasks in the paper-making industry.

UPM has been a pioneer in developing e-learning tools, which are already in widespread use. The Changshu Industrial Secondary Vocational School is running the UPM Paper Maker training programme using the multimedia system developed by UPM. There are about a hundred students enrolled in the paper maker programme, who do their practical training at the UPM mill and who will in due course provide crews for the paper machine under construction.

Vocational training at UPM is increasingly based on vocational qualifications. The requirements for various vacancies are well defined and the objective is that the young recruit from a vocational school should be able to advance step by step towards a vocational diploma. In the future UPM's vocational qualifica-

tion system is to be developed to cover the whole Group and all sectors.

In Finland, vocational training also involves tasks that will ensure the transfer of "tacit knowledge" to young workers as the large age groups retire. As part of their traineeships, young people are given tasks such as interviewing older workers about work methods. The results are written up and knowledge is passed on.

EXECUTIVE TRAINING FOCUSES ON LEADERSHIP

The number of participants in the Leadership Academy targeted at the Group's senior executives was close to 250. The programme will continue with the Leadership School starting in spring 2004, which aims to provide support for future leaders in developing their leadership skills and in career advancement.

NATURE MANAGEMENT QUALIFICATION FOR FOREST PROFESSIONALS

A qualification in nature management provides those working in forestry with the latest information on issues such as environmental legislation, ecologically valuable habitats and the responsibilities of forest owners and harvesters.

At UPM's Forest Division in Finland there has been great interest in the qualification. By the end of 2003 most of the Forest Division's office staff and about half of the forest workers had passed the exam. In addition about half of the forest machine subcontractors have also taken the qualification. It is planned that all those working for the Forest Division as well as subcontractors who need the knowledge and skills given by the qualification will have taken it by the end of 2005.

Training for the nature management qualification is arranged by the Forest Centres, forestry colleges and institutes and UPM's Forest Division, both separately and in co-operation. The actual exam for the qualification is held by the Forest Centres. UPM pays the course and examination fees for its own personnel and subcontractors. The extent of the course is 3–4 credits.



Forest machine contractor Harri Nykänen (left) and operator Jarmo Pouru, both subcontractors for UPM, took the nature management exam in summer 2003. "The qualification has given us more confidence in recognising valuable habitats, even though a thick covering of snow doesn't make things any easier," they say.

SCHOLARSHIPS FOR DEVELOPING COUNTRIES

Employees of UPM's mills operating in developing countries can apply for scholarships to ensure their children's basic education in cases where this would otherwise cause the family an unreasonable financial burden. UPM's Executive Board has approved an internal guidelines on the matter.

UPM ■ CASE

NEW TRAINING CONCEPT STRENGTHENS COMPETENCIES RIGHT DOWN THE LINE AT BLANDIN

The Blandin mill has begun to train paper makers using a new concept that combines practical training, simulator training, self-study and traditional classroom teaching. The model was tailored specifically for the needs of the Blandin mill and local practices.

The training focuses especially on the mastery of concepts and in-depth knowledge of the entire paper making process. The training model was developed by the HR department in Finland but the instructors are Blandin's own personnel and external partners.

The educational background of the paper makers at Blandin mill is extremely varied and is often based on self-study and on-the-job learning. In Finland UPM has for many years been using and developing a training model based on understanding of the whole paper machine line operation by alternating periods of theory and practice. With this effective model the entire production operation can be simulated. For example, a person working in finishing learns how various paper properties are determined already at the wet end of the machine and what factors they can influence in their own work.

The Blandin model was developed specifically for local conditions right down to the terms used at the mill and the mill's own machines. Each trainee has a personal study programme worked out for him or her, including that person's own development targets. The training can easily be organised individually and at suitable times.

In the videos relating to the simulator, special attention has been given to safe working practices. For example, experienced operators demonstrate how to change the wire in the safest possible way and explain why it is done this way.

Other UPM mills are also interested in the training model. With minor modifications it can be applied at other sites, too.



In 2004 about 50 supervisors and experts will participate in the Leadership School.

In addition, UPM organises open leadership seminars that supervisors can attend according to their own development needs.

CO-OPERATION WITH EDUCATION

UPM keeps up good relations with schools and universities in order to guarantee the most talented workforce for the Group. Together with the vocational institutes UPM also tries to ensure that the Group's needs are catered for in their curricula.

Hundreds of diploma projects have been completed by students for UPM each year. In 2003, for the first time in Finland, UPM organised a competition in which the best work in three different series were awarded prizes. In this way the Group wants to improve the standard of vocational diploma projects and recruit the best performers for UPM. The competition will continue annually.

More than 10 per cent of the training sessions organised in 2003 were related to occupational safety and health. Other themes included information systems, quality systems, language teaching, supervisor work and environment.

TARGETS IN 2004 AND ONWARDS

THE WHOLE GROUP

- To develop the e-learning environment for worldwide use.
- To introduce a systematic vocational qualification scheme.
- To inventory the key vocational competencies in the Group.

FINLAND

- To develop the quality of the basic vocational training provided by the Group.
- To measure the results of vocational training.
- To develop leadership training.

CULTURAL HERITAGE AND SPONSORSHIPS

At Group level UPM has chosen a few projects where it is the key sponsor. UPM's mills have traditionally sponsored local sports and cultural activities as well as co-operated with schools in the local community. The company's substantial cultural heritage includes mill museums, an extensive art collection and historical archives as well as a number of architecturally noteworthy buildings.

Compliance with Group sponsoring and donations principles is monitored by the company's cultural and image committee. The principles are that sponsorships should be directed towards long-term, goal-oriented activities, focusing on a few projects where the company is either the key sponsor or one of the key sponsors. UPM does not participate in projects whose image conflicts with the company's goals. Besides actual sponsorships, UPM also makes non-profit donations and gives support to projects for the public benefit.

In 2003, the Group spent a total of EUR 2.5 million on sponsorships, donations and other contributions.

The mills in various locations participate as they see fit in supporting local projects. The targets are very often sports clubs, cultural events and charity organisations. Also of special importance is co-operation with educational institutions, of which there are numerous examples at nearly every mill. Co-operation with elementary schools is often related to projects dealing with environmental issues.

GROUP'S MAIN FOCUS ON CULTURAL PROJECTS

Of the sponsorship projects at present under way, the most important are the Lahti Symphony Orchestra, the football club FC Haka and the Periodicals Training Council. The last-mentioned is a training and development unit in the UK that offers further education to magazine publishing professionals.

UPM is one of the two key sponsors of the Lahti Symphony Orchestra. Under its conductor, Osmo Vänskä, the orchestra has

become one of the most prominent orchestras in the Nordic countries. Its home base, the Sibelius Hall in Lahti, is one of the world's biggest wood-built concert halls, and many products were supplied by UPM's Wood Products Division for use in its building and interior construction.

MILL MUSEUMS AND AN ART COLLECTION

UPM's cultural heritage includes five museums, maintained by the company either alone or in co-operation with other organisations. Four of these museums are in Finland and one is in Austria. Of the Finnish museums the most significant one is the old Verla groundwood plant and board mill founded in 1872, which had more than 20,000 visitors in 2003. The whole Verla industrial site was added to the esteemed UNESCO World Heritage List in 1996.

The Steyermühl mill in Austria also incorporates a large industrial museum, maintained in co-operation with the local community and other enterprises in the area. The museum presents the history of paper making and book printing. UPM has also taken a commitment to maintain the paper products museum of the Myllysaari Museum Foundation in Valkeakoski. In Pietarsaari, western Finland, an old mill has been converted into a museum known as the Chicory Museum and at Lappeenranta, eastern Finland, there is a local industrial museum at the Kaukas mill site.

UPM owns an art collection of almost 2,400 works accumulated as a legacy from its predecessors. Works of modern art



UPM ■ CASE

PAST AND PRESENT MEET AT MINNESOTA FOREST HISTORY CENTER

The Forest History Center operates in Minnesota, close to Grand Rapids. This is a place where the visitor can learn about the forest and forestry in the past and present. The Center provides information, for example, on the economic significance of forests. The Blandin mill co-operates with the Forest History Center in various ways, for example by supporting the organising of school visits. The Forest History Center operates under the Minnesota Historical Society.

The Center owns a forest area of about 150 acres (some 60 hectares) on the banks of the Mississippi, representing almost all the forest biotopes typical of North Minnesota. The area was acquired from the Blandin mill in 1977, the Forest History Center was opened the next year and so far more than half a million people have visited the Center.

The site has facilities for exhibitions and teaching, providing opportunities to present and study the history of forestry and also modern forest management practices. A loggers' camp from about the year 1900 has also been reconstructed at the site with typical log structures of the time, from the loggers' living quarters to stables and a blacksmith's forge. In addition you can see a forest ranger's log cabin from the year 1930 and a fire tower. The period costumes worn by the guides bring the history to life.

There are three nature trails of four miles altogether, presenting Minnesota's forestry and recognition of tree species. They are open to visitors year round.

The Blandin mill has been involved in drafting a development plan for the Forest History Center. The idea is to increase visitors' knowledge of how significant a contribution the forest makes to the state of Minnesota in terms of economy, environment and recreation, in fact the quality of life in general.

from the 21st century have recently been added to the collection. Part of the art collection is on display to personnel and visitors in the offices and reception areas of mills around Finland and at the Head Office in Helsinki. The significant works of contemporary art owned by the Haindl mills were also added to the collection in 2002.

SIGNIFICANT HISTORICAL ARCHIVES

UPM has extensive and historical central archives at Kuusankoski and Valkeakoski. The mills' own archives are gradually being transferred to these. The oldest documents are 16th century deeds relating to the company's property. In addition to written documents the archives contain some half a million photographs.

The historical archives are open to researchers and company employees. In 2003, 183 visits by researchers were recorded and 650 enquiries were received from within the company.



■ The Blandin mill supports the Forest History Center in Minnesota. The Center is visited by many school groups, who learn about forestry and working methods in the past and present.

TARGETS IN 2004 AND ONWARDS

- To draw up Group guidelines on donations and sponsorship.
- To develop data collection relating to donations and sponsorship.
- To promote co-operation between the museums.

NEW USE FOR FORMER MILL SITES

Besides forests, UPM's extensive land holdings include areas that are suitable for planning purposes. The present UPM was formed from the mergers of a number of forest companies. Over the years, plants have been closed down and their sites left empty. In many cases, these mill sites are located close to watercourses, virtually in town centres.

UPM, Forest's forestry and land use unit in co-operation with the towns in question has restored several of these disused industrial sites to better serve the needs of the surrounding communities by building residential areas on them. UPM's principle is to ensure that the areas are built on a socially and economically sustainable basis. The aim is to achieve a demographic structure that is approximately in line with the national average.

At locations zoned as residential areas UPM handles soil clean-up operations and participates in the construction of public areas, including roads, parks and bridges. (More about soil issues on page 47).

Most of these old, disused industrial sites owned by the Group are located in Finland. Major developments are under way in Pikisaari, Lappeenranta; Ruoriniemi, Lahti; Penttilä, Joensuu and Lutakko, Jyväskylä.

TARGETS IN 2004 AND ONWARDS

- Further planning of Jyväskylä's Lutakko and Lappeenranta's Pikisaari projects based on resident surveys.
- New planning undertakings based on the results of Land Use's planning project.
- Continuation of exchanges and sales of forest areas included in conservation programmes to the state.

NEW TOWN AREA ON OLD MILL SITE

A completely new part of town called Lutakko is rising on the site of UPM's former sawmill and plywood factory in Jyväskylä. Approximately 3,000 apartments will be built on the 40 hectare area, which has a permitted building volume totalling 220,000 square metres. The area is expected to be ready in about ten years and will accommodate a maximum of 5,000 residents.

The population of Jyväskylä is growing and, since it is a university town, it attracts new inhabitants – particularly students – from the surrounding provinces. Both owner-occupied and rental housing will be built in Lutakko. Considerable attention is being paid to townscape and architecture. The area has a number of old, protected factory buildings, which make it a more congenial place in which to live.

"We are building a balanced range of housing – both privately financed owner-occupied and rental accommodation – which means that the social structure of the area will remain diverse," says Vesa Moisio, UPM's Director of Forestry and Land Use.

A neighbourhood association has been set up and UPM regularly visits their meetings to report on the project's progress. A magazine is published, too, which gives the residents of the area and other townspeople information about further plans.

"We care about how Lutakko turns out. We want it to contribute to the urban structure of Jyväskylä and be of a high architectural standard."



ENVIRONMENTAL POLICY

UPM-Kymmene recognises the sustainable use of natural resources and environmental protection and management as a true prerequisite for sustainable economic growth, as well as for the well-being of people and society. In all parts of our activity, we aim to minimize the burden on nature and the environment, whether through direct or indirect effects, as far as raw material, production or other parts of products' life cycle are concerned.

ENVIRONMENTAL PROTECTION AND ORGANISATION

Corporate governance and leadership are based on the company values of openness, trust and initiative. To take responsibility for all business decisions and actions is a prerequisite for a competitive and profitable business.

Environmental care is an integral part of this responsibility. This policy is implemented throughout the company at all levels and activities.

All business units on divisional and operational levels are responsible for ensuring that both targets set within the Group and statutory regulations and other obligations laid down by relevant organisations are met. Management systems in accordance with relevant international standards are used whenever applicable.

OUR PEOPLE – A KEY RESOURCE

Environmental affairs are an inherent part of the work of our employees.

They are given both professional and general training in environmental matters. The aim is to develop everyone's ability to understand the general debate on environmental matters and readiness to take part in it, both in and out of work.

PRODUCTION AND SUPPORTING OPERATIONS

Competitiveness in quality and costs are important factors when developing our products and their production processes. In addition, important objectives are the efficient use of raw materials and energy, the recyclability of our products as raw material, and the possibility to utilise our products and by-products for their energy content or other end-use.

The majority of UPM-Kymmene's production is based on a renewable resource, wood. The Group is committed to forest management and forest harvesting practices based on the principles of sustainable development.

Our aim is to minimise the environmental load of the whole production chain. Best available techniques (BAT) and measures are used when changing and renewing production processes.

COMMUNICATION

UPM-Kymmene communicates environment related matters with its stakeholders in a reliable, open and timely manner. Communications are carried out using different media according to the needs of the target group.

DEVELOPMENT

Environmental legislation, stakeholders' expectations, and know-how on best available techniques will continue to develop. UPM-Kymmene will take account of these developments in its own operations.

The Group will actively encourage its partners to carry out their businesses in an environmentally responsible manner.

The Board of Directors of UPM-Kymmene Corporation has approved the Environmental policy on 18 September 2002.

CORPORATE SOCIAL RESPONSIBILITY POLICY

The well-being of people and society is recognised to be the goal of sustainable economic growth.

Corporate governance and management in UPM-Kymmene is based on the company's values – openness, trust and initiative – and on the general principles of sustainable development, which emphasise the integration of economic, social and ecological goals in business activities. Responsible business practices are essential for ensuring competitive performance and profitability.

UPM-Kymmene is a worldwide, European based company that operates in different cultures and values cultural diversity. The company complies with international, national and local rules and regulations and international agreements. In the event that these prove to be insufficient or open to various interpretations, the company acts in accordance with its operating principles and best practices.

STAKEHOLDERS

The company engages its various stakeholder groups through communication and dialogue. Stakeholder relationships are conducted with integrity, fairness and confidentiality.

Employee well-being and motivation are essential for UPM-Kymmene. The company provides opportunities for development and encourages a leadership culture that supports its values.

UPM-Kymmene supports the right to freedom of association and collective bargaining and does not tolerate the use of forced or child labour.

UPM-Kymmene aims at providing a healthy and safe working environment.

UPM-Kymmene products are safe throughout their whole life-cycle when used correctly.

UPM-Kymmene fulfils all its national and local legal and financial re-

sponsibilities and it supports the development of the local community where it has business operations. The company does not tolerate corruption or bribery in its operations. The company or an employee of the company should not be involved in business relationships which may lead to a conflict of interest.

IMPLEMENTATION

This policy is implemented throughout the organisation at all levels and activities. The company is committed to the continuous improvement of its performance regarding the Corporate Social Responsibility policy by developing the necessary monitoring, controlling and reporting processes and procedures.

The company encourages its business partners to implement responsible practices which are consistent with UPM-Kymmene's Corporate Social Responsibility policy.

The Board of Directors of UPM-Kymmene Corporation has approved the Corporate Social Responsibility policy on 19 March, 2002.

CORPORATE SOCIAL RESPONSIBILITY POLICY, GLOSSARY

The aim of this glossary is to explain the meaning of some of the terms used in the Corporate Social Responsibility Policy document. It should be noted that the meaning of the terms may vary depending on e.g. the reader's cultural background.

CORPORATE SOCIAL RESPONSIBILITY (CSR)

Corporate Responsibility consists of three pillars: economic, environmental and social responsibility. Corporate Social Responsibility, or CSR, deals with the company's responsibility towards its employees, society and the other stakeholder groups of the company.

COMPANY VALUES

Openness in the workplace creates *trust* between people, which in turn leads to greater *initiative*.

Legislation and competition set limits for transparency for a listed company. The aim is to maintain an atmosphere of openness when interacting with stakeholders without compromising requirements for confidentiality.

SUSTAINABLE DEVELOPMENT

UPM-Kymmene's objective is to be profitable without compromising the well-being of people and the environment. This means balancing the economic, environmental and social impacts of its activities.

RESPECT FOR CULTURAL DIVERSITY

In its actions, UPM-Kymmene takes into account cultural differences in the local community where it operates. This includes respect for cultural or religious customs and practices, appreciation for cultural heritage sites etc. Respect for cultural diversity is not, however, an excuse for not living up to the standards set inside or outside the company relating to e.g. environmental protection, health and safety issues or good employee practices.

RULES AND REGULATIONS AND INTERNATIONAL AGREEMENTS

The minimum requirement of responsibility for UPM-Kymmene is to comply with national and local rules and regulations, but it is understood that this is the minimum to fulfil the company's social responsibility.

By international agreements are meant those that the Finnish government (or the governments of countries where UPM-Kymmene operates) has ratified. These include or will include e.g. the United Nations Universal Declaration of Human Rights, the International Labour Organization Conventions and the Kyoto Protocol.

OPERATING PRINCIPLES

These include all approved principles and policies inside UPM-Kymmene.

BEST PRACTICES

Best practices means the best level of operation inside the industry, the geographical area or the issue at hand.

STAKEHOLDER COMMUNICATION AND DIALOGUE

Stakeholders are all those groups that may have influence on UPM-Kymmene or on whom UPM-Kymmene may have influence. Stakeholder engagement is based on UPM-Kymmene values. Openness with stakeholders creates the base for a relationship that is built on trust. This in turn leads to an active and supportive relationship between UPM-Kymmene and its stakeholders.

The aim is to be as transparent as possible. Sometimes, however, it is necessary to protect confidentiality for the benefit of the stakeholder relationship.

OPPORTUNITIES FOR DEVELOPMENT

UPM-Kymmene offers its employees possibilities for personal development. Effort is also put into developing teams and the working atmosphere across the whole organization.

FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

Freedom of association respects the right for all personnel to form and join trade unions of their choice and to bargain collectively. Where these rights are restricted by law, the company should provide an alternative channel to hear employee concerns. (Ref: ILO Convention 98)

FORCED OR COMPULSORY LABOUR

All work or service that is extracted by any person under the menace of any penalty for which he/she has not offered him/herself voluntarily. (Ref: ILO Convention 105)

CHILD LABOUR

The minimum age for employment is 15 years for regular, non-hazardous work and 18 for hazardous work. (Ref: ILO Convention 138)

SAFE PRODUCTS

Looking after health, safety and the environment related matters is recognised as a company duty towards its stakeholders. The safety and harmlessness of production processes and raw materials used by the company are constantly measured and evaluated by proper up-to-date methods.

SUPPORTING LOCAL COMMUNITY DEVELOPMENT

UPM-Kymmene contributes to and encourages its employees to participate in local community development in the communities where it operates. The aim is to provide employees and their families with decent living conditions and opportunities to express and develop themselves.

As a starting point these activities are the responsibility of the government. Where this is not the case, UPM-Kymmene is willing to take an active role in the local community.

CORRUPTION OR BRIBERY

UPM-Kymmene's employees are not allowed to offer, promise, give or receive monetary or other advantages directly or indirectly to/from public officials or other parties with the intent of gaining improper business or personal gain. (Ref: OECD Anti-bribery Convention).

Gifts and normal hospitality are accepted, if the frequency and the value of the gifts are reasonable. More guidance in the "Basic Ethical Rules In Purchasing And Sales".

MONITORING, CONTROLLING AND REPORTING PROCESSES AND PROCEDURES

UPM-Kymmene sets up processes and procedures to monitor and control the implementation of this policy and reports publicly on its results. Monitoring and controlling can be linked to existing systems e.g. internal and external audits, risk management etc. The principle medium for reporting is the annual corporate responsibility report.

HUMAN RESOURCES POLICY

The management of Human Resources in UPM-Kymmene is based on the company's values – openness, trust and initiative – and on social responsibility.

The company complies with international, national and local rules and regulations and international agreements. In the event that these prove to be insufficient or open to various interpretations, the company acts in accordance with its operating principles and best practices.

UPM-Kymmene fosters a leadership culture that supports its values. It actively promotes employee well-being and motivation and provides opportunities for development.

UPM-Kymmene respects the freedom of association and abides by legally binding collective agreements. Employee participation and consultation are organised in accordance with international and national rules and regulations.

The remuneration and benefits UPM-Kymmene provides meet with national legal standards, governing collective agreements and good local practice.

UPM-Kymmene promotes equal opportunities and objectivity in employment and career development and respects employee privacy. Discrimination or harassment is not tolerated.

UPM-Kymmene does not tolerate the use of forced or child labour.

If layoffs are imminent due to changes in the business environment, effort is made to relocate employees within the company, if necessary by means of reasonable retraining. In case redundancies are unavoidable social plans and financial compensations are agreed on locally in accordance with national rules and with regard for national social security.

UPM-Kymmene Human Resources policy is implemented throughout the company at all levels and activities.

The Board of Directors of UPM-Kymmene Corporation has approved the Human Resources policy on 18. September, 2002.

HUMAN RESOURCES POLICY, GLOSSARY

The aim of this glossary is to explain the meaning of some of the terms used in the Human Resources Policy document. It should be noted that the meaning of the terms may vary depending on e.g. the reader's cultural background.

COMPANY VALUES

Openness in the workplace creates *trust* between people, which in turn leads to greater *initiative*.

Legislation and competition set limits for transparency for a listed company. The aim is to maintain an atmosphere of openness when interacting with stakeholders without compromising requirements for confidentiality.

CORPORATE SOCIAL RESPONSIBILITY (CSR)

Corporate Responsibility consists of three pillars: economic, environmental and social responsibility. Corporate Social Responsibility deals with the company's responsibility towards its employees, society and the other stakeholder groups of the company.

RULES AND REGULATIONS AND INTERNATIONAL AGREEMENTS

The minimum requirement of responsibility for UPM-Kymmene is to comply with national and local rules and regulations, but it is understood that is the minimum to fulfil the company's social responsibility.

By international agreements are meant those the Finnish government (or the governments of countries where UPM-Kymmene operates) has ratified. These include or will include e.g. the United Nations Universal Declaration of Human Rights, and the International Labour Organization Conventions.

OPERATING PRINCIPLES

These include all approved principles and policies inside UPM-Kymmene.

BEST PRACTICES

Best practices means the best level of operation inside the industry, the geographical area or the issue at hand.

OPPORTUNITIES FOR DEVELOPMENT

UPM-Kymmene offers its employees possibilities for personal development. Effort is also put into developing teams and the working atmosphere across the whole organization.

FREEDOM OF ASSOCIATION

Freedom of association respects the right for all personnel to form and join trade unions of their choice and to bargain collectively. Where these rights are restricted by law, the company should provide an alternative channel to hear employee concerns. (Ref: ILO Convention 98)

EMPLOYEE PARTICIPATION

Examples of employee participation are co-operation within company, codetermination and employee representation in companies' decision making bodies.

CONSULTATION

Consultation means the exchange of views and establishment of dialogue between the employees' representatives and the management. (Ref: Council Directive on European Works Council; UPM-Kymmene European Forum)

COLLECTIVE AGREEMENTS

Collective agreement is an agreement concluded between a number of employees (normally a union) and one or more employers (normally an employers' association) governing pay and working conditions. Depending on contractual structures, local agreements and custom can form part of a collective agreement.

EMPLOYEE PRIVACY

UPM-Kymmene respects the employees' private life and other basic rights safeguarding privacy. Personal data are processed in accordance with good processing practice.

DISCRIMINATION

Any discrimination against employees on the basis of age, sex, health, national or ethnic origin, sexual preference, language, religion, opinion, family ties, trade union activity, political activity or any other comparable circumstance is prohibited.

FORCED OR COMPULSORY LABOUR

All work or service that is extracted by any person under the menace of any penalty for which he/she has not offered him/herself voluntarily. (Ref: ILO Convention 105)

CHILD LABOUR

The minimum age for employment is 15 years for regular, non hazardous work and 18 for hazardous work. (Ref: ILO Convention 138)

REASONABLE RETRAINING

This term means an orientation-type of training which can be considered reasonable from the employee's as well as the employer's point of view having regard to time needed, costs, availability of training etc.

SOCIAL PLANS AND FINANCIAL COMPENSATION

The measures of support in redundancies vary from one country to another depending on the social security structure and on the funding of unemployment benefits. In some countries a special social plan is compulsory in cases of collective dismissal.

OCCUPATIONAL HEALTH AND SAFETY POLICY

GUIDING VALUES AND PRINCIPLES

The health, safety and security of employees, visitors and all other people impacted by its operations are essential to UPM-Kymmene.

Occupational health and safety practices at UPM-Kymmene are based on the company's values – openness, trust and initiative – and on social responsibility.

The company complies with international, national and local rules, regulations and agreements. In the event that these prove to be insufficient or open to various interpretations, the company acts in accordance with its operating principles and best practices.

The company's occupational health and safety activities are directed by the principles of continuous improvement and emphasise quality and know-how.

OBJECTIVES AND IMPLEMENTATION

UPM-Kymmene strives to provide a healthy and safe working environment. The company assumes its share of responsibility for the physical,

mental and social well-being of its employees. The company's overall objective is to avoid employee suffering from occupational accidents or work related disabilities, while employed at UPM-Kymmene or during retirement.

In order to develop understanding of occupational health and safety matters and to encourage employee participation in its positive development, the company provides training in occupational health and safety.

UPM-Kymmene promotes a proactive approach to employee health care as part of its health and safety effort.

The company strives for the elimination of occupational accidents through the principle of zero tolerance for accidents. To reach this objective, each employee is required to assume responsibility for his or her working capacity and work premises.

The company encourages its business partners to implement practices which promote occupational health and safety.

UPM-Kymmene Occupational Health and Safety policy is implemented throughout the organisation at all levels and activities.

COMMUNICATION

UPM-Kymmene communicates occupational health and safety related matters to its stakeholders in a reliable, open and timely manner in accordance with company values.

FURTHER DEVELOPMENT

UPM-Kymmene develops its organisation and activities in occupational health and safety in accordance with best practices and available technology as well as by taking into account stakeholder interests.

The Board of Directors of UPM-Kymmene Corporation has approved the Occupational Health and Safety policy on 18. September 2002.

OCCUPATIONAL HEALTH AND SAFETY POLICY, GLOSSARY

The aim of this glossary is to explain the meaning of some of the terms used in the Occupational Health and Safety (OHS) policy document. It should be noted that the meaning of the terms may vary depending on e.g. the reader's cultural background.

EMPLOYEES, VISITORS AND OTHER PEOPLE IMPACTED BY THE COMPANY'S OPERATIONS

Industrial operations may affect people on site, in its immediate surroundings and throughout the whole supply chain. Hence OHS matters need attention both on site and, where applicable, outside of it.

COMPANY VALUES

Openness in the workplace creates *trust* between people, which in turn leads to greater *initiative*.

Legislation and competition set limits for transparency for a listed company. The aim is to maintain an atmosphere of openness when interacting with stakeholders without compromising requirements for confidentiality.

CORPORATE SOCIAL RESPONSIBILITY (CSR)

Corporate Responsibility consists of three pillars: economic, environmental and social responsibility. Corporate Social Responsibility deals with the company's responsibility towards its employees, society and other stakeholder groups of the company.

RULES, REGULATIONS AND AGREEMENTS

The minimum requirement of responsibility for UPM-Kymmene is to comply with national and local rules, regulations and agreements, but it is understood that is the minimum to fulfil the company's social responsibility.

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CONTINUOUS IMPROVEMENT

Continuous improvement is a process of enhancing the OHS management system, to achieve improvements in overall OHS performances, in line with the Group OHS policy.

HEALTHY AND SAFE WORKING ENVIRONMENT

A healthy and safe working environment is free from unacceptable risk of harm. No employee is to suffer from negative mental or physical work-related effects.

ZERO TOLERANCE

The principle for zero tolerance for accidents is built on the following:

- 1) no accident is in principle acceptable;
- 2) all dangerous situations should result in learning to avoid similar situations in the future;
- 3) all dangerous situations should be reacted to without delay and should be followed up on; and
- 4) health and safety matters concern each and every one.

ENCOURAGING BUSINESS PARTNERS

UPM-Kymmene gives preference to business partners who maintain a systematic approach to OHS matters, and who honour OHS principles which are in compliance with UPM-Kymmene's OHS policy.

OPERATING PRINCIPLES

These include all approved principles and policies inside UPM-Kymmene.

BEST PRACTICES

Best practices means the best level of operation inside the industry, the geographical area or the issue at hand.

Paper and pulp mills: production, releases into air and water and solid waste in 2003

MILL	PRODUCTION		EMISSIONS INTO WATER			EMISSIONS INTO AIR			SOLID WASTE
	paper t	pulp t	BOD ¹⁾ t	COD t	AOX t	SO ₂ ²⁾ t	NO _x t	CO ₂ (F) t	to landfill, t
Augsburg	348,000		3,320 ³⁾	6,240 ³⁾		0	7	140,000	0
Blandin Paper	319,000		20	– ⁴⁾		50	410	98,000	1,800
Caledonian Paper	254,000		1,780 ³⁾	4,970 ³⁾		200	200	104,000	700
Changshu	350,000		25	160		540	350	501,000	800
Chapelle Darblay	330,000		100	1,410		20	580	157,000	7,900
Papeteries de Docelles	117,000		5	40		0	10	43,000	50
Jämsänkoski	712,000		45	1,330		330	430	163,000	10,000
Kaipola	620,000		80	1,840		280	370	115,000	18,100
Kajaani	500,000		100	2,320		210	180	162,000	37,300
Kaukas	536,000	650,000	1,060	17,660	130	1,000	2,010	180,000	17,300
Kymi	699,000	424,000	260 ⁶⁾	9,920 ⁶⁾	100	460	970	291,000	16,200
Loparex (Lohja)	54,000		70	340		140 ⁵⁾	110 ⁵⁾	42,000 ⁵⁾	270
Miramichi	414,000	196,000	1,000	14,070	70	2,680	1,210	307,000	7,500
Nordland Papier	1,089,000		45	290		0	200	295,000	500
Pietarsaari	164,000	549,000	730	17,910	90	710	850	172,000	23,900
Rauma	1,029,000		260 ⁷⁾	6,090 ⁷⁾		230	610	141,000	520
Schongau	636,000		25	1,560		1	320	193,000	310
Schwedt	280,000		20	850		4	140	41,000	440
Shotton Paper	392,000		35	1,150		30 ⁵⁾	340 ⁵⁾	95,000 ⁵⁾	19,100
Steyrermühl	438,000		65	1,110		3	580	241,000	12,500
Stracel	205,000		110	1,390		40	110	6,000	90
Tervasaari	373,000	208,000	260	2,870	0 ⁸⁾	470	790	272,000	16,400
Voikkaa	373,000		0 ⁶⁾	0 ⁶⁾		4	310	95,000	5,600
Total	10,232,000	2,027,000	9,410	93,510	390	7,400	11,080	3,850,000	197,000

¹⁾ Emission defined as BOD₅ converted to BOD₇ by the coefficient 1.16.²⁾ Includes also malodorous sulphur emissions.³⁾ Effluent load before municipal treatment plant.⁴⁾ COD is not monitored at Blandin.⁵⁾ Includes also emissions of purchased heat.⁶⁾ Effluent discharges of Voikkaa included in figures for Kymi.⁷⁾ Includes effluent discharges from the Botnia Rauma chemical pulp mill.⁸⁾ No chlorine chemicals used in pulp bleaching.

Plywood and veneer mills in Finland: raw materials and energy consumption, production, emissions into air and waste in 2000–2003

	2000	2001	2002	2003
Wood consumption	2,100,000 m ³	2,000,000 m ³	2,100,000 m ³	2,200,000 m ³
Resin (dry)	24 mill. kg	24 mill. kg	24 mill. kg	24 mill. kg
Films	5 mill. kg	6 mill. kg	5 mill. kg	5 mill. kg
Plywood and veneer production	737,000 m ³	786,000 m ³	791,000 m ³	813,000 m ³
By-products (chips and sawdust)	695,000 m ³	675,000 m ³	664,000 m ³	674,000 m ³
Heat	740 GWh	753 GWh	770 GWh	766 GWh
Electricity	223 GWh	223 GWh	233 GWh	233 GWh
Waste to landfill	3,394 t	3,120 t	2,800 t	2,700 t
Hazardous waste for special treatment	187 t	219 t	334 t	501 t
Release into air from production and fuels ¹⁾				
CO ₂ (F)	31,950 t	24,300 t	20,900 t	4,565 t
NO _x	186 t	171 t	177 t	184 t
SO ₂	155 t	116 t	85 t	16 t
Particulates	157 t	114 t	109 t	91 t

¹⁾ Emissions from purchased heat not included.

United Sawmills Ltd: raw materials and energy consumption, production and waste in 2000–2003

	2000	2001	2002	2003
Wood consumption	4,326,000 m ³	4,076,000 m ³	3,945,000 m ³	4,243,000 m ³
Production of sawn timber	1,979,000 m ³	1,850,000 m ³	1,792,000 m ³	1,962,000 m ³
By-products (chips and sawdust)	1,821,000 m ³	1,753,000 m ³	1,787,000 m ³	1,875,000 m ³
By-products (bark)	414,000 m ³	391,000 m ³	280,000 m ³	345,000 m ³
Heat	504 GWh	528 GWh	500 GWh	498 GWh
Electricity	136 GWh	141 GWh	141 GWh	141 GWh
Waste to landfill	2,435 t	4,370 t	1,023 t	1,650 t
Hazardous waste for special treatment	47 t	44 t	49 t	49 t

Converting Division: raw materials, consumption, production, emissions and waste in 2000–2003, tonnes¹⁾

	2000	2001	2002	2003
Paper, kraftliners and board	477,402	537,402	547,838	595,077
Plastics	47,405	54,526	68,036	74,070
Adhesives	1,639 ^{**)}	50,368	58,992	64,644
Printing inks, lacquers	1,121 ^{**)}	1,494	1,591	1,698
Aluminium foil	3,490	4,152	3,823	3,359
Production	334,297	631,501	655,847	681,172
VOC emissions from solvents	724	1,042	1,070	1,005
Solid waste to landfills	16,950	22,209	23,331	34,174
Hazardous waste for special treatment	623	959	1,357	911 ^{***)}

¹⁾ Data on mills sold in 2001 or earlier not included. ^{**)} Data on Raflatac not included.

^{***)} Walki Wisa hazardous waste in 2003: The 90 tonnes of wash waters from the printing press in China, which are taken elsewhere for purification, are also included in the figures.

Converting factories: raw materials, consumption, production, emissions and waste in 2003¹⁾

	Walki Wisa	Raflatac	Loparex
Paper, kraftliners and board	231,047	277,718	86,312
Plastics	34,230	16,539	23,601
Adhesives	70	64,302	272
Printing inks, lacquers	1,319	301	78
Aluminium foil	3,359		
Production	251,643	313,447	116,082
VOC emissions from solvents	117	211	677
Solid waste to landfills	4,725	19,567	9,882
Hazardous waste for special treatment	181 ^{**)}	352	911

¹⁾ Data on mills sold in 2001 or earlier not included.

^{**)} Walki Wisa hazardous waste in 2003: The 90 tonnes of wash waters from the printing press in China, which are taken elsewhere for purification, are also included in the figures.

Converting Division: production broke in 2003

	Recycled as material	Energy recovery	To landfill site	Total
Walki Wisa,				
%	61	20.1	16.4	
tonnes	15,355	5,069	4,120	25,192
Raflatac,				
%	9.6	34.8	55.6	
tonnes	3,366	12,231	19,567	35,165
Loparex,				
%	5.0	24.8	57.7	
tonnes	840	4,237	9,882	17,118

**Converting mills:
Specific VOC emissions in 2003**

Walki Wisa	0.46 kg/t
Raflatac	0.67 kg/t
Loparex	5.80 kg/t

Certification of Management Systems and Chain of Custody at UPM^{*}

Division/function	System	Year of certification
Paper and pulp mills		
Augsburg	EMAS	1997
	ISO 14001	1997
	ISO 9001	1995
	OHSAS	2002
Blandin	ISO 14001	1999
	ISO 9001	1999
	OHSAS	2002
Caledonian	ISO 14001	1999
	ISO 9001	1992
	Chain of Custody	2003
Changshu	ISO 14001	2003
Chapelle Darblay	ISO 14001	1999
	ISO 9001	1996
Docelles	ISO 14001	2000
Jämsänkoski	EMAS	2000
	ISO 14001	1997
	ISO 9001	1997
	OHSAS	2003
Kaipola	Chain of Custody	2003
	EMAS	2003
	ISO 14001	2000
	ISO 9002	1997
Kajaani	OHSAS	2003
	Chain of Custody	2003
	EMAS	2002
	ISO 14001	1998
Kaukas	ISO 9001	1995
	OHSAS	2001
	Chain of Custody	2003
	EMAS	2002
Kymi	ISO 14001	2000
	ISO 9001 (paper)	1993
	Chain of Custody	2003
	EMAS	1999
Loparex Oy	ISO 14001	1995
	ISO 9001	1993
	OHSAS	2003
	Chain of Custody	2003
Miramichi	ISO 14001	2001
	ISO 9001	1995
	ISO 9001 (paper)	1995
Nordland	EMAS	1999
	ISO 14001	1999
	ISO 9002	1994
	EMAS	2001
Rauma	ISO 14001	2000
	ISO 9001	1994
	OHSAS	2000
	Chain of Custody	2002
Schongau	EMAS	1996
	ISO 14001	1996
	ISO 9001	1996
	OHSAS	2003
Schwedt	Chain of Custody	2003
	EMAS	1997
	ISO 14001	1997
	ISO 9001	1995
Shotton	OHSAS	2003
	ISO 14001	1997
	ISO 9001	1991

Division/function	System	Year of certification
Steyreremühl	EMAS	1996
	ISO 14001	1996
	ISO 9001	1994
	Chain of Custody	2001
Stracel	ISO 14001	1998
	Chain of Custody	2003
Tervasaari	ISO 14001	1999
	PM 5/7 ISO 9002	1994
	PM 6 ISO 9001	1996
Voikkaa	EMAS	2002
	ISO 14001	1999
	ISO 9001	1997
	OHSAS	2003
Wisapaper, Wisaforest (Pietarsaari)	Chain of Custody	2003
	EMAS	1999
	ISO 14001	1995
	ISO 9001 (paper)	1992
	OHSAS	2003
	Chain of Custody (pulp)	2002

Wood Products Division

Special Plywoods	ISO 14001	1998
	ISO 9001	1996
	Chain of Custody	2000
Timber Products	ISO 14001	1999
	ISO 9001	1999
	Chain of Custody	2000
ZAO Chudovo-RWS	ISO 9001	2002
UPM-Kymmene Otepää AS	ISO 9001	2002

Converting Division

RAFLATAC		
Raflatac Oy, Tampere, FIN	ISO 9001	1992
Raflatac Ltd, Scarborough, UK	ISO 14001	1998
	ISO 9001	2002
Raflatac SA, Nancy, FR	ISO 9001	2002
Raflatac Iberia Produccions SA, Barcelona, ES	ISO 9001	2001

LOPAREX

Loparex Oy, Lohja, FIN	ISO 14001	2001
	ISO 9001	1995
Loparex Inc, Eden, USA	ISO 9001	2000
Loparex Inc, Iowa City, USA	ISO 9001	2000
Loparex Inc, Cullman, USA	ISO 9001	1999
Loparex Inc, Dixon, USA	ISO 9001	1999
Loparex Ltd, Glossop, UK	ISO 9001	1998
Loparex BV, Apeldoorn, NL	ISO 9001	1993

WALKI WISA

Walki Wisa, Pietarsaari, FIN	EMAS	1999
	ISO 14001	1997
	ISO 9001	1993
	OHSAS	2003
	ISO 14001	2002
Converflex AB, SE	ISO 9001	1991
Walki Wisa, Valkeakoski, FIN	ISO 9001	1993
Walki Wisa, Steinfurt, DE	ISO 9001	1994
Walki Wisa, Jülich, DE	ISO 9001	1998
Walki Wisa Ltd, Garstang, UK	ISO 9001	1998

Division/function	System	Year of certification
Forestry, Energy, Logistics		
FORESTRY		
UPM Forest, FIN	ISO 14001	1999
	EMAS	1998
	ISO 9001	1998
	Chain of Custody	2000
Haindl Holz, DE	ISO 14001	1997
	EMAS	1997
	ISO 9001	1995
	Chain of Custody	2002
Frischholz, AUT	ISO 14001	1996
	EMAS	1996
	ISO 9002	1994
	Chain of Custody	2001
Tilhill, UK	ISO 14001	2003
	ISO 9001	2003
	Chain of Custody	2003
Stracel S.A., FR	Chain of Custody	2003
Miramichi Woodlands, CAN	ISO 14001	2001
	SFI	2002
Blandin, USA	ISO 14001	1999
	SFI	2002
ENERGY		
UPM Energy, Hydro power plants	ISO 14001	1999
LOGISTICS		
nortrans Speditionsgesellschaft mbH	ISO 14001	1998
	ISO 9001	1998
UPM-Kymmene Sales GmbH, Logistics Department	ISO 9001	2001
Oy Rauma Stevedoring Ltd	ISO 14001	2003
	ISO 9002	1994
	OHSAS 18001	2003
UPM-Kymmene Oyj, Seaways	ISO 14001	2001
	ISO 9001	2001
UPM-Kymmene n.v./s.a.	ISO 9001	2001

⁹⁾ With respect to the quality systems, the table gives the standard currently in use at each unit. Several of the ISO 9001 and ISO 9002 standards previously used at the units have been substituted by the new ISO 9001:2000 standard. The certification year in the table refers to when the quality system was first adopted in the unit.

ENVIRONMENTAL PUBLICATIONS

UPM Group

Corporate Responsibility Report, since 2002
(ENG, FIN, SWE, DE, FR)
Environmental Report, 1995–2001 (ENG, FIN, SWE, DE, FR)
Policies (ENG, FIN, SWE, DE, FR)
– Environmental Policy
– Corporate Social Responsibility Policy
– Human Resources Policy
– Occupational Health and Safety Policy

Paper Divisions

Environmental Statements and Reports
– Augsburg (ENG, DE)
– Blandin Paper (ENG)
– Chapelle Darblay (FR)
– Jämsänkoski + Kaipola (ENG, FIN)
– Kajaani (ENG, FIN)
– Kaukas (ENG, FIN)
– Kymi + Voikkaa (ENG, FIN, DE)
– Miramichi (ENG)
– Nordland Papier (ENG, DE)
– Pietarsaari (ENG, FIN)
– Rauma (ENG, FIN)
– Schongau (ENG, DE)
– Schwedt (ENG, DE)
– Steyrermühl (ENG, DE)
– Stracel (ENG, FRE, DE)
– Tervasaari (ENG, FIN)
Wood fibres in the paper cycle (ENG, FIN, FR, DE)
Making paper (ENG, FIN, FR, DE)

Wood Products Division

Understanding environment (ENG, FIN, SWE, DE)

Converting Division

Walki Wisa Pietarsaari and the environment
(ENG, FIN, SWE)

UPM, Forest (Finland)

Environmental statement (ENG, FIN)
Environmental guide (FIN)
There is more to our forests than wood (FIN, ENG)
Report: Tracing Russian Wood Imports (ENG)
Old growth forests (ENG, FIN, DE)
From the forest to the mill (ENG, FIN)

CONTENT COMPARISON WITH GLOBAL REPORTING INITIATIVE REPORTING GUIDELINES 2002

In the table below are listed the pages where issues referred to by the GRI reporting guidelines 2002 environmental and social indicators are discussed. All core indicators are listed as well as those additional indicators (*) that are discussed in the report. GRI's reporting guidelines can be found on the Internet at www.globalreporting.org.

Indicators related to economic responsibility are found in the UPM-Kymmene Annual Report: www.upm-kymmene.com

ENVIRONMENT

Indicator		Pages in the report
EN1	Total materials used	14–15, 22, 24–26, 71–72
EN2	Waste usage	15, 24–26
EN3	Direct energy use	14–15, 31–35
EN4	Indirect energy use	31–35
EN 17*	Renewable energy and energy efficiency	14–15, 34
EN5	Total water use	38–40
EN 22*	Recycling and reuse of water	38
EN6	Land ownership in biodiversity-rich habitats	18–21
EN 23*	Land owned for production activities or extractive purposes	21–22
EN7	Major impact on biodiversity	18–20
EN 25*–26*	Impacts on protected and sensitive areas and resulting changes	18–20
EN8	Greenhouse gas emissions	42–44, 71
EN9	Use and emissions of ozone-depleting substances	42–43, 72
EN10	NO _x -, SO _x - and other air emissions	42–44, 71
EN11	Amount and type of waste	15, 45–46
EN 31*	Hazardous waste management	15, 45–46, 71–72
EN12	Discharges to water	15, 39–41, 71
EN 32*	Discharge impact on ecosystems	41
EN13	Chemicals, oil and fuels spills	47
EN 33*	Supplier environmental performance	27–29
EN14	Environmental impacts of products	12–13
EN15	Recycling/reuse of products	12–13
EN16	Non-compliance in environmental matters	41
EN 34*	Environmental impacts of logistics	48–51
EN 35*	Environmental expenditures	2

PEOPLE AND SOCIETY

LA1	Personnel	54–57
LA2	Employment creation & personnel turnover	57
LA3	Employee representation, collective bargaining	66, 68
LA4	Consultation, negotiation & restructuring	55, 68
LA5	OHS reporting	–
LA6	OHS cooperation	58–59
LA7	OHS indicators	58–59
LA8	HIV/AIDS policy	–
LA9	Training	2, 62
LA17*	Lifelong learning	60–62
LA10	Equality policies and programmes	54–55, 68
LA11	Equality in senior management	55
HR1	Human rights related policies	66, 68
HR2	Considering human rights in investment/procurement	28–29
HR3	Human rights in the supply chain	28–29

Indicator		Pages in the report
HR4	Policies preventing discrimination	68
HR5	Freedom of association	66, 68
HR6	Policy excluding child labour	66, 68
HR7	Policy preventing forced labour	66, 68
SO1	Local community impact	66
SO4*	Awards received	8
S02	Policies addressing bribery and corruption	66
S03	Political lobbying and contributions	–
PR1	Product safety policy	12–13, 66
PR2	Product information and labelling	–
PR3	Consumer privacy	–

CONTENT COMPARISON WITH THE PRINCIPLES OF THE GLOBAL COMPACT INITIATIVE

In the table below are listed the pages where issues referred to in the principles of the United Nations Global Compact Initiative are discussed. For more information on the Global Compact, see www.unglobalcompact.org.

Principle		Pages in the report
Human Rights		
1	Businesses should support and respect the protection of internationally proclaimed human rights within their sphere of influence; and	28, 66–69
2	make sure that they are not complicit in human rights abuses.	8, 28
Labour Standards		
3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	66–69
4	the elimination of all forms of forced and compulsory labour;	66–69
5	the effective abolition of child labour; and	66–69
6	eliminate discrimination in respect of employment and occupation.	54–55
Environment		
7	Businesses should support a precautionary approach to environmental challenges;	6–51
8	undertake initiatives to promote greater environmental responsibility; and	6–51
9	encourage the development and diffusion of environmentally friendly technologies.	6–51

GLOSSARY

BAT (Best Available Technique)

Biofuel

Renewable fuel, such as bark, wood waste and effluent treatment sludge.

BOD

Biological Oxygen Demand, the amount of oxygen required for the biological decomposition of organic compounds contained in water.

Carbon dioxide, CO₂

Combustion product of carbon. Carbon emissions arise from fossil fuels, for instance.

Chain of Custody

A system for monitoring the origin and chain of custody of wood.

CHP

Combined heat and power production.

COD

Chemical Oxygen Demand, the amount of oxygen required for the decomposition of organic compounds in water, determined by chemical methods.

Deinking

The process where the ink and impurities are removed from the recovered paper.

EMAS

Eco-Management and Audit Scheme

FFCS

Finnish Forest Certification System.

FSC

Forest Stewardship Council, international council supported by environmental organisations.

GRI

Global Reporting Initiative, international guidelines for sustainability reporting.

ISO

International Organisation for Standardisation, whose ISO 9000 quality standards and ISO 14000 environmental standards are extensively used in industry.

Nitrogen oxides, NO_x

A range of compounds formed in the combustion of nitrogen-containing material. Cause acidification of soil and waters.

OHSAS

Occupational Health & Safety Management System, specification for OHS issues.

PEFC

Pan-European Forest Certification Scheme.

Primary fibre

Virgin fibre, fibre used in the production of paper or board for the first time.

Recovered paper

Paper and board recovered for secondary use.

Recovery rate

The ratio of recovered paper of all paper consumed.

Recycled fibre

Fibre extracted from recovered paper.

Sulphur dioxide, SO₂

Compound formed in combustion of sulphur containing material. Causes acidification of soil and waters.

TRS

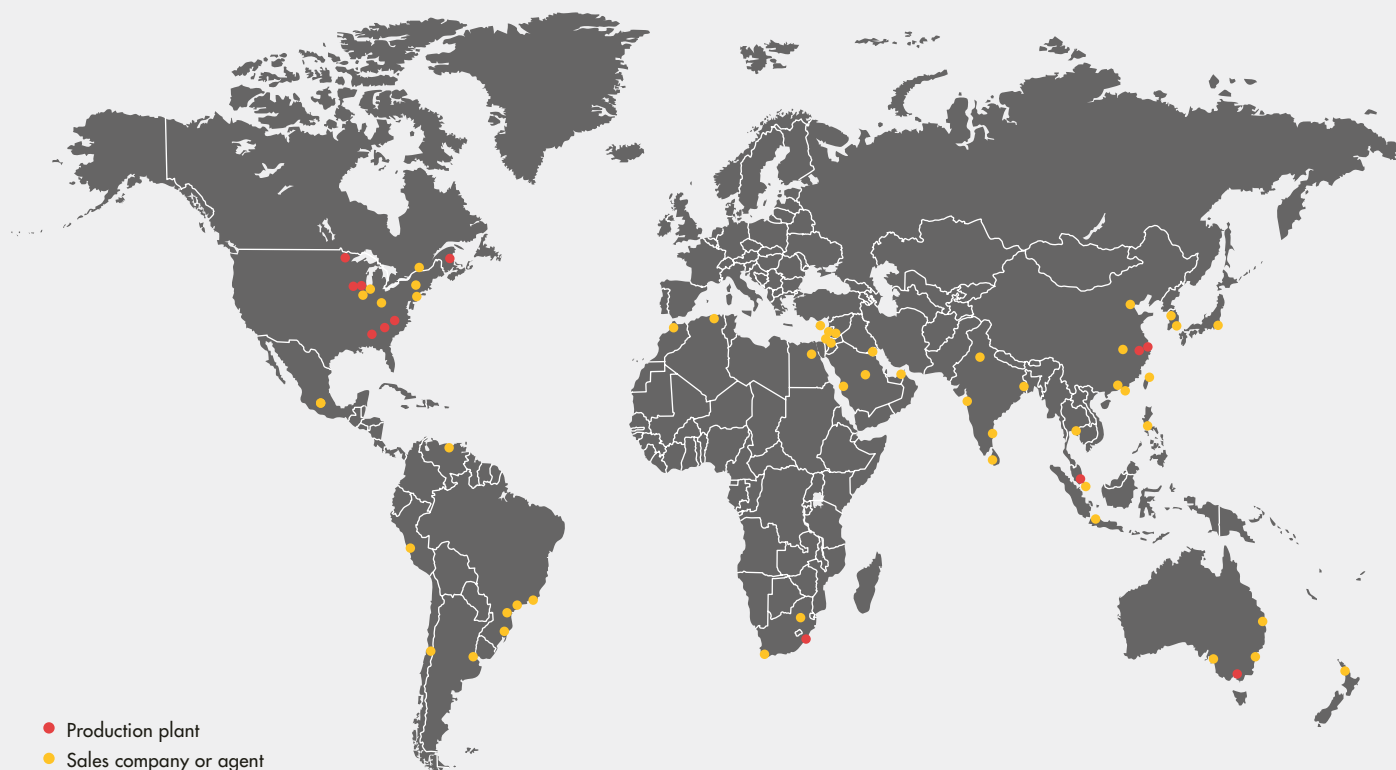
Total Reduced Sulphur, malodorous sulphur compounds.

VOC

Volatile Organic Compounds, involved in ozone formation in the troposphere.

For the glossaries related to respective UPM policies, see pages 66–70.

PRODUCTION PLANTS AND SALES NETWORK



Production plants

PAPERS

AUSTRIA
UPM-Kymmene Austria GmbH, Steyrermühl

CANADA
UPM-Kymmene Miramichi Inc., New Brunswick
– paper mill
– pulp mill

CHINA
UPM-Kymmene Paper, Changshu

FINLAND
Paper mills
UPM-Kymmene Corporation
– Jämsänkoski
– Kaipola
– Kajaani
– Kaukas, Lappeenranta
– Kymi, Kuusankoski
– Rauma
– Tervasaari, Valkeakoski
– Voikkaa
– Wisapaper, Pietarsaari

Pulp mills
UPM-Kymmene Corporation
– Kaukas Pulp Mill, Lappeenranta
– Kymi Pulp Mill, Kuusankoski
– Tervasaari Pulp Mill, Valkeakoski
– Wisapulp, Pietarsaari

FRANCE
UPM-Kymmene France S.A.S.
– Grand-Couronne
– Docelles
Stracel S.A.S., Strasbourg

GERMANY
UPM-Kymmene Papier GmbH & Co. KG
– Augsburg
– Schongau
– Schwedt
Nordland Papier GmbH, Dörpen

GREAT BRITAIN
UPM-Kymmene (UK) Ltd
– Caledonian Paper, Irvine
– Shotton Paper, Shotton

USA
Blandin Paper Company plc, Grand Rapids, MN

CONVERTING

AUSTRALIA
Raflatac (Oceania) Pty Ltd, Braeside (Melbourne)

CHINA
Raflatac (Shanghai) Co. Ltd, Shanghai
Walki Wisa Shanghai, Shanghai

FINLAND
Loparex Oy, Lohja
Raflatac Oy, Tampere
Walki Wisa Oy
– Pietarsaari
– Valkeakoski

FRANCE
Raflatac S.A., Pompey (Nancy)

GERMANY
Walki Wisa GmbH
– Werk Jülich
– Werk Steinfurt

GREAT BRITAIN
Loparex Ltd, Glossop
Raflatac Ltd, Scarborough
Walki Wisa Ltd, Garstang

NETHERLANDS
Loparex B.V., Apeldoorn

SOUTH AFRICA
Raflatac South Africa (Pty) Ltd, Pinetown

MALAYSIA
Raflatac (M) Sdn Bhd, Johor

SPAIN
Raflatac Ibérica S.A., Polinyá (Barcelona)

SWEDEN
Walki Wisa Converflex AB, Arnäsval

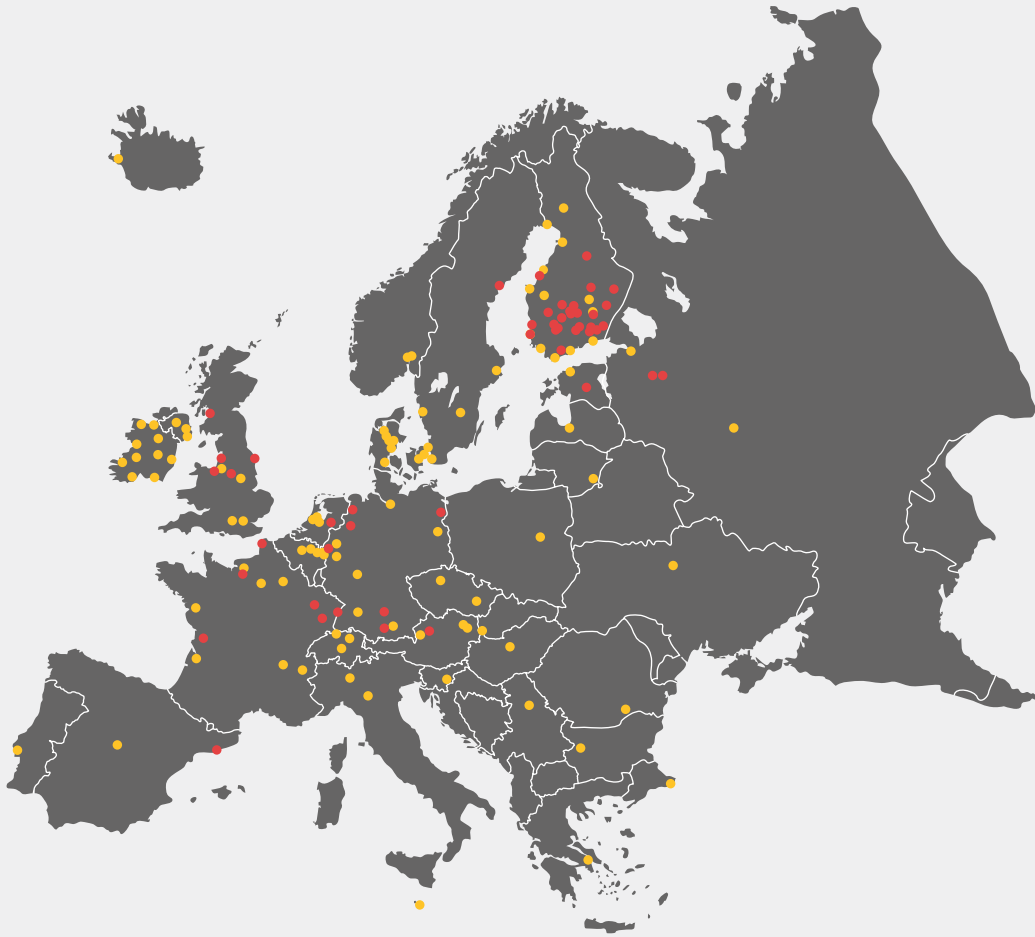
USA
Loparex Inc.
– Cullman, AL
– Dixon, IL
– Eden, NC
– Iowa City, IA
UPM-Raflatac Inc., Fletcher, NC
Walki Wisa Inc., Eden, NC

WOOD PRODUCTS

AUSTRIA
Steyrermühl Sägewerksgesellschaft m.b.H. Nfg KG

ESTONIA
UPM-Kymmene Otepää AS, Otepää

FINLAND
Sawmilling and Further Processing
– Alholma Sawmill and Planing, Pietarsaari
– Aureskoski Sawmill and Planing, Parkano
– Heinola Sawmill
– Heinola Timber Components Mill
– Kajaani Sawmill
– Kaukas Sawmill and Planing, Lappeenranta
– Korkeakoski Sawmill, Juupajoki
– Leivonmäki Sawmill
– Luumäki Timber Components Mill
– Parkano Timber Components Mill
– Seikku Sawmill, Pori

**Plywood mills**

- Heinola Plywood Mill
- Joensuu Plywood Mill
- Jyväskylä Plywood Mill, Säynätsalo
- Kaukas Plywood Mill, Lappeenranta
- Kuopio Plywood Mill
- Lahti Processing Mill
- Pello Plywood Mills, Ristiina
- Savonlinna Plywood Mill
- Viiala Plywood Mill, Toijala

Veneer mills

- Kalso Veneer Mill, Vuohijärvi
- Keuruu Veneer Mill, Keuruu
- Lohja Veneer Mill, Lohja

FRANCE

- UPM-Kymmene Loulay S.A., Loulay
- UPM-Kymmene Wood S.A.
- Aigrefeuille
- Boulogne sur Mer

RUSSIA

- ZAO Chudovo-RWS, Chudovo
- ZAO Pestovo Novo, Pestovo

OTHER OPERATIONS

- FINLAND
- Rafsec Oy, Tampere

Sales network

(countries listed below)

NORTH AMERICA

- Canada
- Mexico
- USA

SOUTH AMERICA

- Argentina
- Brazil
- Chile
- Peru
- Venezuela

EUROPE

- Austria
- Belgium
- Bulgaria
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Great Britain
- Greece

Hungary

- Iceland
- Ireland
- Italy
- Latvia
- Lithuania
- Malta
- Netherlands
- Norway
- Poland
- Portugal
- Rumania
- Russia
- Serbia and Montenegro
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- Ukraine

ASIA

- Bahrain
- China
- Cyprus
- Hong Kong
- India
- Indonesia
- Israel
- Japan
- Jordan

Kuwait

- Lebanon
- Malaysia
- Oman
- Philippines
- Qatar
- Republic of Korea
- Saudi Arabia
- Singapore
- Sri Lanka
- Syria
- Taiwan
- Thailand
- United Arab Emirates

AFRICA

- Algeria
- Egypt
- Morocco
- South Africa

OCEANIA

- Australia
- New Zealand

UPM-KYMMENE CORPORATION**Group Head Office****Hannu Nilsen**

Senior Vice President,
Corporate Responsibility
P.O. Box 40
FIN-37601 Valkeakoski, Finland
hannu.nilsen@upm-kymmene.com
Tel. +358 204 16 2250
Fax +358 204 16 2219

Jari Lemetyinen

CSR, Manager
P.O. Box 380
FIN-00101 Helsinki, Finland
jari.lemetyinen@upm-kymmene.com
Tel. +358 204 15 0019
Fax +358 204 15 0328

Wilhelm Demharter

Vice President, Environment
Georg-Haendl-Strasse 5
D-86153 Augsburg, Germany
wilhelm.demharter@upm-kymmene.com
Tel. +49 821 3109 611
Fax +49 821 3109 166

Daniel Schwab

Vice President, People Development
P.O. Box 380
FIN-00101 Helsinki, Finland
daniel.schwab@upm-kymmene.com
Tel. +358 204 15 0464
Fax +358 204 15 0309

Pekka Alhava

Vice President, Compensation and Benefits
P.O. Box 40
FIN-37601 Valkeakoski, Finland
pekka.alhava@upm-kymmene.com
Tel. +358 204 16 2078
Fax +358 204 16 2277

Eero Niinikoski

Director,
Industrial Heritage and Cultural Affairs
FIN-45700 Kuusankoski, Finland
eero.niinikoski@upm-kymmene.com
Tel. +358 204 15 2100
Fax +358 204 15 2186

Corporate Communications

P.O. Box 380
FIN-00101 Helsinki, Finland
Tel. +358 204 15 111
Fax +358 204 15 0308

Investor Relations

P.O. Box 380
FIN-00101 Helsinki, Finland
Tel. +358 204 15 111
Fax +358 204 15 0303

Wood Procurement**Olav Henriksen**

Vice President, International Forest Affairs
P.O. Box 380
FIN-00101 Helsinki, Finland
olav.henriksen@upm-kymmene.com
Tel. +358 204 15 0052
Fax +358 204 15 0310

Päivi Salpakivi-Salomaa

Environmental Manager
UPM-Kymmene Forest
P.O. Box 32
FIN-37601 Valkeakoski, Finland
paivi.salpakivi-salomaa@upm-kymmene.com
Tel. +358 204 16 3862
Fax +358 204 16 3808

Land Use**Mari Pantsar-Kallio**

Environmental Specialist
UPM-Kymmene Forest
P.O. Box 203
FIN-15141 Lahti, Finland
mari.pantsar-kallio@upm-kymmene.com
Tel. +358 204 15 6432
Fax +358 204 15 112

Energy**Juha Kouki**

Energy Economics Manager
P.O. Box 40
FIN-37601 Valkeakoski, Finland
juha.kouki@upm-kymmene.com
Tel. +358 204 16 2141
Fax +358 204 16 2149

Materials Management**Tuomas Sovijärvi**

Competence Centre Manager
P.O. Box 380
FIN-00101 Helsinki, Finland
tuomas.sovijarvi@upm-kymmene.com
Tel. +358 204 15 0768
Fax +358 204 15 0767

Pulp Steering**Sami Lundgren**

Environmental Analyst
P.O. Box 380
FIN-00101 Helsinki, Finland
sami.lundgren@upm-kymmene.com
Tel. +358 204 15 0394
Fax +358 204 15 0317

Logistics**Sari Karppala**

Management Systems Manager
P.O. Box 380
FIN-00101 Helsinki, Finland
sari.karppala@upm-kymmene.com
Tel. +358 204 15 0527
Fax +358 204 15 0772

Converting Division**Raflatac Group****Håkan Saxén**

Vice President, R & D
Raflatac Oy
P.O. Box 53
FIN-33101 Tampere, Finland
hakan.saxen@raflatac.com
Tel. +358 204 16 8059
Fax +358 204 16 8083

Walki Wisa Oy**Krister Fors**

Quality Manager
P.O. Box 121
FIN-68601 Pietarsaari, Finland
krister.fors@upm-kymmene.com
Tel. +358 204 16 9359
Fax +358 204 16 8825

Loparex Oy**Leila Pohjola**

Development Director
FIN-08100 Lohja, Finland
leila.pohjola@upm-kymmene.com
Tel. +358 204 14 6315
Fax +358 204 14 6444

Wood Products Division**Eija Simonen**

Environmental Specialist
UPM-Kymmene Wood Oy
P.O. Box 203
FIN-15141 Lahti, Finland
eija.simonen@upm-kymmene.com
Tel. +358 204 15 6343
Fax +358 204 15 112



www.upm-kymmene.com