

# Orklas' environmental report 2003

This document is a summary of Orkla's environmental reports for 2003. For more information on our environmental activities, visit our website at [www.orkla.com/environment](http://www.orkla.com/environment).

<b>Content</b>	<b>Page</b>
1. The Orkla Group in 2003	2
2. Report of the Board of directors	2
3. Results The external environment	4
4. Results HSE figures	6
5. Orkla Foods in 2003	7
6. Orkla Beverages in 2003	12
7. Orkla Brands in 2003	14
8. Orkla Media in 2003	19
9. Chemicals in 2003	23

# The Orkla Group

## **Environmental status in 2003**

For the branded consumer goods companies in the Orkla Group, issues related to production and the utilisation of biological raw materials were the main areas of focus in 2003. Customers and consumers continued to show great interest in the safety and origin of raw materials. In the chemicals business, HSE efforts concentrated on energy issues and projects to promote a safe working environment.

### *Orkla Foods*

At Orkla Foods the amount of waste deposited at landfill sites was reduced by about 45 % during the period from 1998-2003.

Orkla Foods has been able to maintain its restrictive policy regarding GMO-based raw materials by means of a systematic, painstaking process that encompasses purchasing, quality development and product development.

### *Orkla Brands*

Lilleborg continues its systematic efforts to ensure that its portfolio includes a good range of eco-labelled products. In 1995, 12 % of its consumer detergents were marked with the Swan eco-label. Since then, the percentage has increased steadily and has been around 48 % in the past few years.

### *Orkla Media*

The process of relocating Orkla Media's printing operations to a single site in the Oslo Fjord area was completed in 2003 when Orkla Trykk Østfold (Avisenes Rotasjonstrykkeri) was closed down. All of Orkla Media's newspapers in Eastern Norway are now printed at Stokke in Vestfold County at a modern, environmentally efficient plant staffed by the company's technical experts. However, the amalgamation of printing operations has entailed a certain negative environmental effect in the form of increased transport of newspapers.

### *Chemicals*

Borregaard in Sarpsborg is now Orkla's biggest consumer of energy, and precisely for that reason energy efficiency is one of the company's highest priority environmental concerns. In the past three years, thermal energy consumption has been reduced by a total of 200 GWh per year.

## **Report of the Board of directors**

### **Health, safety and environment (HSE)**

Orkla is engaged in systematic environmental efforts that are characterised by a coherent, long-term approach and a desire to contribute to sustainable develop-

ment. The details of Orkla's environmental programmes are formulated by the individual business areas on the basis of the requirements laid down for each area.

Orkla has adopted a "zero injury perspective". All accidents must be prevented. No work-related injuries, illnesses or accidents must be ignored. The focus is therefore on preventive HSE activities.

Sickness absence in Orkla's Norwegian companies fell slightly during the year, from 7.5 % in 2002 to 7.1 % in 2003. This may be connected to the introduction of measures ("an inclusive working life") in cooperation with the National Insurance Offices. However, the injury rate increased from 9.4 to 13.0 per million working hours, although no serious personal injuries were reported. There were no reports of serious accidents or major damage to buildings or production equipment.

Orkla makes continuous efforts to limit the negative environmental consequences that may occur throughout the value chain and is sensitive to the views and demands of customers, consumers and employees. All the environmental requirements laid down by the authorities and the local community must be conformed to. Orkla imposes strict requirements on its suppliers with respect to product safety and environmental standards.

Orkla strongly emphasises the importance of building trust and confidence. The Group's products must therefore be based on safe raw materials and be manufactured using methods that are acceptable to customers and consumers. The Group has adopted a wait-and-see policy on the use of modern gene technology in connection with food production.

In the course of the year there were no incidents that resulted in serious damage to the external environment. Drills are held regularly to train staff to deal with various types of emergency situations.

Orkla's Chemicals business is extremely energy-intensive and food production is dependent on access to substantial quantities of high-quality water. Consequently, most of Orkla's production plants work systematically on comprehensive saving and investment projects to reduce energy and water consumption and increase the use of renewable fuel. For financial reasons, Orkla has chosen to use several different energy systems, which means that there are annual variations in emissions of greenhouse gases.

The distribution of consumer products, such as beverages, food and detergents, has a significant impact on the environment. Orkla is therefore focusing on rationalising transport and adapting and reducing the weight of all packaging. High priority is also given to using materials that can be re-used or recycled in an appropriate manner. Orkla companies are active members of several organisations in the Nordic region that have been established to collect and recycle packaging.

More detailed information about Orkla's environmental efforts and status in the various business areas may be found on the Internet, [www.orkla.com/environment](http://www.orkla.com/environment).

## Results The external environment

Consumption of energy	Electric power GWh	Energy from burning of various fuels at factories (incl. district heating) GWh	Total energy consumption GWh	Percentage electric power %
<b>Orkla Foods (incl. Bakers)</b>				
2003	266	375	641	41
2002	276	323	599	46
2001	276	308	584	47
2000	240	308	548	44
<b>Orkla Beverages</b>				
2003 *(1)	213	334	547	39
2002 *(1)	170	520	690	25
2001 *(1)	140	335	475	29
2000	148	151	299	49
<b>Orkla Brands</b>				
2003	46	40	86	53
2002	48	40	88	55
2001	43	40	83	52
2000	79	40	119	66
<b>Orkla Media</b>				
2003	57	32	89	64
2002	58	12	70	83
2001	61	17	78	78
2000	35	6	41	85
<b>Chemicals</b>				
2003 *(2)	1,152	2,610	3,762	31
2002	1,149	1,749	2,898	40
2001	1,138	1,770	2,908	39
2000	1,367	1,618	2,985	46
<b>Total Orkla</b>				
2003	1,734	3,391	5,125	34
2002	1,701	2,644	4,345	39
2001	1,658	2,470	4,128	40
2000	1,869	2,123	3,992	47

\* (1) The figures for Orkla Beverages' energy consumption in 2001-2003 are 40 % of energy consumption in Carlsberg Breweries because Orkla owned 40 % of Carlsberg Breweries A/S during that period. Figures reported by Carlsberg Breweries included 27 factories in 2001, 37 factories in 2002 and 34 factories in 2003.

\* (2) Borregaard Switzerland (acquired in 2002) is included in the figures for Chemicals as from 2003.

Changes in the size, composition and factory structure of the business areas during the period 2000 – 2003 have had a significant effect on energy consumption.

Orkla's total energy consumption rose about 25 % in the four-year period 2000–2003, primarily due to increased production. However, the percentage of electric power dropped by 25 % due to the sharp rise in the percentage of factories outside Norway. This affects energy figures because in other countries steam is produced almost exclusively by burning fossil fuels, while electric power is also used to produce steam in Norway during periods when electric power is favourably priced.

## Emissions of carbon dioxide and sulphur dioxide

	Energy from burning of various fuels at factories (incl. district heating) GWh	Emissions of carbon dioxide 1000 tonnes	Emissions of sulphur dioxide tonnes	Sulphur dioxide per unit energy burning of various fuels at factories (incl. district heating) tonnes/GWh
<b>Orkla Foods (incl. Bakers)</b>				
2003	375	85.3	60.8	0.16
2002	323	72.7	58.6	0.18
2001	308	69.5	54.6	0.18
2000	308	69.9	74.4	0.24
<b>Orkla Beverages</b>				
2003 *(1)	334	101.3	190.5	0.57
2002 *(1)	520	108.7	183.3	0.35
2001 *(1)	335	132.7	un- reported	un- reportex
2000	151	37.1	28,8	0.19
<b>Orkla Brands</b>				
2003	40	8,2	0,9	0.02
2002	40	8,3	1,0	0.03
	40	8,1	1,0	0.03
2000	40	8,3	2,5	0.06
<b>Orkla Media</b>				
2003	32	2,6	0,1	0.01
2002	12	2,8	0,1	0.01
2001	17	3,8	1,1	0.06
2000	6	1,5	0,8	0.13
<b>Chemicals *(2)</b>				
2003	2,610	315.1	982.3	0.38
2002	1,749	275.6	795.5	0.45
2001	1,770	305.5	1,047.6	0.59
2000	1,618	229.5	602.6	0.37
<b>Speciality *(3) Chemicals</b>				
2003		22.9	282.5	
2002		38.4	421.3	
2001		36.8	449.1	
2000		45.4	542.7	
<b>Total Orkla</b>				
2003	3,391	535.4	1,517.1	0.45
2002	2,644	506.5	1,459.8	0.55
2001	2,470	556.4	1,553.4*(4)	0.63 *(4)
2000	2,123	391.7	1,251.8	0.59

\* (1) The figures for Orkla Beverages' energy consumption in 2001-2003 are 40 % of energy consumption in Carlsberg Breweries because Orkla owned 40 % of Carlsberg Breweries A/S during that period. Figures reported by Carlsberg Breweries included 27 factories in 2001, 37 factories in 2002 and 34 factories in 2003.

\* (2) Borregaard Switzerland (acquired in 2002) is included in the figures for Chemicals as from 2003.

\* ((3) Figures for Speciality Chemicals include carbon dioxide and sulphur dioxide emissions from the burning of petroleum coke at Exolon and sulphur dioxide emissions from the the burning of pyrite at Borregaard in Sarpsborg.

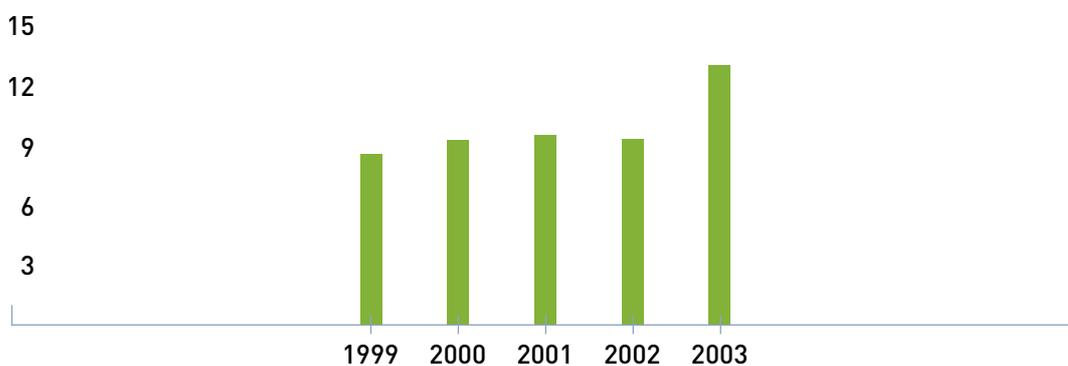
\* (4) Excluding Orkla Beverages 2001.

Changes in the size, composition and factory structure of the business areas during the period 2000–2003 have significantly affected energy consumption and emissions of carbon dioxide and sulphur dioxide.

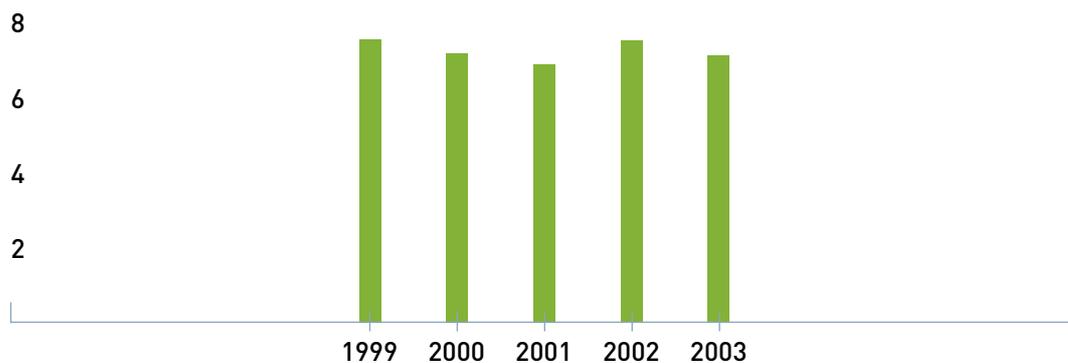
Carbon dioxide and sulphur dioxide emissions from the burning of various fuels were more or less constant in the three-year period 2001–2003 despite a rise of around 35 % in burning. The main reason why sulphur dioxide emissions have not increased is the increased use of natural gas and biofuels at the Borregaard factories in Sarpsborg and other factories. Sulphur dioxide emissions from Exolon's smelting kilns have also decreased.

## Results – HSE figures

### → Trends in H-values at Orkla in Norway



### → Trends in sickness absence in Norway (%)



# Orkla Foods in 2003

## About Orkla Foods

Orkla Foods is a leading developer, marketer and manufacturer of pizzas, pies, sauces, snacks, ready meals, fruit and berry products, preserved vegetables, seafood, processed potatoes, baking ingredients and bakery products.

Orkla Foods is divided into four main areas: Orkla Foods Nordic, Orkla Foods International, Orkla Food Ingredients and Bakers.

Approximately 80 % of operating revenues in 2003 derived from the Nordic market. Of branded consumer goods sales, approximately 80 % of products were sold to grocery stores and 20 % to catering companies.

In 2003, Orkla Foods, including Bakers, had 54 (43+11) production plants in 13 countries.

## Highlights

Sulphur dioxide emissions from Orkla Foods factories were reduced by 63 % in the period 1998-2003. This reduction was mainly due to factories' transition to natural gas, propane and light oil. The transition from coal to natural gas at the Kotlin factory in Poland has made a considerable contribution to this improvement. In the period 1998-2003, carbon dioxide emissions were more or less constant, despite an increase in production of around 15 %.

According to internal guidelines, Orkla Foods companies must choose packaging materials and solutions that have as little impact on the environment as possible. In the period 1998-2003, Orkla Foods reduced the total quantity of packaging per unit product by 7 %. Efforts to reduce the weight of packaging and the use of return packaging in transport from factory to wholesaler continue. Among other things, Procordia Food and Stabburet are focusing strongly on concentrated products, such as Fun Light, and various refill products. These products require less packaging material and thereby also less transport volume.

All factories collect and sort packaging. In the period 1998-2003, collected packaging increased from approximately 4,600 to 6,500 tonnes.

In 2003 Orkla Foods managed to maintain its restrictive policy relating to raw materials based on genetically modified organisms (GMO). To be able to maintain such a restrictive practice, it is necessary to ensure effective cooperation between the purchasing function and the quality and development units in the various companies. The EU's new GMO legislation will be implemented in 2004.

The new rules include both food products and animal feed and will apply as from April 2004. In principle, the change means that all raw materials and ingredients based on GMO must be GMO labelled and traceable.

In 2003, Stabburet invested in a new autoclave cooling system for its factory at Råbekken in Fredrikstad which will bring major environmental and financial benefits. It will lead to an annual reduction in water consumption of approximately 20,000 m<sup>3</sup> and a reduction in the energy requirement to heat the autoclave water of around 3.2 GWh.

### **Challenges**

Orkla Foods' goal was to reduce energy consumption per unit product by 10 % in the period 1998–2002. Several factories have managed to reduce consumption by 10 % during this period, not least thanks to the ongoing improvement programme. However, total energy consumption at Orkla Foods declined by only 6 %. The reason why not all companies have managed to achieve the 10 % target is that there has been an increase in the proportion of highly processed products, which require more energy to manufacture.

The quantity of production waste must be further reduced in the years ahead, not least because landfill charges are rising sharply in the Nordic countries. In Sweden, landfilling of organic waste will be prohibited from 2005. As a result of this, several Orkla Foods factories have invested in their own waste centres. The amount of waste sent to landfill sites was reduced by approximately 45 % in the period 1998–2003.

Substantial quantities of ammonia are used as a cooling agent in the larger cooling and refrigeration plants at the factories. If an accident should occur, there is a risk that leakage of ammonia gas may lead to personal injury. The plants have therefore been designed to minimise the risk of such accidents. To maintain a high level of focus on safety, emergency drills are regularly carried out at factories where there are large quantities of ammonia.

In certain periods, production at some of Orkla Foods' factories (Jästbolaget in Sollentuna, the Idun yeast factory in Oslo, Procordia Food's factory in Eslöv and the Beauvais factory in Svinninge) causes smells that are unpleasant but not dangerous. These smells have resulted in complaints from local communities, which the responsible companies take very seriously. The factories are constantly working to reduce these problems.

The Nordic authorities have introduced stricter requirements to reduce noise levels at night (40–45 dB) in the neighbourhood of factories, which will necessitate further investments in the next few years.

Sickness absence at Orkla Foods was 5.9 % in 2003, slightly lower than in 2002. On average, total sickness absence was one percentage point lower in 2003 than in 2002. Although the reduction was primarily in short-term absence, long-term sickness absence also declined slightly.

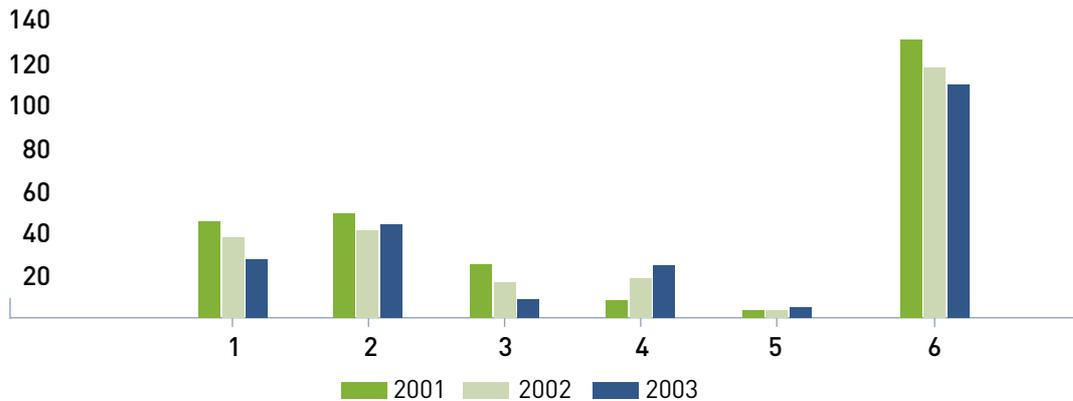
## Objectives and results

Orkla Foods' environmental efforts are focused on its choice of raw materials, energy and water consumption, packaging, emissions and waste. The transition to more environmentally sound packaging is highly appreciated by both customers and consumers.

Area	Objectives	Results
<b>Raw materials</b>	Avoid genetically modified raw materials, ingredients, additives and aromatic substances	Orkla Foods' restrictive policy with respect to GMO-based raw materials has been upheld through systematic, painstaking efforts and cooperation between the purchasing, quality development and product development functions.
<b>Energy</b>	Reduce energy consumption and choose forms of energy that have as little environmental impact as possible	<p>Project E100 is being implemented in all Orkla Foods factories. E100 is intended to promote more cost-effective production and identify areas where the divisions can save water and energy.</p> <p>Several factories succeeded in reducing energy consumption per unit product by approximately 10 % in the period 1998–2003. For Orkla Foods as a whole, consumption was reduced by only 6 %.</p>
<b>Waste and emissions</b>	Recover materials and energy by sorting packaging and waste	<p>The amount of waste sent to landfill sites was reduced by approximately 45 % in the period 1998–2003.</p> <p>All factories sort waste at source. In the period 1998–2003, collected packaging increased from around 4,600 to 6,500 tonnes.</p>
<b>Packaging</b>	Change and reduce the amount of packaging and increase possibilities for recycling packaging materials	The total quantity of packaging per unit product was reduced by approximately 7 % in the period 1998–2003.

## Results

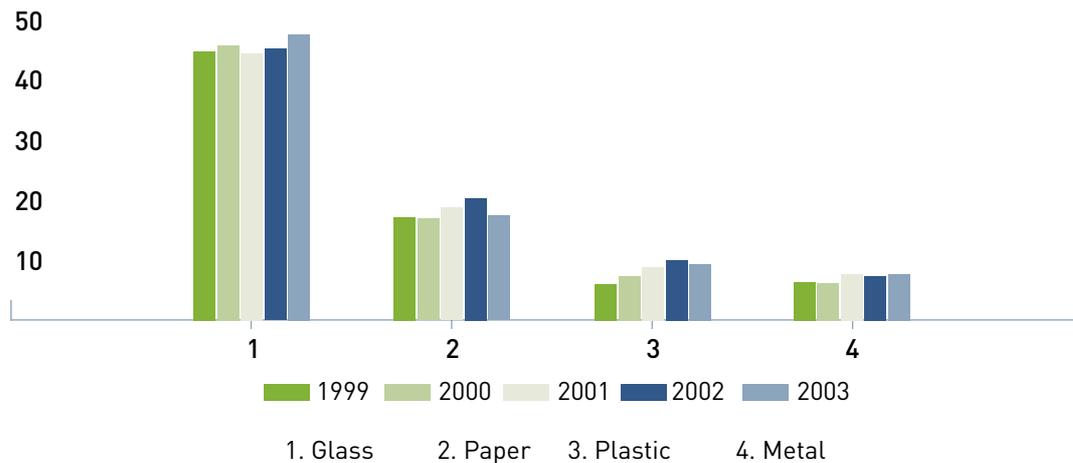
### → Waste from factories (kg waste per tonne finished product)



1. Animal feed 2. Bio-energy 3. Landfills 4. Compost + farmland 5. Incineration 6. Total

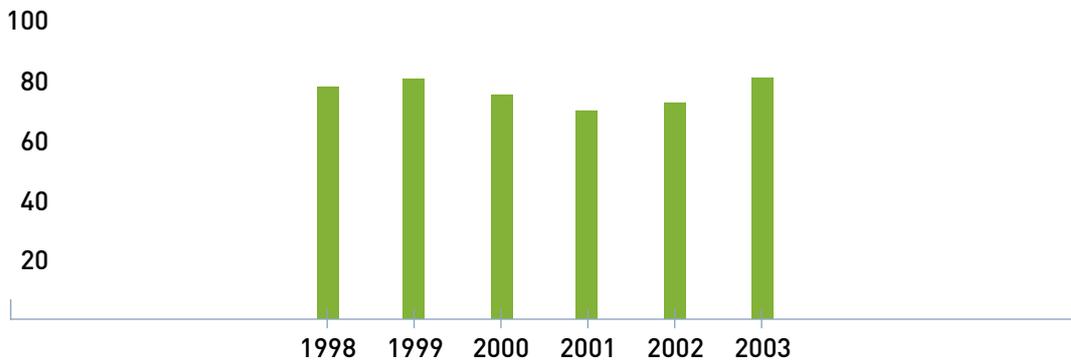
Orkla Foods' processing of raw materials generates around 68,000 tonnes of organic residuals and waste every year, which is primarily used to manufacture animal feed and produce bio-energy. For both environmental and financial reasons, Orkla Foods has implemented various programmes to reduce the amount of organic waste, and several factories have invested in their own waste management centres. During the period 2001–2004, the amount of waste (per unit product) was reduced by around 20 %. The amount of waste must be further reduced in the years ahead, partly because landfill charges are rising sharply in the Nordic countries.

### → Use of various types of packaging (1.000 tonnes)



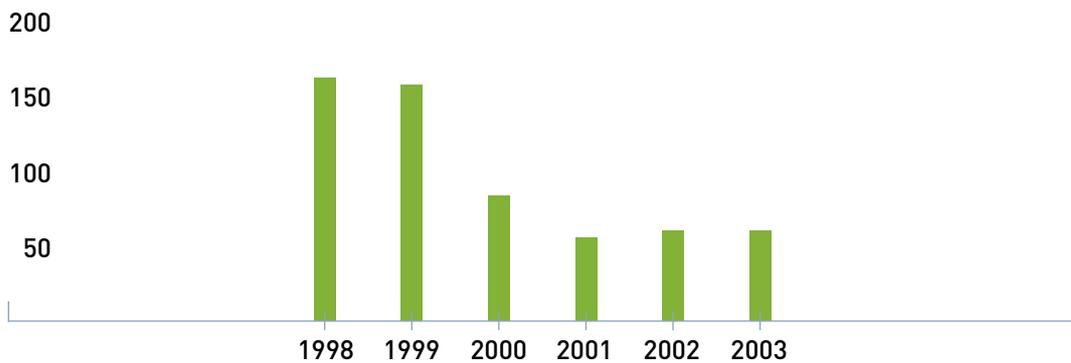
According to internal guidelines, Orkla Foods companies must choose packaging materials and solutions that have as little impact on the environment as possible. The graph shows the use of various materials for packaging Orkla Foods products. Glass and paper (including carton and corrugated cardboard) are the heaviest materials. Use of plastic has increased about 50 % in the period 1999–2003. On average, around 135 kg of packaging material is used for one tonne of product, but use varies considerably from one type of product to another. The total amount of packaging used per unit of product was reduced by 7 % in the period 1998–2003. This work will continue unabated in 2004.

### → Emission of carbon dioxide (1.000 tonnes)



Carbon dioxide emissions from the incineration of fossil fuels at Orkla Foods remained more or less constant in the period 1998-2003, despite an increase in production of around 15 %. This is primarily due to the transition from oil and coal to natural gas and propane at several factories.

### → Emission of sulphur dioxide (tonnes)



Sulphur dioxide emissions from the incineration of fossil fuels were reduced by around 63 % in the period 1998-2003 despite an increase of around 7 % in the use of thermal energy. The most important reason for this reduction was the factories' transition from oil and coal to natural gas and propane. The transition from the use of coal to the use of natural gas at the factory in Kotlin, Poland contributed significantly to this improvement.

## Orkla Beverages in 2003

### **About Orkla Beverages**

Carlsberg Breweries, the world's fifth largest brewery group, was jointly owned by Carlsberg A/S (60 %) and Orkla ASA (40 %) until March 2004. On 4 March Orkla decided to sell its interest to Carlsberg A/S.

Carlsberg Breweries/Carlsberg's main market for beer and carbonated soft drinks is Western Europe. The Group also holds a strong position in growth areas in Eastern Europe and Asia through the joint venture companies Baltic Beverages Holding AB and Carlsberg Asia Ltd. The Carlsberg brand is currently produced in 38 countries all over the world and sold in more than 150 countries. The brewery group also produces Tuborg and several other strong international, national and local brands. The workforce in the companies where Carlsberg Breweries owns more than 50 % of the shares is equivalent to approximately 17,200 man-years.

### **Environmental status 2003**

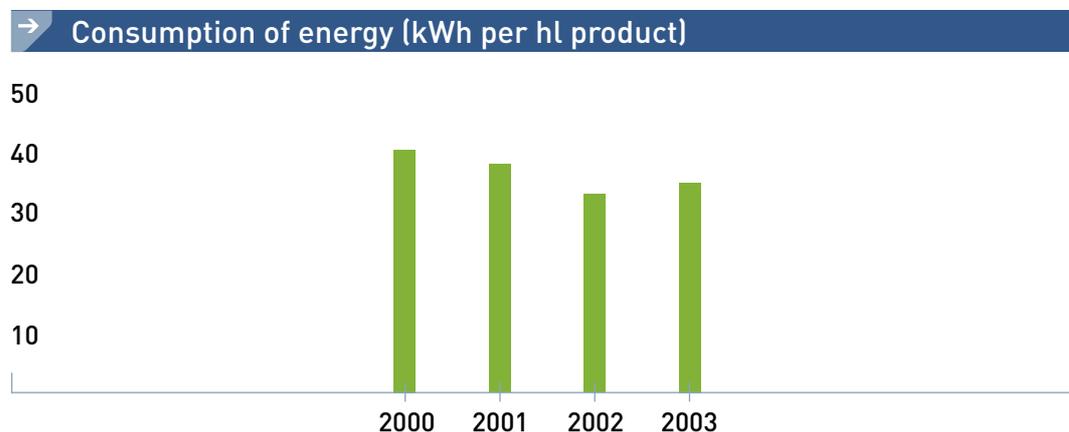
The company's possibilities for controlling environmental activities depend on whether it is a majority or minority shareholder in a brewery. This report concerns the 34 production plants in which Carlsberg Breweries has an interest that exceeds 50 %. In 2003 these plants produced approximately 38 million hectolitres of beer and carbonated soft drinks.

At Carlsberg Breweries' annual environmental conference in 2002 it was decided that all production plants are to be environmentally certified or be ready for certification by the end of 2004. Work was in progress to achieve this objective throughout 2003. 18 factories were certified according to the ISO 14001 standard at the end of the year, while 16 factories plan to complete the certification process in 2004. At the company's annual environmental conference in September 2003, environmental officers at the factories received further training in how to deal with international environmental responsibilities and other important environmental issues. In connection with the planned certification process in 2004, the factories will focus strongly on measures to prevent accidents. There were no serious accidents at Carlsberg Breweries in 2003.

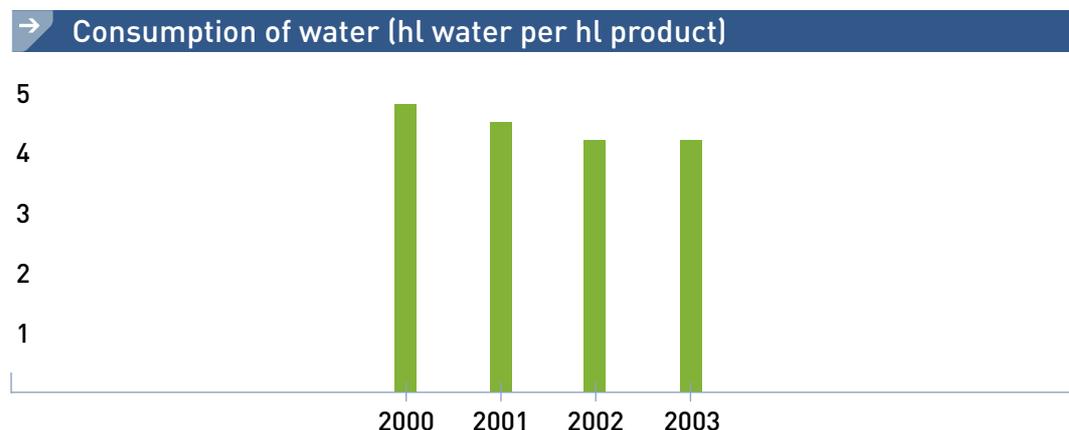
In recent years, Carlsberg Sverige AB (Sweden) has been working to translate environmental and traffic safety policy into practical action. Around 200 drivers have been trained under the Heavy Ecodriving programme, which also includes training in road safety. In 2003, Carlsberg Sweden managed to reduce diesel consumption and carbon dioxide emissions by 10 %, and aims to achieve a further reduction of 5 %. In November 2003, the company received the Swedish road authority's environmental prize for its Heavy Ecodriving programme.

A majority of production plants have achieved positive changes in water and energy consumption in recent years. In the period 2001–2002, Carlsberg Breweries' water consumption declined from 4.5 to 4.2 hl water per hl product. Despite a slight increase in the production of beer in relation to carbonated soft drinks in 2003, water consumption remained at the same level as the previous year. Energy consumption increased from 33 kWh to 35 kWh per hl product between 2002 and 2003, and the quantity of waste water increased from 3.0 hl to 3.2 hl per hl product. Carbon dioxide emissions remained constant (9.5 kg carbon dioxide per hl product), while COD was reduced by around 10 % in the period 2002-2003. Beer production, which requires more energy and water than carbonated soft drink production, accounted for approximately 74 % of total production volume in 2003.

## Results



The graph shows consumption of energy per hl product. The primary reason for the decline in consumption from 2001 to 2002 is that production of carbonated soft drinks, which is less energy-intensive than beer production, increased in 2002. In 2003, beer production accounted for around 74 % of total production volume.



The graph shows consumption of water per hl of product. In the period 2001–2002, water consumption at Carlsberg Breweries dropped by approximately 7 %. Despite a certain increase in the percentage of beer produced in relation to carbonated soft drinks in 2003, water consumption remained at the same level as the previous year.

# Orkla Brands in 2003

## About Orkla Brands

Orkla Brands comprises a group of companies that produce and market detergents, personal care products, confectionery, biscuits, household textiles and cod liver oil. Since 1 November 2000, Orkla's snacks business has been part of the Chips Scandinavian Company, 40 % of which is controlled by Orkla and 60 % by Chips Abp. The snacks business is not covered in these pages.

Orkla Brands, whose operations are mainly located in Norway and Sweden, has approximately 2,300 employees. It pools the branded products expertise of its various companies and supplies some of the most successful brands on the market. The individual companies benefit from major synergy gains in many important areas, one of which is health, safety and environment. Orkla Brands has six production plants in the Nordic region and its cod liver oil, detergent and personal care products factories are subject to licensing requirements.

## Highlights

In recent years, Orkla Brands has reported on challenges relating to discharges of washwater at the Lilleborg factory in Ski. In certain periods, washwater discharges have been close to the permitted limit and have created problems for the Nordre Follo Treatment Plant. The factory has therefore made systematic efforts to reduce the strain on the treatment plant caused by washwater, and has achieved good results. In the latter half of 2003, the factory managed to reduce the impact on the treatment plant by 47 % compared with the corresponding period the previous year. Measures to reduce the use and increase the re-use of washwater have played a key role. Improvements have been achieved by developing new product formulas, investing in new equipment and changing operating routines. The factory aims to maintain and improve the current low level of discharges in the coming year.

The total quantity of waste at Orkla Brands dropped 9 % from 2002 to 2003. There have been reductions in the amount of waste sent to landfill sites, recycled raw materials and recycled waste. Work in this area will continue unabated.

Nidar invested several tens of millions of kroner in the confectionery factory in Trondheim in 2003. These investments have generated major gains in the form of greater efficiency and an improved physical working environment. Several of the heaviest, most monotonous manual operations have now been delegated to new machines.

Lilleborg is continuing its targeted efforts to have a good selection of Swan eco-labelled products in its portfolio. In 1995 12 % of detergents for the consumer market carried the Swan label. There has been a steady increase since then, and in recent years the percentage has been around 48 %.

## **Challenges**

After a steady decline in the amount of packaging used for detergents throughout most of the 1990s, the amount has increased in recent years, including in 2003. This is largely due to the transition to a larger proportion of liquid detergents and more handy non-reusable packaging. Orkla Brands is currently developing new packaging in several areas. Among other things, it is represented in an organisation called Emballasjedugnaden NOK, established by grocery suppliers, packaging manufacturers and retailers to encourage players in the packaging chain to introduce their own controls to ensure optimisation of packaging.

Orkla Brands companies work continuously to promote energy saving. In 2003, Peter Möller changed from using electricity to using waste fat to heat a distillation plant. This project will in future lead to an annual saving of 300 MWh. Peter Möller nevertheless reported a slight overall increase in electricity consumption in 2003 due to a significant rise in production.

Reducing waste and production rejects is a challenge for all companies, particularly Nidar and Göteborgs Kex.

Several factories are working on Total Productivity Maintenance (TPM). Among other things, this entails improving competence and increasing the independence of staff. This work has proceeded somewhat less rapidly than planned, but will be intensified in 2004.

Systematic efforts are being made to reduce sickness absence and cooperation between management, trade union representatives and the company health service is good. Orkla Brands companies have entered into an agreement with the National Insurance Administration to become Inclusive Workplace companies. La Mote has not quite reached the target, but the process is well under way and an agreement is expected to be signed in spring 2004. The aim of this scheme is to reduce sickness absence by 20 % by the end of 2005, raise the retirement age and bring more people with impaired functionality back to work.

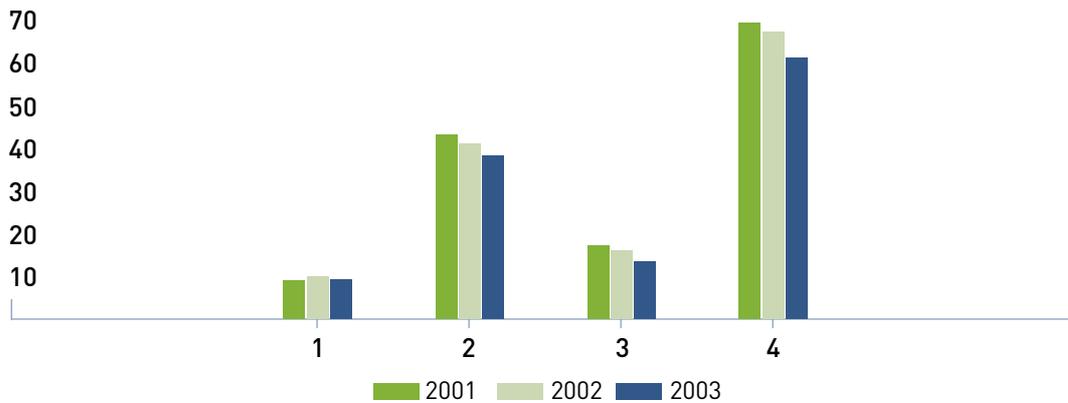
## Objectives and results

At Orkla Brands the focus is on reducing the consumption of chemicals and packaging. High priority is also given to reducing energy consumption, waste and emissions to water and air.

Area	Objectives	Results
<b>Consumption of chemicals</b>	Reduce the amount of chemicals in products and, where possible, switch to more environmentally sound raw materials	<p>The quantity of chemicals per wash has been reduced from 52.07 g in 1996 to 48.01 g in 2003.</p> <p>The quantity of slowly degradable chemicals has been steadily reduced from 1.69 g per wash in 1996 to 0.75 g per wash in 2003.</p>
<b>Use of packaging</b>	Reduce packaging consumption	After a steady decline in the quantity of packaging used throughout much of the 1990s at Lilleborg, the quantity has increased somewhat in the past couple of years.
<b>Waste/emissions</b>	Reduce the quantity of waste at factories	<p>The total quantity of waste declined by 9 % from 2002 to 2003. There were reductions in landfilled waste, recycled raw materials and recycled waste.</p> <p>Between 2002 and 2003, the Lilleborg factory in Ski reduced COD emissions from approximately 5.9 kg to 3.3 kg COD per tonne product.</p>
<b>Energy</b>	<p>Continuous work on energy-saving</p> <p>Göteborgs Kex aimed to reduce electricity consumption by 1 %</p>	<p>At Peter Möller, waste fat is used to replace electricity to heat a distillation plant. This measure will result in a reduction of around 300 MWh of electricity per year.</p> <p>The goal was not achieved: consumption increased slightly in 2003.</p>

## Results

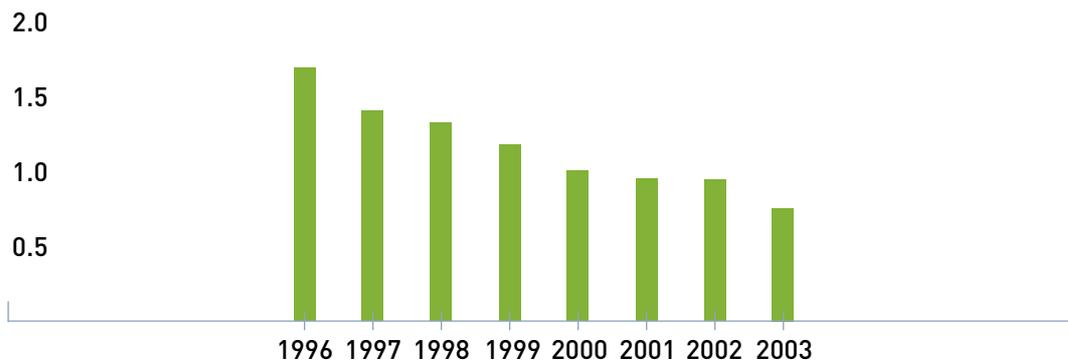
### → Waste from factories (kg waste per tonne finished product)



1. Recycled packaging waste      2. Recycled product and raw material waste      3. Waste to landfills      4. Total

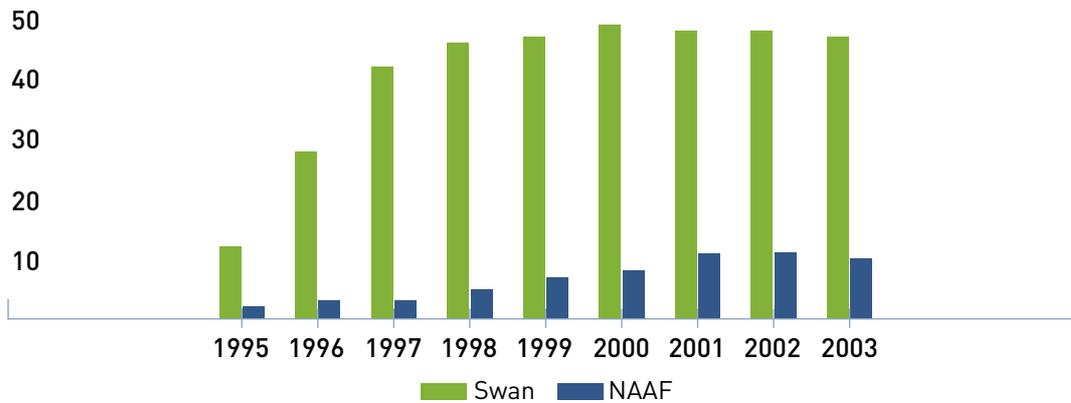
Orkla Brands focuses on reducing the amount of waste and residuals generated by its factories. The graph shows the amount of waste per unit finished product, broken down into the categories "recycled packaging waste", "recycled product and raw material waste" and "landfill waste". In the period 2001–2003, recycled packaging waste was reduced by 12 % and landfill waste was reduced by 22 %. This work will continue unabated in 2004.

### → Slowly degradable chemicals (g. per wash)



Lilleborg is continuing its targeted efforts to supply environmentally sound detergents. The amount of slowly degradable chemicals per wash has been reduced by around 56 % in the period 1996–2003.

→ Percentage of Swan-labelled and NAAF-recommended detergents (%)



Lilleborg has made active efforts to offer consumers eco-labelled and allergen-labelled detergents. 12 % of its detergents for the consumer market bore the Swan eco-label in 1995. There has been a steady increase since then, and in recent years the percentage has been around 48 %. Approximately 10 % of its detergents for the consumer market are recommended by the Norwegian Asthma and Allergy Association (NAAF). The purpose of the NAAF recommendation is to help persons with allergies and hypersensitive individuals find products that will affect them as little as possible.

# Orkla Media in 2003

## About Orkla Media

Orkla Media is the fifth largest media company in the Nordic region. Its core businesses comprise daily newspapers, magazines and direct marketing. Orkla Media operates in Norway, Sweden, Denmark, Poland, Lithuania and Ukraine. Orkla Media was established in 1983 and had approximately 8,100 employees in 2003.

## Orkla Media consists of five sectors:

- ➔ Det Berlingske Officin
- ➔ Newspapers Norway
- ➔ Orkla Press Poland
- ➔ Hjemmet Mortensen
- ➔ Direct Marketing

Orkla Media owns Det Berlingske Officin AS, the largest newspaper group in Denmark, whose main activities are in the printed media and electronic publishing sectors. Total daily circulation for the newspapers in the Berlingske Group on weekdays is 540,000. The Group also publishes regional newspapers with a weekly circulation of 1,543,000 and the free sheet Urban, which is published in Copenhagen and has a daily circulation of 175,000 copies.

In Poland, Orkla Media is the second largest media company (in terms of circulation), with shares in 12 daily newspapers and two weekly newspapers. The daily newspapers have a total daily circulation of 540,000. The newspaper business also includes one regional newspaper in Lithuania and one in Ukraine.

In Norway, the newspaper business comprises 31 regional and local newspapers with a total circulation of 382,000 on weekdays. Orkla Media also owns 49 % of the Swedish regional newspaper Norrländska Socialdemokraten (NSD).

Orkla Media owns 50 % of Hjemmet Mortensen Forlag, which is the biggest publisher of family and special interest magazines in Norway.

Orkla Media is also a significant player in the field of direct advertising and dialogue marketing and has companies in Norway and Sweden.

## Highlights

The Presspublica printing plant in Koninko implemented ISO 9001 and SIO 14001 in 2003 and the Warszawa Print plant in Raszyn will complete its implementation of ISO 9001 in 2004. The printing plant in Koninko will be certified in the first half of 2004. The implementation of ISO standards is one effect of efforts to adapt to new environmental standards in connection with Poland's entry into the EU.

Orkla Press Poland is working according to the new standards and procedures and has also established joint agreements on return systems and greater coordination of purchasing.

Orkla Media's companies focus continuously on reducing energy consumption. Reported electricity consumption declined by 5.1 % from 2002. Hjemmet Mortensen achieved a good result: total energy consumption declined while paper consumption at the printing plant increased (+6 %). Energy consumption increased moderately at the printing plants in Poland, but this was caused by a higher level of activity due to external printing contracts. There will continue to be strong focus on energy saving in Orkla Media in the years ahead, for both financial and environmental reasons.

The amalgamation of Orkla Media's printing activities in the Oslo Fjord region was completed in 2003 with the closure of the Orkla Trykk Østfold printing plant (Avisenes Rotasjonstrykkeri). All Orkla Media's newspapers in south-eastern Norway are now printed in Stokke, Vestfold County. As a result of this change, the newspapers are now printed in a modern, environmentally efficient plant and all technical expertise is gathered in one place. However, the amalgamation has a certain negative environmental impact in the form of more transportation of newspapers.

### **Challenges**

All Orkla Media's printing plants, with the exception of Det Berlingske Officin, increased their paper consumption in 2003 as a result of higher circulation or external contracts. Although all the printing plants focus on wastage, it is only at the Polish plants that the amount of wastage has not risen faster than paper consumption.

At the Polish plants, adaptation to EU requirements and standards will continue to have high priority in 2004 (see also under Highlights). Work on procedures for destroying waste substances is especially important.

Efforts to reduce sickness absence and engage in preventive activities in this area continued in 2003. In Norway, activities in the past year were linked to the Inclusive Working Life agreement, to which most Norwegian Orkla Media companies are now signatories.

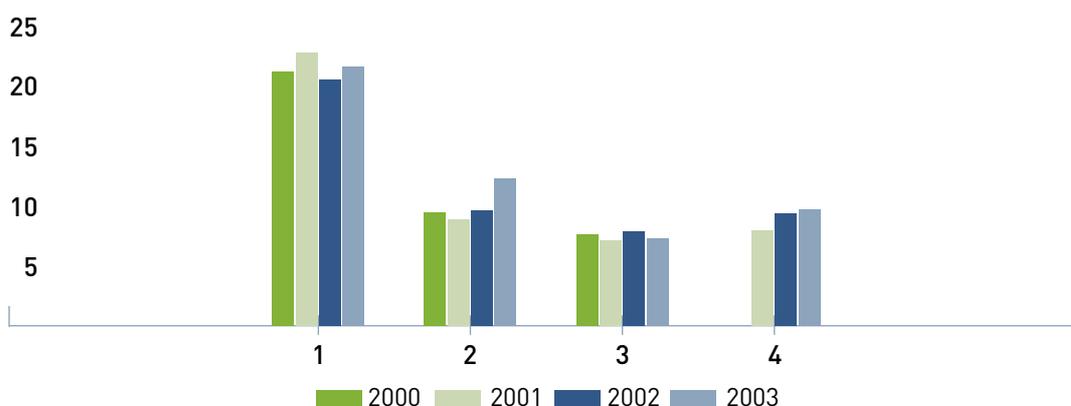
## Objectives and results

Orkla Media focuses on reducing wastage, energy consumption and emissions, and on the working environment.

Area	Objectives	Results
<b>Waste paper</b>	Reduce the percentage of wastage at all printing plants (wastage as a percentage of total paper consumption)	<p>All printing plants have focused on wastage, but it is only at the Polish printing plants that the amount of wastage has not increased faster than paper consumption (see graph).</p> <p>Orkla Press Poland achieved a slight decline in wastage, from 7.9 % (2002) to 7.3 % (2003).</p> <p>At Newspapers Norway, wastage increased from 9.6 % in 2002 to 12.3 % in 2003. Part of the reason for this is that Orkla Trykk Stokke included wastage from the packing department from the beginning of 2003. Orkla Trykk Stokke also had extraordinary technical problems, which contributed towards the higher amount of wastage.</p> <p>Wastage at the Hjemmet Mortensen printing plant increased in comparison with 2002, but the difference was due to product quality requirements. The printing plant has achieved its own goal of zero difference from the estimated amount of wastage.</p>
<b>Energy</b>	Reduce the consumption of electricity, oil and gas	<p>Orkla Media reduced its electricity consumption by 5.1 % between 2002 and 2003.</p> <p>Hjemmet Mortensen reduced its electricity consumption by as much as 14.5 %, its oil consumption by 3.9 % and its gas consumption by 11.2 %, despite a 6 % rise in paper consumption.</p> <p>An energy-saving project has been initiated at Orkla Trykk Stokke. The goal is to reduce energy consumption by 10 % by 2005 compared with the 2001 level.</p>
<b>Emissions</b>	Reduce emissions of carbon monoxide (CO) and total hydrocarbons (THC) from the presses at the Hjemmet Mortensen printing plant to below the permitted limits.	Emissions are below the permitted limits by a good margin.
<b>Working environment</b>	Implement various measures to prevent repetitive stress disorders and sickness absence, and to improve the psycho-social working environment	<p>Sickness absence in the Norwegian and Swedish companies has declined from 6.15 % (2000) to 5.7 % (2002).</p> <p>A majority of Norwegian companies have joined the Inclusive Workplace scheme. The scheme has been well received by all who have signed the agreement.</p>

## Results

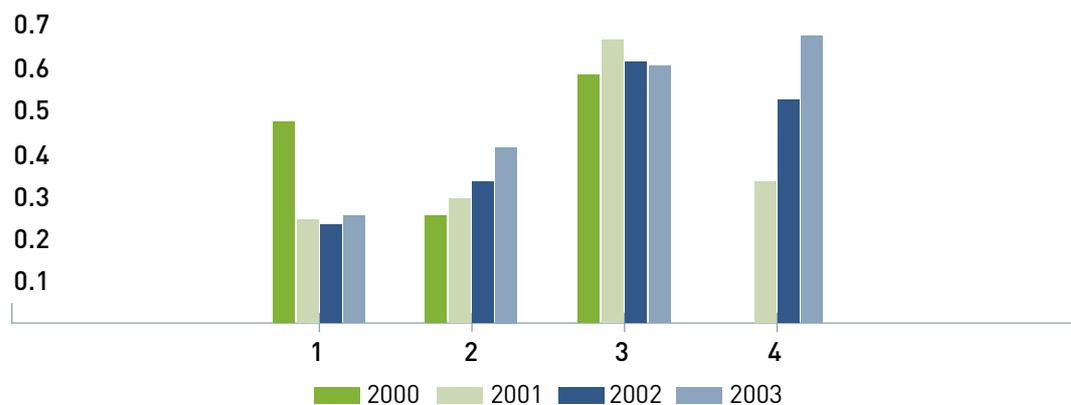
### → Wastage as percentage of total consumption of paper (%)



1. Hjemmet Mortensen 2. Newspapers Norway 3. Orkla Press Poland 4. Berlingske Officin

Consumption of paper increased in 2003 at the Orkla Media printing plants, with the exception of Det Berlingske Officin, due to higher circulation or external contracts. Although all the printing plants have focused on reducing wastage, it is only at the Polish plants that the amount of wastage has not risen faster than paper consumption. The percentage of wastage in Newspapers Norway increased sharply from 2002 to 2003, largely because from 2003 the Orkla printing plant at Stokke included wastage from packaging in the reported figures.

### → Consumption of water (m<sup>3</sup> per tonne paper used)



1. Hjemmet Mortensen 2. Orkla Trykk 3. Orkla Press Poland 4. Berlingske Officin

The graph shows water consumption per tonne of paper used at Hjemmet Mortensen Trykkeri, Orkla Trykk, Orkla Press Polen and Berlingske Officin. However, water consumption per unit product at Orkla Media is relatively low compared to figures for Orkla's other companies. Water consumption per tonne of paper used nevertheless rose significantly at both Orkla Trykk and Berlingske Officin during the period 2001-2003, while consumption decreased slightly at Orkla Press Polen.

# Chemicals in 2003

## About Chemicals

Orkla's chemicals business, Borregaard, is an international chemicals company that develops, manufactures and markets specialised industrial products. Borregaard's core businesses are speciality chemicals, fine chemicals and ingredients. Borregaard has 2,600 employees working at more than twenty production plants in thirteen countries, and sales offices in Europe, America, Asia and Africa.

## Borregaard's business areas:

Borregaard ChemCell is a leading supplier of highly processed speciality cellulose, which is used as a raw material for consumer products and for a variety of chemical-technical purposes.

Borregaard LignoTech is the world's leading supplier of lignin-based dispersing and binding agents.

Borregaard Synthesis produces advanced fine chemicals for the pharmaceutical industry, the food manufacturing industry and other selected markets.

Denofa is a leading supplier of oils and fats for the food industry in Norway. The company has a solid position as a supplier of soya-based protein to the Nordic animal and fish feed market.

## Highlights

Borregaard is currently Orkla's biggest consumer of energy. Consequently, energy saving is one of the company's highest priority environmental tasks. The chemicals company has made substantial investments in energy saving in recent years and has made systematic efforts to increase its utilisation of different heat streams and improve its monitoring and control systems. In the past three years, Borregaard in Sarpsborg has reduced its consumption of thermal energy by 200 GWh per year. In 2003 consumption declined by 65 GWh.

As a result of its decision to close down the sulphuric acid factory in 2005 and its desire to reduce oil consumption, Borregaard has decided to use new energy sources. Recovering energy from sorted waste has proved to be a highly advantageous solution. Waste incineration technology is now so good that the incineration processes themselves generate very low emissions, considerably lower than when energy is produced from fossil fuel. The company's first plant was completed in 2003. It is owned by Østfold Energi and Energos, which also supplied the technology. So far the plant has performed well and its production of thermal energy, approximately 190 GWh, will reduce oil consumption by 20,000 tonnes per year. Another plant that will utilise energy from residual waste from cellulose and vanillin production will start up in 2004. These two plants will produce a total of approximately 320 GWh of thermal energy a year.

In 2003 Denofa invested in a new flour loading facility for ships in Fredrikstad due to dust problems at the old facility. Following complaints from the local community and after several attempts to solve the problem, Denofa built an entirely new plant costing NOK 6 million. The dust problem has now been solved, to the benefit of Denofa and, not least, its neighbours.

At the Borregaard factories, there is continuous focus on introducing measures that will improve safety. The basic aim is to make it easier to work safely. In 2003, an interdisciplinary team reviewed work operations in several departments and all work operations were evaluated from a safety perspective. The company will try to remedy the weaknesses that were identified by making technical adjustments to the equipment. If this is not possible, working routines and operations will be modified and, if necessary, investments will be made in new equipment that will eliminate the risk of injuries and accidents. This process of systematic identification of hazardous situations will continue to have high priority in 2004.

### **Challenges**

One important task for the chemicals business is to start up the energy plants that are currently under construction (see also under Highlights). Most of Borregaard's energy consumption takes place at the main plant in Sarpsborg. While most pulp manufacturers burn parts of the biomass in timber to generate necessary thermal energy, Borregaard uses almost the entire log for commercial products. Thermal energy must therefore be obtained in some other way. Some thermal energy production is currently based on oil, but Borregaard is making efforts to reduce oil consumption and use more environmentally friendly energy sources.

Borregaard will be closing down its sulphuric acid factory in early 2005. The new energy plants, which will be completed in the next few years, will largely compensate for the closure of the sulphuric acid factory. The investments in the new plants are good environmental and economic policy.

At Borregaard's Swiss factory, discharges of organic material to water (fibre and COD) are regulated through an agreement between the company and the authorities. Reducing emissions to water through the water treatment plant has high priority at Borregaard Schweiz AG.

Borregaard continued its efforts to reduce sickness absence in 2003. At Borregaard in Sarpsborg, sickness absence was somewhat higher than expected, but on a par with previous years. Sickness absence was also on a par with 2002 at Denofa. Inclusive Working Life agreements have been entered into at the main plants in Sarpsborg and Fredrikstad. These agreements are intended to reduce sickness absence by ensuring better follow-up of individuals on sick leave and greater use of Active Sick Leave.

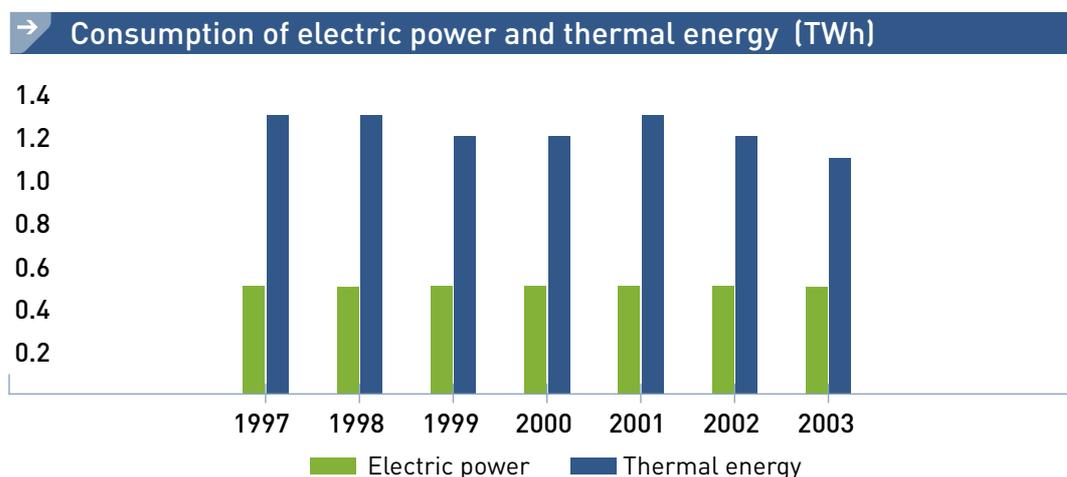
### **Objectives and results**

Borregaard focuses on energy, emissions and input factors. The company is also

implementing a number of measures to reduce problems for local communities in the neighbourhood of the biggest factories in Norway and Switzerland.

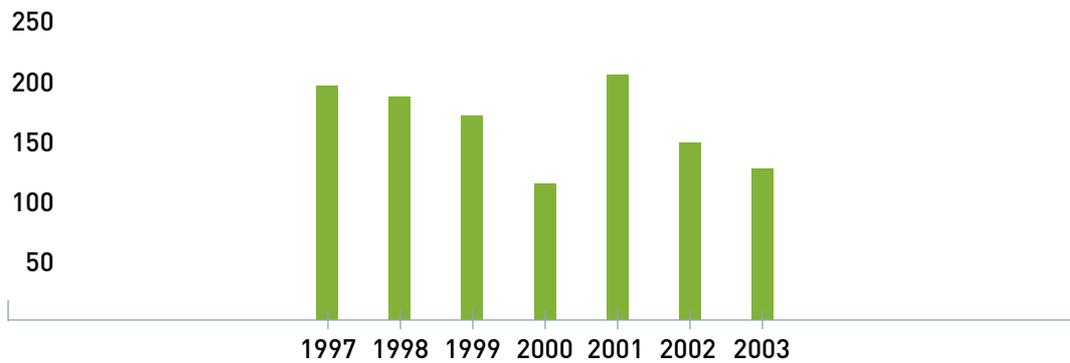
Area	Objectives	Results
<b>Energy</b>	Reduce energy consumption through targeted energy-saving measures	<p>En rekke ENØK-tiltak ved Borregaard i Sarpsborg har til sammen redusert varmeenergiforbruket med 65 GWh pr år.</p> <p>An alternative thermal energy plant was completed in 2003 and two new plants will be completed in 2005.</p>
<b>Emissions</b>	<p>Reduce emissions to air and water</p> <p>Reduce noise and smells in the local environment</p>	<p>At Borregaard in Sarpsborg, discharges to water have been stabilised, even though the proportion of speciality products and thereby degrees of processing are high.</p> <p>Many noise reduction measures have been implemented at the timber yard. In Sarpsborg, At Denofa, the dust problem in connection with loading onto ships has been reduced.</p>
<b>Input factors</b>	<p>Timber</p> <p>Soya</p>	<p>Most of the timber comes from forests that are managed according to the principles of sustainable development</p> <p>Through a comprehensive IP programme, Denofa ensures that it controls the entire value chain. Soya beans come from Brazil.</p>

## Results



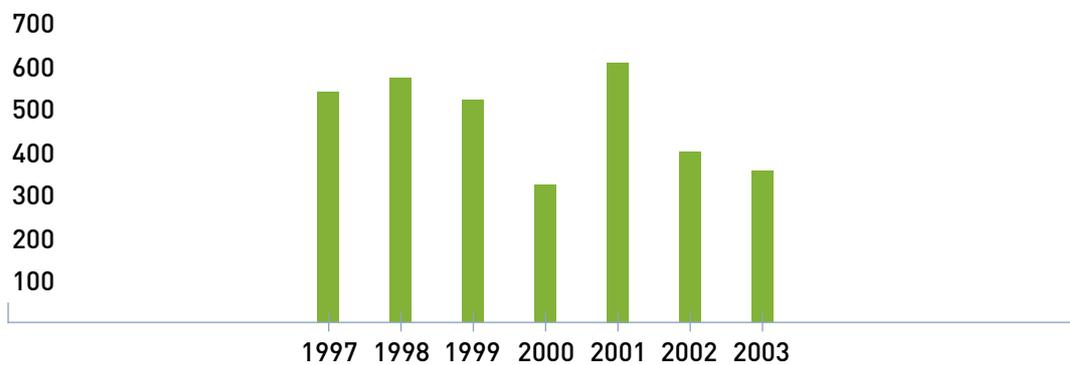
Borregaard has several projects in progress to ensure future supplies of thermal energy, which makes little impact on the environment. Intensive efforts are also being made to reduce energy needs through a variety of energy-saving projects. In the past three years, Borregaard in Sarpsborg has reduced its thermal energy needs by a total of 200 GWh per year. In 2003, Borregaard started up a plant to recover energy from sorted waste. This plant will reduce oil consumption by approximately 20,000 tonnes per year.

### → Emission of carbon dioxide (1.000 tonnes)



The graph shows carbon dioxide emissions from fuel incineration at the Borregaard factories in Sarpsborg. The varying levels of emission in the period 1997-2003 are due in part to the increased use of electricity rather than oil to produce thermal energy in 2000 and 2002. The low thermal energy requirement in 2002 and 2003 also had a positive effect on carbon dioxide emissions.

### → Emission of sulphur dioxide (tonnes)



The graph shows sulphur dioxide emissions from fuel incineration at the Borregaard factories in Sarpsborg. The varying emission levels in the period 1997-2003 are due in part to the increased use of electricity rather than oil to produce thermal energy in 2000 and 2002. The transition to the use of oil with a slightly lower sulphur content and lower thermal energy requirements in the past few years have also had a positive impact on sulphur dioxide emissions.