

# ANNUAL REPORT

# 1997



ENERGY



TIMBER



KEKKILÄ

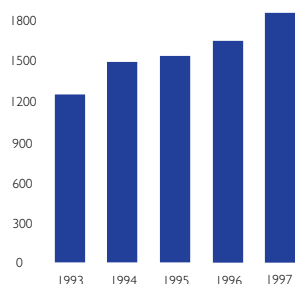


BIOTECH

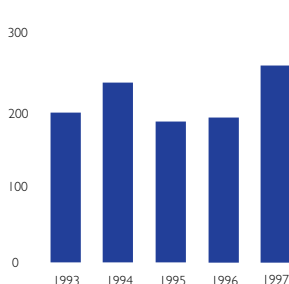
# KEY FIGURES

## VAPO GROUP KEY FIGURES

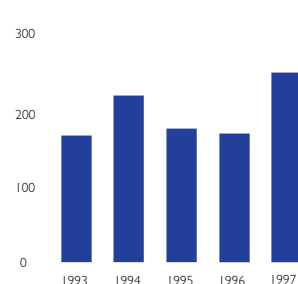
TURNOVER, MFIM



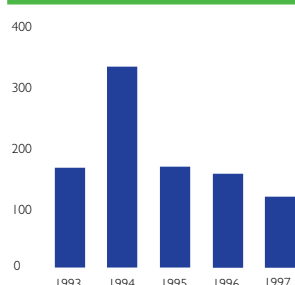
OPERATING PROFIT, MFIM



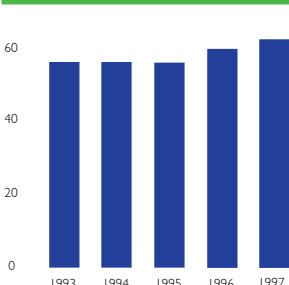
PROFIT BEFORE EXTRAORDINARY ITEMS, MFIM



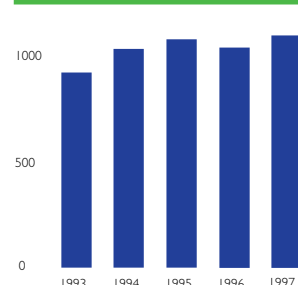
GROSS INVESTMENTS, MFIM



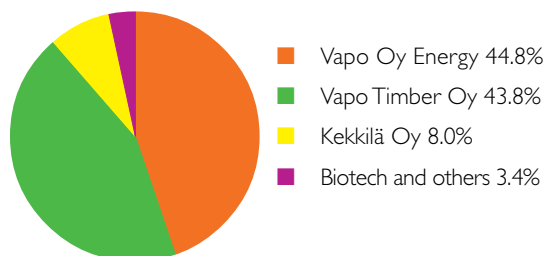
SOLVENCY RATIO, %



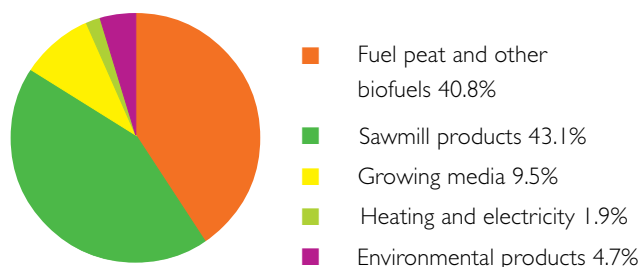
PERSONNEL



Turnover by business activity 1997, %



Breakdown of turnover by main products 1997, %



FIM million	1993	1994	1995	1996	1997
Turnover	1257	1497	1535	1645	1861
Growth %	14.0	19.1	2.5	7.2	13.1
Operating profit	194	231	182	186	253
% of turnover	15.5	15.4	11.8	11.3	13.6
Net financial items	-29	-14	-9	-18	-9
Profit before extraordinary items	165	216	173	168	245
% of turnover	13.1	14.4	11.3	10.2	13.2
Taxes	41	48	59	48	76
Profit for financial period	138	131	106	119	168
Dividends distributed	36	45	36	36	57
Balance sheet total	1682	2246	2090	2107	2239
Interest-bearing liabilities	471	499	510	487	387
Return on capital invested (ROI) %	16.4	16.9	13.2	11.9	15.6
Return on equity (ROE) %	14.2	17.1	10.5	10.4	13.4
Current ratio	2.37	1.69	2.19	2.02	2.37
Solvency ratio %	55.9	55.7	55.3	59.6	62.1
Gross investments	170	336	171	161	120
% of turnover	13.5	22.5	11.1	9.8	6.5
Average personnel	917	1040	1083	1046	1119
Per-share data					
Number of shares	30 000	30 000	30 000	30 000	30 000
Earnings / share, FIM	4 122.51	5 388.10	4 304.95	4 020.09	5 612.87
Shareholders' equity / share, FIM	28 820.36	33 843.32	36 233.36	38 814.46	43 199.14
Dividend / share	1 200.00	1 500.00	1 200.00	1 200.00	1 900.00
Dividend as % of earnings	29.1	27.8	27.9	29.9	33.9

**VAPO GROUP**

**VAPO OY ENERGY**

Vapo Energy is Finland's biggest supplier of indigenous biofuels. In addition to fuel peat and wood fuels, Vapo also produces heat and electricity. Fuel peat is used to produce a fifth of Finland's district heating and over 7% of all the electricity generated. Vapo Energy is also an important supplier of peat for environmental purposes.



**VAPO TIMBER OY**

Vapo Timber is Finland's fourth largest producer of sawn goods, and it ranks among the top ten in Europe. Vapo Timber's sawmills are located in Hankasalmi, Lieksa, Nurmes, Forssa, Paltamo and Ivalo. Their combined production capacity is almost 700 000 cubic metres, and 80% of total output is exported.



**KEKKILÄ OY**

Kekkilä manufactures growing media and fertilizers for the Finnish and export markets. In Finland Kekkilä markets a complete range of growing media and fertilizers for hobby gardeners. Fertilizers intended for professional use are tailor-made by Kekkilä.



**VAPO OY BIOTECH**

Vapo Biotech's business consists of municipal waste handling, sludge treatment, and the marketing of air purification equipment. Biotech has developed plants for composting and processing biowaste which are especially designed for Finnish conditions.



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Vapo Oy's  
Lieksa  
power plant.



## BIOENERGY IS IN FAVOUR

The new two-year **collective incomes policy agreement** concluded at the end of 1997 is an extension of the 1995 collective agreement on economic, employment and labour market policy which increased stability in Finnish society and promoted the country's economic development. The new agreement will play its own part in securing the continued favourable development of the Finnish economy. If the Government also implements the reduction in taxes on earned income that is being increasingly called for, then we will again have a slightly firmer basis in Finland for our efforts to increase employment and promote welfare in a situation where we are not immune from world economic upheavals.

**Finland's energy taxation system** is amended each year, and this year's change gave permanent status to the 50% reduction in tax on natural gas and provided a tax exemption for all electricity generated using wood or wood-based fuels. The annual value of the tax relief for natural gas will be around FIM 220 million, while the value of the tax exemption for electricity generated utilizing wood will be some FIM 100 million. After due consideration, refunds of electricity tax to peat-fired co-generation plants producing electricity with a maximum output of 40 MVA were retained at the same level. As a result these co-generation plants – together with wind and small-scale hydro power plants – will receive refunds of electricity tax amounting to some FIM 10 million per year. In accordance with Government energy policy, the energy taxation system supports increasing utilization of natural gas and bioenergy, and wood-based fuels in particular. The necessary conditions for the rational utilization of all of Finland's investments in power generating plants were nevertheless retained, and work to develop a diverse range of energy production methods can continue.

**Increasing utilization of wood** for energy production also increases the use of fuel peat, but in addition to sawdust, logging residues from the forests should also be used. This requires a significant reduction in the costs of collecting the residues and an ability to control the moisture content of the fuel. There is still a need for long-term research and development work in order to increase usage of wood-based fuels. As far as **fuel peat** is concerned, the production technology is already in place and production costs are under control. The use of peat for energy production has increased significantly and is also increasing in the areas where natural gas is used in southern Finland. Peat production volumes reached a new record level and adequate stockpiles – even though they mean additional costs for Vapo – ensure

that our customers will receive the peat they need, even when weather conditions are less favourable for peat production.

There is increasing awareness of the significance of **peatland and peat production** in binding carbon and reducing emissions of methane. In Finland the annual accumulation of peat – like wood – is greater than the amount that is used, and Finland's bogs bind more carbon dioxide than is released through the production and utilization of peat. A view is emerging that peat should not be classified as a fossil fuel – like coal – but as a slowly renewing form of bioenergy, like wood-based, refuse derived and other biofuels. This change will probably soon be seen in the EU's statistics compilation and energy planning.

For several years **Vapo Timber Oy** has been implementing a long-term programme to develop its sawmills. The results of these efforts, together with favourable market conditions, gave the company the opportunity to significantly improve its financial performance. However, cyclical changes in the markets for sawn goods have accelerated, and profitability levels within the industry will decrease again this year. This development should also reduce prices for raw timber. Within the Vapo Group, these fluctuations in the business cycle will be smoothed out by the Kekkilä group's sales of "Better Growth" growing media and fertilizers, and by Vapo's growing environmental business activity, which has already achieved a significant share of the market for biofilters and composting plants. Research and development work, particularly on the treatment of malodorous gases, is continuing.

In terms of its **business operations and financial results**, the Vapo Group achieved its objectives in 1997. Vapo Timber Oy even exceeded the targets that had been set. With confidence in the future, the Group's employees and its contractors will this year continue their valued work in processing Finland's natural resources to create benefits for society as a whole. Supported by all our customers and business partners, we are confident that we can succeed in our work.

Jyväskylä, 6 February 1998

Esko Muhonen





Rauhalahti is one of the IVO power plants utilizing fuel peat from Vapo. In the photo: Jukka Kovanen of IVO, Hannu Hintikka of Vapo, driver Kari Koskela, and Pertti Hämäläinen and Tapani Sivula of IVO.

## ALL-TIME RECORD YEAR FOR PEAT PRODUCTION

**1997 was Vapo Oy Energy's best ever peat production year, and a new record of 27.3 million cubic metres was set. Vapo Energy had 420 employees during the year, and the peat production and transportation activities additionally provided work for more than 3 000 outside contractors and their employees.**

**During the year under review** Vapo Energy produced a total of 27.3 million cubic metres of fuel and horticultural peat, which is an increase of 20% on the figure for 1996. The production target was exceeded by 4 million cubic metres. 1997 was the fourth consecutive favourable production year, as a result of which Vapo has ample stockpiles of peat.

Production was boosted by a period of dry weather which came just at the right time – in June and July. The beginning of June and the warm spell which lasted from mid July well into August provided particularly favourable production conditions.

Sales of fuel peat were down by more than 0.5 million MWh on the previous year. The reason for this was the liberalization of the electricity market, which resulted in electricity generated at condensing power plants being partially replaced by imports. The reduction in the utilization rate of the condensing power plants meant their fuel peat requirements also decreased.

The reduction in fuel peat consumption by condensing power plants was partly compensated by increased utilization on the part of other customers and by new customers. The new power plants at Enso Oy's Oulu and Kemi Mills, and the power plants at UPM-Kymmene Oy's Tervasaari and Rauma Mills had their first year of full-scale operation, and this helped to boost sales.

At present peat is used to produce district heating and electricity in the majority of inland urban areas as well as in several on the West coast. Peat accounted for more than 20% of all the district heating and more than 7% of all the electricity produced in Finland. Consumption of peat by industrial users was up and continues to rise.

Vapo's sales of peat for environmental purposes reached 0.9 million cubic metres, which is a slight increase from the previous year. The major use for this peat was on farms, where it is utilized as a bedding material and is also mixed with agricultural slurry. This peat was also supplied to horticultural peat processors and to users of Vapo Biotech's sludge treatment systems.

Last year Vapo Energy sold a total of 750 000 bulk cubic metres of wood fuels, which consist of sawmill by-products and forest chips. This is double

the figure for the previous year. During the year Vapo Energy made significant investments to boost research, development and marketing of wood fuels.

Completion of Vapo Energy's quality system – which has been in preparation for the last three years – represented a major task during the year under review. On December 18, 1997 Det Norske Veritas granted an ISO 9002 quality certificate to Vapo Energy covering production, sales and supply of biofuels and environmental peat products.

The quality system puts Vapo Energy in an even better position to ensure the efficiency and quality of its peat production and supply operations. It will facilitate the identification and correction of any deviations from agreed procedures that might occur within the business activity. For industrial fuel peat users, the quality system will provide guarantees of the way in which the fuel they utilize has been procured.

An ISO 9001 quality system covering Vapo Energy's three engineering units was completed, and its effectiveness was tested and enhanced by means of internal evaluation last year. The introduction of the quality system will provide opportunities to develop higher quality operations based on customer needs.

Alongside the quality system, an environmental management system has also been developed within Vapo Energy. The system for the Western Finland Business Unit was completed in April 1997 and work on systems for the Eastern and Northern Finland units was begun.

A new energy tax was introduced at the beginning of 1997, and the main effect of this was to improve the position of natural gas as an energy source. The position of peat in relation to imported fuels remained unchanged. The purpose behind the change in the taxation system was to promote the development and utilization of indigenous biofuels, but in this regard its impact has been mixed. Only in a few years' time will it become apparent how the energy tax affects utilization of indigenous fuels.

An important issue for Vapo and the entire peat sector – which provides employment for 6 500 people in Finland – is the acceptance within the European Union that peat is a form of biomass. In Finland the classification of peat as a slowly renewing natural resource has been accepted. The Finnish national report to the International Climate Change Convention in Kyoto, for instance, stated that 'peat is not a fossil fuel'. It is important that peat is classified as a biofuel within the EU too, because that would allow Finland to continue to decide independently on the taxation of peat in future.

SEPPÖ SÄNKIAHO, DIVISIONAL DIRECTOR





**KALERVO NURMIMÄKI, CEO, IVO GROUP:  
"LONG-TERM VIEW IMPORTANT  
FOR FUEL SUPPLIES"**

The Finnish-based IVO Group considers the Nordic countries as its domestic market area. It is the second largest energy producer in the region, and especially in Sweden its operations have expanded rapidly in recent years. IVO's plants generate power using hydro and nuclear power, coal, natural gas, peat and other biofuels.

"We made a deliberate choice to utilize a number of different fuels, as this guarantees stable electricity prices and high levels of supply reliability. In Finland fuel peat has an important part to play – it is an indigenous

**"Peat occupies an important position in our power generating operations," says Kalervo Nurmimäki. Each year Vapo supplies 4–5 million cubic metres of fuel peat to IVO.**

fuel and its availability is not dependent on fluctuations in the world markets," says Kalervo Nurmimäki, CEO, IVO Group.

IVO's first peat-fired power plants were completed in the mid 1980s in the cities of Joensuu and Jyväskylä. Since then IVO has chosen peat to fuel its condensing power plant in Haapavesi, its Kakkola plant, and other plants. The peat required by these plants is supplied by Vapo Oy Energy.

"The basic requirement for the construction of these plants was the existence of a peat supplier who could be relied on to supply on a long-term basis. We have to be sure that supplies of fuel will be available for the entire working life of the power

plant without any interruptions," Kalervo Nurmimäki says.

The last few years have seen major upheavals in the Nordic energy markets, with the markets being liberalized first in Norway, then in Sweden and Finland, and finally in Denmark. Kalervo Nurmimäki, who has been in a very good position to follow these developments, states that fuel peat has retained its competitiveness as conditions have changed.

"At the moment competition is tough, because coal has been available at favourable prices on the world markets and excess production has reduced energy prices in the Nordic countries. However, I believe that peat will remain a viable energy source in Finland in the future."

**SUBSTANTIAL INVESTMENTS  
IN DEVELOPMENT OF WOOD FUELS**

In 1997 Vapo made substantial investments in the production of wood fuels, and in efforts to further develop production methods. At the end of the year 15 people were employed in the production of wood fuels, and Vapo Energy's output of these fuels increased to 750 000 bulk cubic metres. Of this total, 150 000 cubic metres consisted of forest chips. Production and utilization of wood fuels within the Vapo Group – including Vapo Timber – totalled 1.5 million bulk cubic metres. At the end of the year Vapo had more than 50 customers around Finland utilizing wood fuels.

Vapo has developed its own method of producing forest chips that are competitive in terms of both quality and price. This system is based on the use of peat



**The special-purpose trailer developed by Vapo is an important link in the new method for producing forest chips.**

production sites as 'terminals' for processing wood fuels. A peat or farm tractor loads logging residues into a purpose-designed trailer. This is then driven to a terminal, where the residues are unloaded and stacked. They dry during the summer, and in the following winter they are chipped

– using a tractor-mounted chipper, for instance – and then delivered to a power plant or district heating plant. This method guarantees reliable supplies of forest chips to the customer and ensures that machinery and equipment is used more efficiently.

In Lieksa Vapo Energy continued testing of its Circulating Fluidized Bed (CFB) Dryer and Chemi-Mechanical Reactor (CMR) Burner. The dryer is intended for drying biofuels, and the burner enables oil-fired boiler plants to be converted for use with biofuels. On the basis of trials conducted with the burner, the go-ahead was given for construction of a 2 MW CMR heating plant adjacent to Vapo's Tikkakoski heating plant. The plant will go into operation during spring 1998, and it will undertake tests linked to the commercialization of the new heating plant technology.





Hankasalmi Sawmill has a reputation for quality. The people behind Hankasalmi's reputation include Kari Tuukkanen, Pekka Häkkinen, Pasi Kuokka, Risto Puura, Sauli Viljamaa, Vilho Sepponen and Vesa Levänen.

## VAPO TIMBER GROUP RECORDS SOLID RESULT



The Vapo Timber group recorded a profit of FIM 101.7 million and a turnover of FIM 821 million in 1997. Solidity remained strong. The good results were due above all to a rise in the average prices of sawn timber and a high level of utilization in production. At the end of 1997 Vapo Timber Oy employed 430 people. The number of personnel was boosted by the 44 employees of Forssa Sawmill who entered Vapo Timber Oy's employment at the start of the year.

At the start of 1997 Vapo Timber Oy became a sub-group of the Vapo Group. The parent company is Vapo Timber Oy and its subsidiaries are Forssan Saha Oy, a sawmill purchased from Asko Oy whose operations got under way at the beginning of the year; as well as Vapo Timber Import Oy, a company founded in May which is involved in the wood procurement business in the Russian area of Karelia.

The early part of 1997 was positive for the sawmill industry, since the rise in the prices of sawn goods continued throughout the spring. The trend came to a halt in May when it became clear that the scarcity of raw material caused by highly increased log prices would not restrict production. The Europe-wide increase in the production of sawn goods which led to full storages exacerbated the over-supply. In the autumn of the year under review this caused an accelerating fall in prices and a reduction in sawmills' volume of orders in hand. The drop in prices affected whitewood in particular. In consequence it was necessary to resort to shutdowns at the end of December in order to restrict the over-supply.

In the first half of 1998 no significant rise in the prices of sawn timber is expected. Consumption for its part is running at a satisfactory level, but due to the favourable raw timber situation supply is still abundant. It is predicted that balance will be restored in the second half of the year and that the prices of sawn goods will demonstrate a clear rise. Profitability will be markedly influenced by the trend in the price of logs, which will likely be determined in company-specific price discussions conducted with forest owners in the course of the spring. The significant decline in the prices of sawn timber must be reflected in the price of logs.

Vapo Timber's six sawmills produced a total of 649 000 cubic metres of sawn timber and further processed products. The production of parent company Vapo Timber Oy's sawmills grew by 18% as a result of gains in efficiency. The 28% increase in the group's total production is explained by the addition of a new unit, Forssa sawmill, which recorded production of 50 000 cubic metres. Vapo Timber's sawmills exceeded their production target and, despite the end-of-year shutdowns, production records were

set at Hankasalmi, Kevätniemi and Nurmes. A total of 1.4 million cubic metres of logs were used.

Vapo Timber's exports amounted to 446 000 cubic metres, which constituted an increase of 15% on the previous year. 81% of the total value of deliveries was exported. The value of sawn timber exports was up by 36% and that of domestic sales by 52%.

As far as traditional export markets were concerned, sales to Germany, France, Holland and Denmark showed an increase. Export targets for the United Kingdom were not achieved in 1997, however, and the volume of exports to Japan experienced a clear fall.

The decrease in business with Japan had its roots in the country's economic difficulties and concomitant effects on the local construction industry. In addition the tax on consumption which was raised during the spring put a brake on building activity and drove down demand for sawn timber. In the United Kingdom the significant increase in the supply of sawn timber from the Baltic states intensified competition in certain segments of the sawn timber market and also caused uncertainty in the market for Scandinavian sawn goods. What is more, exports of further processed sawn goods from the United Kingdom were affected adversely by an over-strong pound, which served to reduce timber purchases.

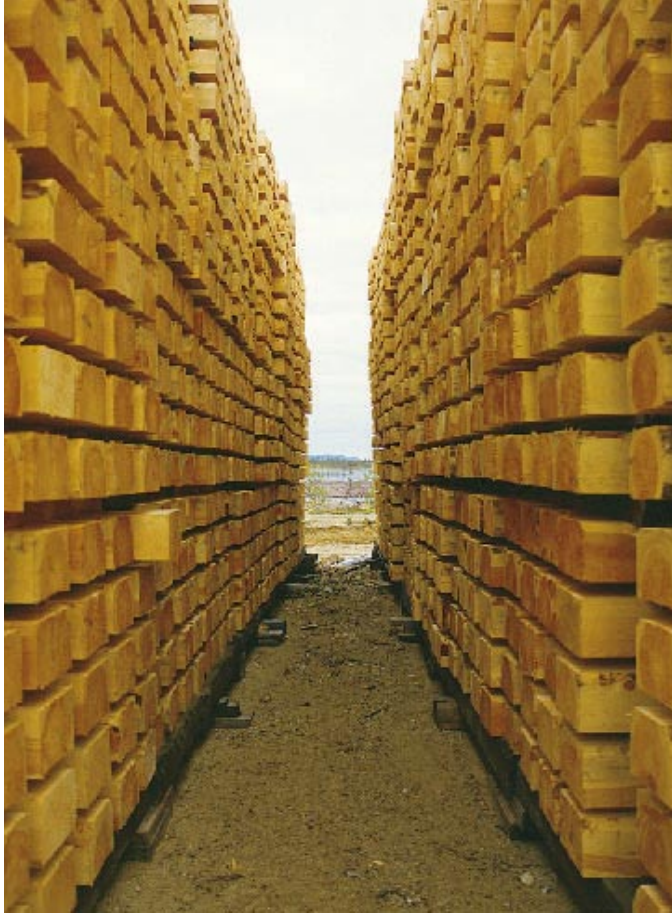
In France Vapo Timber Oy safeguarded its sales position by acquiring a holding in its local agent, Agence Konow & Smith. The same type of arrangement was carried through earlier in the United Kingdom, where Vapo Timber Oy is a part owner of UCM Timber PLC.

Investments of note during the year under review were the renovation of Hankasalmi Sawmill's debarking and log receiving units as well as the extension of the drying-kilns. These constituted part of a six-year development programme, during which time the sawmill has been completely modernized at a cost of FIM 75 million. At Nurmes Sawmill one unfinished task was the trimming plant investment, which was brought to completion in February 1998. During the review period a total of FIM 25.5 million was spent on investments.

People's general concern for the state of the environment is also exerting an influence on the sawmill industry. Customers and consumers are demanding information as to the origins of the raw timber and the environmental impact of the sawmill's activities. At Vapo Timber's sawmills every effort is being made to reduce strains and burdens on the environment to an absolute minimum. Environmental management systems are currently being set up at Hankasalmi, Kevätniemi and Nurmes sawmills. It will then be the turn of the smaller sawmills to acquire such systems.

JUHA TUOMINEN MANAGING DIRECTOR





**Vapo Timber's research programme includes collaboration with VTT to study ways to prevent rot in railway sleepers.**

## **FURTHER PROCESSING OF SAWN TIMBER UNDER EXAMINATION AT VAPO TIMBER OY**

Vapo Timber Oy is currently engaged in studying what additional possibilities further processing can offer the group's sawmills. The task was begun in autumn 1997 and the aim is to investigate whether it would be worthwhile for Vapo Timber Oy to expand its value-added production and if so, in which direction.

"The first part of our job is to establish the market situation, since before making decisions on measures to be taken we have to know what products are in demand. Only then will we begin, should it prove necessary, to tackle problems associated with technology, distribution channels and the products themselves", states Eero Lehtonen, Director, Hankasalmi Sawmill, who is heading the project.

In order to support the project into developing the company's value-added business a market research study was launched in the United Kingdom last autumn. The results will be available in the spring of 1998. The market situation will also be closely examined in other potential export areas.

"No decisions about further processing activity have yet been taken. These will be made later on the basis of various factors, including the results generated by our market research studies", Lehtonen continues.

Of Vapo Timber's sawmills Hankasalmi currently processes a significant proportion of sawn goods into semifinished products for the construction industry among others. The turnover of its further processing business amounted to FIM 40 million last year. The majority of the value-added products were sold in the domestic market.

## **SAWMILL INDUSTRY ENGAGED IN JOINT RESEARCH**

The coordination of research activity in the sawmill industry is chiefly the responsibility of Finnish Wood Research Ltd, owned jointly by companies in the mechanical forest industry. As one of the company's shareholders Vapo Timber Oy is involved in projects benefiting the branch as a whole. Similarly the company is a shareholder in Metsäteho Oy, which conducts research associated with wood procurement, harvesting and forest cultivation.

Thanks to these holdings Vapo Timber Oy is able to play an active role in preparing, planning, implementing and financing such projects. In addition Vapo Timber's sawmills have served as pilot units in a number of research studies. Last year, for example, tests connected with channel drying as well as a

comparative study of sawing methods were carried out at Kevätniemi Sawmill.

Last year Vapo Timber's own research and development activity concentrated chiefly on methods development together with market and customer studies, including a survey of customer satisfaction conducted by Vapo personnel. In addition, research into new ways of preventing rot in railway sleepers was launched in cooperation with the Technical Research Centre of Finland (VTT). The main source of funding for the project is the Technology Development Centre, Finland (TEKES).

Two full-time staff were involved in research and development at Vapo Timber Oy in 1997. The R&D budget amounted to some FIM 2 million.

The team at Kekkilä's Parkano plant includes Markku Lempinen, Juha Silomäki, Teuvo Kaunismäki, Heikki Törmä and Keijo Rikola.



## STEADY PROGRESS WITH IMPROVED PROFITS

**The Kekkilä group reported an operating profit of FIM 8 million for 1997, which is an increase of FIM 4.1 million over 1996. The group's turnover was FIM 150 million, up by FIM 9 million. During the year under review Kekkilä Oy employed an average of 140 persons.**

For Kekkilä, 1997 was a year of steady progress. The group's profitability improved and its sales increased in both the domestic market and in the Danish and UK subsidiaries. These results were achieved by conventional means: special efforts were focused on selling, further cost-cutting measures were implemented, raw material procurement was rationalized and production control was improved.

In Europe 1997 proved to be a better year than 1996 in the whole of the professional and hobby gardening sector. The general atmosphere of economic optimism could be seen in increased demand for this sector's products, and this boosted sales of growing media and fertilizers. In Finland, by contrast, the overall market contracted by 3%.

Sales of products targeted at the Finnish hobby gardening market increased by 6%. This was a good result, coming as it did on top of an almost 30% increase in 1996. The factors behind this growth are Kekkilä's good products, the company's pro-active work to boost sales, and systematic efforts to develop the Kekkilä brand.

Kekkilä retained its market leading position in the production of landscaping materials in the greater Helsinki area. Sales in this product category grew last year in line with increased construction activity. The fastest growth was recorded in the case of construction projects by town authorities and other public bodies.

In the professional markets Kekkilä has concentrated on tailor-made fertilizers and closed growing systems – peat growing boards – for vegetable cultivation. From the customer's point of view, comprehensive technical sales support and advice on product utilization are important services.

In the fertilizer segment competition grew significantly last year and production costs increased with the rise in dollar-based raw material prices. Together, these factors reduced the profitability of fertilizer production.

Kekkilä increased its share of the market for closed growing systems. One of the factors behind this success was the introduction of new products: growing media tailored to customer needs, and the new rose board for perennial cut flowers. Future prospects for glasshouse growers are brighter than expected: the number of producers has not decreased as

much as was anticipated when Finland joined the EU, and some growers have already decided to take the step of investing in new glasshouses.

Exports from Finland increased by 5%. There was particularly strong growth in exports to Japan, Sweden, Italy and France. In this context, special efforts were made to work in closer cooperation with importers and to concentrate on profitable products.

Within the Kekkilä group, the unit reporting the best improvement in profitability was Stenrgel Mosebrug A/S, the Danish subsidiary. Having recorded a loss in 1996, it produced a clear profit in 1997. The main factor behind this improvement was a 16.5% increase in overall sales.

Action begun in 1996 to rationalize the operations of VapoGro Ltd, the UK subsidiary, can be seen in this unit's results. The strategy of concentrating on profitable products and markets proved to be correct, as the unit's profitability improved while its sales remained at the 1996 level.

In 1997 Kekkilä invested a total of FIM 12 million in a number of projects. The most important of these were the new packing machine for the Parkano plant, and the new peat processing line and dust filtration system for the Eurajoki plant. A peat pre-processing system was built at the Danish plant, and the UK plant was relocated from Shoreham to Newhaven. The introduction of Lotus Notes software in all of Kekkilä's locations in Finland represented a significant investment in information systems.

In 1998 the Kekkilä group aims to achieve another year of steady progress in terms of profitability. Three themes have been introduced to help Kekkilä to reach this objective. The first theme involves ascertaining whether there is a need to launch the Kekkilä brand in the professional markets, and whether the brand would be competitive in those markets. The necessary surveys are already being done in Finland, and analysis work is being undertaken in the export markets.

The second theme is 'quality production'. As a slogan this has perhaps suffered from over-use, but the underlying concept is always important. Linked to this theme, work will begin in 1998 to prepare an ISO 9000 quality system. The third theme – "dream team" – recognizes that Kekkilä's most important success factor is its personnel, and that the group has made a lot of progress over the last couple of years towards the creation of its own corporate culture. This theme challenges Kekkilä's employees to strive for a better atmosphere in the workplace. A two-year supervisor training project linked to this theme will be launched during the spring.

**MATTI HILLI, MANAGING DIRECTOR**



## PEAT GROWING BOARDS INCREASE MARKET SHARE



**All of Finland's glasshouse strawberry growers utilize peat growing boards.**

Utilization of Kekkila's peat growing boards among Finnish glasshouse growers is rapidly increasing. Sales in the domestic market doubled from 1995 to 1997, but exports still represent some 75% of this market.

A form of ready-to-use growing media, the growing boards are supplied in plastic packs. They are mainly used for growing vegetables, but Kekkila has also developed a rose board for flowers and a strawberry board for strawberries and other berries. The success of the peat boards is explained by their excellent growing characteristics, their recyclability and their environmental compatibility. The fact that they are made in Finland has helped to boost sales in the domestic market.

"For Finnish vegetable growers it is essential that consumers appreciate Finnish grown vegetables, and our peat growing boards effectively increase the domestic content of the product. The boards are environmentally compatible as 30% less water and nutrients are required than with competing products. This is because the water and nutrients are 'bound' into the peat. And once the boards have been used, they can be recycled by composting," says Mikael Johansson, Kekkila Oy's Marketing Manager.

## KEKKILÄ'S BRAND BUILDING PROJECT SUCCESSFUL

Sales of Kekkila brand products almost doubled over the period 1995–1997. This shows that the Kekkila brand has been successfully established.

The objective was to create a consistent and easily differentiated image with strong continuity, an image which emphasizes the high quality of Kekkila's products. The idea was to differentiate the Kekkila brand from its competitors, so that customers would perceive it as a clear alternative.

The image is based on four main elements emphasizing the atmosphere of beautiful gardens, the enjoyment of gardens by people who care for them, and the success that is felt when good results are achieved by using the best available products.

Work on building the new image began in 1994 with an in-depth analysis of the Kekkila brand's strengths and weaknesses, and of Kekkila's position in relation to its competitors. Work

was also done to analyze consumers' gardening behaviour.

Brand building measures included new packaging and consistent advertising to raise Kekkila's profile. The garden and potting composts and fertilizers were given a new, uniform visual appearance to promote easy brand recognition by consumers.

Over the years 1995–1997 the main efforts to create the Kekkila brand image consisted of magazine and point-of-sale advertising, and the introduction of uniform packaging. In 1998 TV advertising will be used to broaden the brand's consumer base.

In the gardening sector, sales outlets are increasingly operating on a self-service basis, which means that products have to be able to sell themselves. This is a significant motivation behind the decision to create a clearly differentiated brand, as consumers in self-service outlets tend to notice the best-known branded products.

**The Kekkila brand appeals to consumers: sales doubled from 1995 to 1997.**





# Vapo Oy Biotech

The power of teamwork. Members of the Vapo Biotech team: Aimo Kirjavainen, Antti Leskinen, Reino Niemi, Kauko Isomöttönen, Erkki Jaala and Esko Pajula.

## A YEAR OF PROFITABLE GROWTH



**In 1997 Vapo Oy Biotech tripled its turnover to FIM 31.4 million. Its payroll increased to 13 employees, in addition to which outside contractors were employed in building tunnel composting plants and biofilters.**

For Biotech and Wastech, 1997 was a year of profitable growth. Long-term and systematic work in previous years to develop products and bring them to market is now bearing fruit: Vapo's environmental business activity is growing and in 1997 its volume reached a level at which it provided satisfactory profitability.

Four tunnel composting plants were completed during the year. These are located in Hanko, Korkeasaari, Varkaus and – constructed for the Helsinki Metropolitan Area Council – in Espoo. All four were officially handed over on schedule in December 1997. Two plants are currently on order: the Mäntsälä tunnel composting plant will be completed in summer 1998, and the plant to be constructed for Mustankorkea Oy, the company responsible for waste handling in the Jyväskylä area, will be ready in the late summer. New orders for plants will probably come in during 1998, because many municipal authorities and waste handling companies are presently considering how to organize the processing of biowastes and sludges.

Last year Biotech entered into its first operating agreement for a tunnel composting plant. The agreement was concluded with Länsi-Uudenmaan Jätehuolto Oy, a waste handling company, and it concerns the operation of the new tunnel composting plant to be built in Hanko. Vapo owns the plant and is responsible for its operation, as well as for marketing and selling the compost produced. A similar operating agreement has been made with the water utility in Mäntsälä, and Biotech will also operate the Helsinki Metropolitan Area Council's composting plant, at least for the duration of the guarantee period.

Biotech supplied nine biofilters during 1997, and in February 1998 a further three units were on order. In total Vapo has sold 32 biofilters, which are being used to treat malodorous gases at composting plants, sewage treatment plants and pumping stations, animal feed factories and food processing and other plants in Finland, Sweden, Norway, the UK and the Netherlands.

Efforts to break into the Dutch market brought good results, as the De Meerlanden composting plant near Amsterdam acquired a Biotech biofilter last year. This was an important sale, as there is a big

market for air treatment equipment in the Netherlands. With the introduction of stricter environmental legislation and increased capacity, many plants will have to upgrade their air filtering systems in the near future.

As with its tunnel composting plants, Biotech also offers operating agreements for its air treatment systems. When the customer chooses this option, Biotech assumes responsibility for construction, operation and servicing of the biofilter. By the end of 1997 Biotech had entered into a total of six operating or maintenance agreements.

As in the previous year, Biotech provided a sludge treatment service using two spin-dewatering units built on articulated trailers. In northern Finland this service mainly operates outside urban areas, treating septic tank sludge. In southern Finland the service has also been utilized by companies in such sectors as potato processing, oil refining and leather production. The northern Finland operations were reorganized at the beginning of the year, with the activities of Biolappi Oy being transferred to Vapo Oy Biotech.

A long-standing project to reorganize waste handling in the Jyväskylä region was concluded last October with the joint establishment of a new company, Mustankorkea Oy, by Vapo and municipal authorities in the area. Vapo Oy has a majority holding of 55% in the company; the remaining shares are owned by the City of Jyväskylä (26%), Jyväskylä Rural District (10.6%), Laukaa (5.8%) and Muurame (2.6%).

The extensive nature of the Jyväskylä region waste handling project makes it an important and interesting one for Biotech. The project includes the management of landfill sites, composting and the production of refuse derived fuel. Composting and dry waste shredding plants will be constructed at Mustankorkea's waste processing centre, and these will make their own contribution to Jyväskylä's development into a centre of excellence in environmental technology.

Biotech is now in the growth phase of its development. Competition in the environmental business sector is tough, but Biotech has the potential to succeed because its products and service concept have been proven effective in actual use. This was confirmed last year by a survey which showed that Biotech's customers are satisfied not only with the company, but also with the plants and services it has supplied. ♣

**KARI MUTKA, SENIOR VICE PRESIDENT**







## FOUR TUNNEL COMPOSTING PLANTS STARTED UP IN DECEMBER

In 1997 four new tunnel composting plants supplied by VAM Vapo Wastech Ltd Oy were completed. The plants went into operation in December.

The tunnel composting plant constructed in Espoo for the Helsinki Metropolitan Area Council is the largest in Finland, and it can process 30 000 tonnes of biowaste from the Helsinki region each year. The Hanko plant can process 15 000 tonnes of municipal and industrial sludges per year.

The tunnel composting plant in Varkaus will handle 8 000 tonnes per annum of sludges and biowastes from the town. The plant at Korkeasaari Zoo in Helsinki will process all the biowastes produced at the zoo. This includes manure and bedding from the animals, and biowastes produced by the catering operations, for an annual total of around 600 tonnes.

The four plants are very different in terms of their size

### NEW WASTE HANDLING COMPANY ESTABLISHED FOR JYVÄSKYLÄ REGION

Mustankorkea Oy, a new company jointly established by Vapo Oy and the local authorities in the City of Jyväskylä, Jyväskylä Rural District, Muurame and Laukaa, began its operations at the beginning of 1998. It is responsible for handling biowaste, dry waste, landfill refuse and sewage sludge from all four local authorities in

and material to be composted. They share the same basic technology, however, and in all four cases the customers have stated that they are pleased with the way Wastech has handled the project.

"We had an excellent working relationship with Wastech during the construction phase, and I'm sure this will continue into the future. Of course, it's still too early to really say anything about the quality of the final product, because the plant has only been operating for a very short time. It will be very interesting to see what the results are like," says Mauri Uusihakala, Construction Manager, Helsinki Metropolitan Area Council.

The Council opted for Wastech's plant operating service, at least for the duration of the guarantee period. Biotech has also concluded an operating agreement with Länsi-Uudenmaan Jätehuolto Oy for the Hanko plant, which will be owned and operated by Vapo.

the joint venture. Its responsibilities also include marketing the products generated by waste processing and maintaining landfill sites. Additionally, the company will offer its services to other local authorities and corporations.

To begin with, Mustankorkea took responsibility for managing the three landfill sites in the Jyväskylä region. Planning and construction of waste processing plants has already begun. The first to be implemented is a tunnel

### The Helsinki Metropolitan Area Council's Ämmässuo composting plant went into operation in December 1997.

"In our opinion this was the optimum solution, especially when you consider that Vapo will be responsible for the capital investment, the process, air pollution prevention and the quality of the final product. On the other hand, the construction phase went well, and we learnt that we can rely on the Biotech team, and so I believe that the plant's operations will get off to a good start," states Stig Lönnqvist, Managing Director of Länsi-Uudenmaan Jätehuolto Oy.

Petteri Wilenius, Director of Technical Services for the municipal authority in Varkaus, is pleased that the Varkaus plant was completed according to plan in spite of a very tight timetable: "We had a good working relationship with Wastech. Of course from now on the most important factor will be the quality of the final product, which we can't say anything about yet, so soon after the plant started up."

Matti Hiltunen, Chief Gardener at Korkeasaari Zoo, who is responsible for the operation of the zoo's composting plant, shares this view: "Our working relationship with Wastech during the construction work was good, and the plant itself has met all our expectations. A major challenge for the plant and its operators will be to maintain the high quality of the output material, because there are big seasonal variations in the material to be composted." ♣



**Mustankorkea Oy's Managing Director Veikko Tissari.**

composting plant, which will be completed in summer 1998.

The second phase involves construction of a dry waste shredding plant, which will produce refuse derived fuel. This is scheduled for completion during the first half of 1999. The composting and shredding plants will be built at Mustankorkea's waste processing centre, where it is intended that Finland's first waste processing laboratory will also be built. ♣

# Environmental Report

In June 1997 an environmental trail was opened to the public at the Aitoneva site in Kihniö. Peat production at the site was discontinued 40 years ago. Part of it has reverted to its original wetland state and part has been afforested.



## ENVIRONMENTAL POLICY PROVIDES A SOLID BASIS FOR ENVIRONMENTAL ACTIVITIES

Vapo's business operations involve the processing of natural resources. Therefore it is important that we understand all the environmental impacts caused by our activities and that we can develop our working practices and procedures in line with our environmental policy. Last year this work included life cycle analyses, development of environmental parameters, preparation of environmental management systems, and the issuing of updated instructions.

The effects of the water protection measures implemented over the last few years can now be seen in significantly reduced watercourse loads. New data has also been acquired on the after-use of peat production sites and the related impacts. In the context of timber procurement and the preparation of peatland for production, work has been done to build up knowledge about the recognition of special environmental features and their significance for Vapo's operations. Many different steps have been taken to enhance Vapo's environmental management and increase our employees' environmental awareness.

Vapo's environmental principles have been collected together to form the Group's environmental policy. The policy specifies that Vapo should develop its operations in such a way that environmental impacts are minimized, special environmental features are taken into consideration, the entire life cycle of each activity is recognized and sustainable development is promoted. On the basis of the environmental policy, separate environmental programmes and sets of principles have been drawn up for the various business activities.

The objective of the environmental policy is to ensure that Vapo meets the obligations inherent in its activities and, by means of management systems and internal reviews, to control and monitor the work that has been done. This requires that customers' environmental needs and values are taken into consideration and products are developed accordingly. Furthermore, it is necessary to evaluate the environmental values related to raw material procurement, utilize the optimum and most cost-effective environmental technology, and ensure that sites released from production are restored and utilized.

Further objectives include the development of new products to resolve environmental problems and the analysis of environmental impacts caused by Vapo's operations and products. It is important to arrange environmental training and secure the commitment of all employees to be aware of and manage the environmental impacts of their own activities, and to maintain a policy of open and pro-active communication of environment related matters. ♻

PIRKKO SELIN, ENVIRONMENTAL MANAGER

## THE GREENHOUSE EFFECT AND PEAT PRODUCTION

In early December 1997 the second International Climate Change Convention was held in Kyoto, Japan. The convention – which is linked to the Rio Agreement – set binding targets for the reduction of greenhouse gas emissions by the industrialized countries. Finland participated in the convention as a member of the EU. The target for the EU was set at an 8% reduction, and Finland's share of this target will be determined later in internal EU negotiations. Finland's target will probably be to reduce emissions to the 1990 level, which is a tough target for a country like Finland with an advanced energy structure.

Under the terms of the agreement, each country must identify its own sources of emissions and carbon dioxide sinks. Sinks are natural features of the ecosystem which bind carbon dioxide from the atmosphere into new growth on a long-term basis. In Finland, the growth of peat represents one such natural carbon dioxide sink.

Trees growing on peatland drained for forestry bind carbon and reduce emissions of methane, but this has been forgotten in the debate about peat and carbon sinks. The majority of the peatland taken into production has previously been either entirely or partly used for forestry. This peatland has then later proved to be badly suited for growing trees and therefore not economically viable for forestry. The drainage of these sites for forestry, and subsequent additional drainage for peat production, has reduced their methane emissions and therefore helped to slow down the greenhouse effect.

In 1997 the utilization of peat for energy production resulted in carbon dioxide emissions totalling some 7 million tonnes, which represents around 9% of the total carbon dioxide emissions from energy production in Finland. At present, Finland's peatlands use more carbon dioxide in the growth of new peat than is released into the atmosphere through the utilization of peat. ♣



**Measuring the carbon dioxide balance of peatland at the Aitoneva site in Kihniö.**

## ENVIRONMENTAL AWARD

Vapo's 1997 environmental award went to Jorma Honkanen, Regional Service Unit Manager in the Western Finland Business Unit. He played a significant role in setting up and implementing the environmental database, which was taken into use in 1997. ♣



**Jorma Honkanen (left) receives Vapo's environmental award from Managing Director Esko Muhonen.**

## JOINT ENVIRONMENTAL SURVEY BY SAWN GOODS PRODUCERS

In 1997 Vapo Timber participated in a joint environmental survey coordinated by the Finnish Forest Industries Federation. The survey includes data on all the environmental impacts caused by sawn goods production, including emissions, waste, and the use of energy and materials.

This environmental survey will increase awareness of the environmental impacts caused by sawmills. It will also be a useful tool when preparing environmental declarations for use in product planning or building design. ♣



**ENVIRONMENTAL MANAGEMENT SYSTEMS  
MAKING GOOD PROGRESS**

Work has begun to prepare environmental management systems for Vapo Energy's business units and Vapo Timber's sawmills. Kekkilä Oy has also started preparatory work to create its own system. Environmental management systems form part of the operating model specified in Vapo's environmental policy.

**Vapo Energy's first system completed**

Vapo Energy finalized its first environmental management system in April 1997 in the Western Finland Business Unit. Work is now being continued in the Northern and Eastern Finland Business Units.

The systems are based on the ISO 14001 standard, which provides an internationally accepted model for preparing environmental management systems, and they are complementary to quality systems. Knowledge about the entire peat production life cycle from land procurement through to final utilization has been documented in the environmental manual, and at the same time updated instructions have been issued.

**Lauri Ijäs, who is responsible for environmental issues at Vapo Energy's Western Finland Business Unit. The binders contain documentation for the unit's environmental management system.**

During 1997 environmental audits were completed at the production sites and objectives were created for the regional service units. Those participating in the audits were given a concrete introduction to the environmental management system and its utilization. Lauri Ijäs, who is responsible for environmental issues in the Western Finland Business Unit, says that participants gave the audits a positive reception.

"The audits were seen as useful. A significant factor is that in addition to Vapo personnel, our contractors and their employees also took part in the audits. It is important that all those involved in peat production operations should internalize the principles of the environ-

**During 1997 Kekkilä Oy's environmental impacts were surveyed, and work was begun to gather data for company's environmental parameters and prepare an environmental management system.**



mental management system, and that they should be in a position to influence and enhance it."

**Work continues at Vapo Timber**

During 1997 environmental management systems were prepared at Vapo Timber's Hankasalmi and Kevätniemi Sawmills, and in the company's timber procurement activity. Preparation of a system at Nurmes Sawmill was begun. This work will continue during 1998 with audit training, and the systems will be completed during the spring. At Hankasalmi and Kevätniemi, the environmental management systems will be integrated into the quality system. In the timber procurement activity and at the other sawmills, the system will be implemented in the form of operating instructions in line with the ISO 14001 standard.

The environmental management systems pay special attention to the origins of the timber and the logging process. The system specifies certain principles, and these must be followed both in the company's own timber procurement and by external timber suppliers. Vapo Timber considers it particularly important that the origins of timber supplied from Russia are verified.

The preparation of environmental management systems shows that Vapo Timber's sawmills are seeking to meet their environmental obligations. The systems provide extensive coverage of the various production stages and of emissions management. ♡



**Jyrki Vertanen analyzes peat dust at Vapo's laboratory.**

### AQUA PEAT PROJECT STUDIES DUST AND NOISE IMPACTS

In 1997 Vapo Energy focused special attention on the dust and noise impacts of peat production. Potential impacts have been studied in the Aqua Peat III research project, which has been undertaken together with the Finnish Meteorological Institute, the Institute for Environmental Research at the University of Jyväskylä, and the National Public Health Institute.

The project has concentrated on the formation of dust and noise levels in different production phases, as well as the spread of dust and noise into the environment.

The results of this research can be utilized in planning for new sites to be taken into peat production and in selecting production methods for existing sites. The results will also help in the development of working procedures and equipment to reduce dust and noise problems. The new pneumatic harvesters taken into use represent a good example of these types of solutions. ♣

### REDUCED LOAD TO WATERCOURSES

In the context of the Aqua Peat and other projects, Vapo has done a great deal of work over the last few years to reduce watercourse loading from peat production sites. Monitoring has shown that the load to watercourses from Vapo sites has decreased by more than half during the 1990s. When considering annual figures it is important to bear in mind that year-on-year differences in weather conditions, and in particular rainfall figures, can change the load from one year to the next.

The water authorities have set an objective for all peat producers to reduce the load of suspended solids by 65% and the total phosphorous and nitrogen load by 30% from the 1993 level. In 1997 Vapo's share of watercourse loading from peat production was clearly smaller than the company's output volumes would suggest.

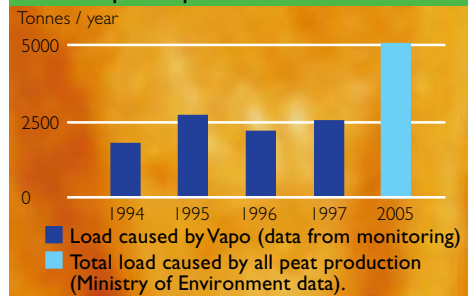
The basic water treatment methods at Vapo's peat production sites are sedimentation ponds and pipe barriers. Additional methods introduced during the 1990s include overland flow, soil infiltration, control of run-off peaks, chemical treatment and sub-surface drainage. ♣

#### Load to watercourse g/MWh

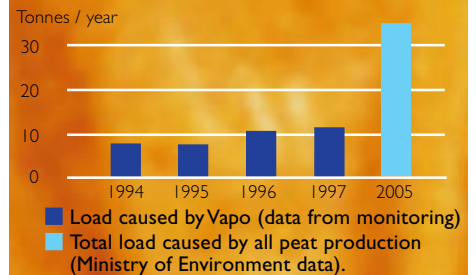
Year	Suspended solids	Phosphorous	Nitrogen
1994	81	0.40	10.0
1995	122	0.38	10.0
1996	106	0.50	16.3
1997	94	0.40	12.6

Net loading of suspended solids, total phosphorous and total nitrogen per megawatt hour at Vapo's peat production sites, 1994-97. Equivalent emission figures are not available for other fuels.

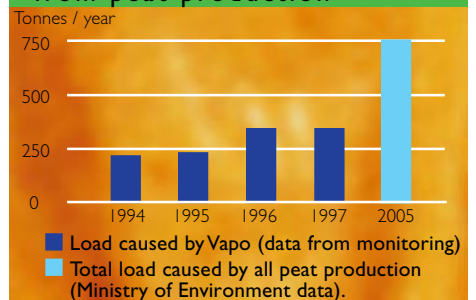
#### Suspended solids load from peat production



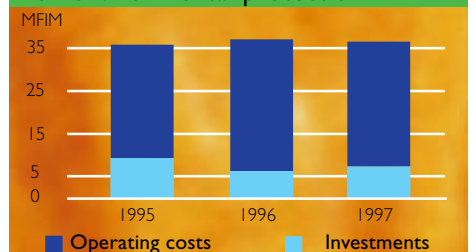
#### Phosphorous load from peat production



#### Nitrogen load from peat production



#### Vapo Oy Energy: expenditure on environmental protection



## COOPERATION WITH INTEREST GROUPS ON ENVIRONMENTAL ISSUES

Raimo Heikkilä, a senior researcher at the Kainuu Environment Centre, has drawn up a list of peat bogs which are not included in conservation programmes and which are of interest to peat producers, the environmental authorities and nature conservationists. These evaluations have been used in preparing the Natura 2000 nature protection programme. Raimo Heikkilä is also a member of a joint working group set up by Vapo and the nature conservation authorities to seek agreement on the utilization of bogs in the Ostrobothnia and Kainuu regions. Working on the basis of Raimo Heikkilä's list, the group has considered forms of utilization for a couple of hundred sites.

"Actual conflicts between nature conservation and peat production arose over a few dozen sites, and we have really sought compromises in those cases. There are differences of opinion, and there are a few sites that have caused friction, but the process has been relatively painless," Raimo Heikkilä says.

The results show that the two sides do have a desire for compromise. "There were a few cases where a site was allocated for peat production in spite of special environmental features, especially if another site in the vicinity had been left in its natural state. And on the other hand, there are many sites which the peat producers have given up," he explains.

During 1997 the group's



Raimo Heikkilä.

**Working with the Finnish Meteorological Institute, Vapo studied how peat dust spreads in the environment.**



work reached its final stage and agreement was reached on most sites. In addition to Vapo and the regional Environment Centres, the members of the group also represent the Finnish Environment Agency, the Metsähallitus Forest and Park Service, and the Trade and Industry and Environment Ministries.

From Vapo's point of view important interest groups in the context of environmental issues are – in addition to nature conservationists and the environmental authorities – the Group's customers, its personnel, and the external contractors whose services it uses. Vapo has studied its customers' environmental values and the requirements they make of Vapo's products.

Other significant partners are the owners of the production sites, timber vendors, and those who live or work near to production sites. Practical matters have been settled in negotiation with representatives of municipal authorities and local employment and business promotion offices. The permits necessary for Vapo's production operations are processed by the

Water Rights Courts, the Water Rights Appeal Court, and the Supreme Administrative Court.

In environmental matters Vapo utilizes the services of different types of outside organizations. Environmental consultancy companies perform loading measurements, and Vapo also works with universities and environmental, agricultural and forestry research institutes. Vapo has collaborated on research projects with Finnish Wood Research Ltd, the National Public Health Institute, Ekokem Oy, and other organizations. Students and researchers studying areas that touch on Vapo's activities also represent important partners.

In 1997 an academic thesis was completed at Lund University in Sweden on the subject of control of run-off peaks at peat production sites. The field work for this study was performed at Vapo's production sites. Dr. Björn Klöve, the author of the study, states that the greatest benefit from run-off control is the reduction in suspended solids loading. At the same time the phosphorous load is also decreased. ♣

## AFFORESTATION IS MOST COMMON FORM OF AFTER-USE

The total area of land released from peat production in Finland amounts to some 8 000 hectares. The majority of this is awaiting the release of other land still in production at the same site before it can be restored to its owners. The landowner always determines the final form of after-use, and Vapo returns the site to the owner in accordance with the terms of the rental agreement.

The most common form of after-use has been afforestation. A total of almost 1 400 hectares of former production land has already been afforested. In addition some of the former peatlands have been taken into agricultural use or utilized for growing berries, herbs or vegetables. Some sites have been transformed into nature reserves, some allowed to revert to their former wetland state, and one site has been developed into an airfield.

Vapo has continued to study the after-use of production sites. Cultivation trials with reed canary grass (*Phalaris arundinacea*)



were continued during the year at the Ahmaneva site in Vihanti and the Hirvineva site in Liminka. At the latter site work has also been done in collaboration with the University of Oulu's Perämeri Research Station to study the development of a nature reserve and the related watercourse loading. Vapo also continued cultivation trials using berries and herbs at the

**Former peat production sites totalling almost 1 400 hectares have been afforested.**

Läyniönsuo site in Hankasalmi, which was done together with the Finnish Agricultural Research Centre.

Birds and insects were studied at the Aitoneva site in Kihniö and the Rastunsuo site in Rautalampi within the context of a biodiversity programme launched by the Academy of Finland. Research into carbon sequestering by peatland continued at the University of Helsinki. 

## PEAT PRODUCTION REQUIRES A WATER PERMIT


In Finland, peatland can only be taken into production if the necessary permit is granted by the Water Rights Court. This permit allows the water draining from the site to be led into the watercourse and specifies the water treatment method. The permit also stipulates the peat producer's maintenance and monitoring

obligations and, possibly, obligations to implement specified measures or provide compensation.

In 1997 Vapo submitted six new applications for permits, and the court issued decisions on 17. By the end of 1997 Vapo had been granted a total of 73 water permits, and 36 were pending. In some of these cases the permit

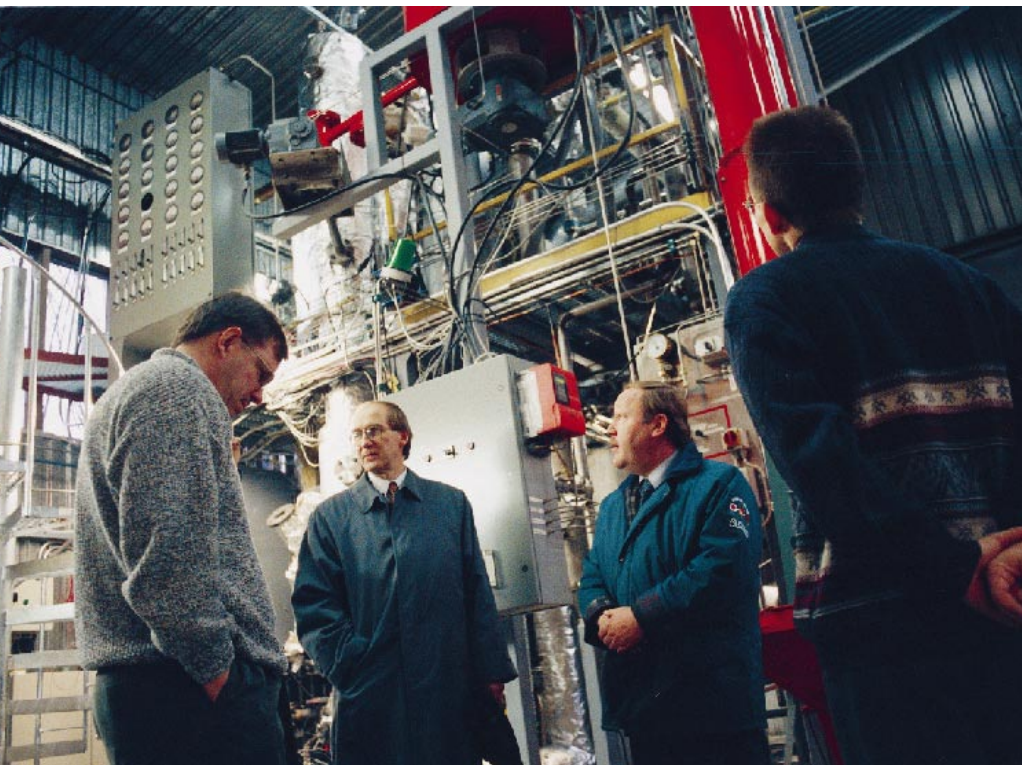
had already been granted and work begun, but compensation issues had still not been completely settled.

In September 1994 new legislation on environmental impact assessment came into force. This applies to all new sites to be taken into peat production which exceed 200 hectares in area. Environmental impact assessment involves extensive study of the project's environmental impacts prior to the Water Rights Court proceedings.

In 1997 Vapo Energy was undertaking two environmental impact assessments, both in Ilomantsi. The assessment at the Puohtiinsuo site was completed, while that at the Koivusuo and Ruosmesuo site is still going on. 

**Water permit applications by Vapo Oy: applications submitted and resolved**

year	92	93	94	95	96	97
Submitted to Water Rights Court	13	22	10	15	13	6
Resolved by Water Rights Court	1	14	14	16	12	17
Resolved by Water Rights Appeal Court	1	2	12	10	13	5
Resolved by Supreme Administrative Court	1		1	1	1	1



## RESEARCH DEPARTMENT TAKES A LONG-TERM VIEW

Vapo's Research Department undertakes a wide range of research work, both using its own resources and in collaboration with external institutes. The Research Department mainly undertakes long-term research work which both serves the Vapo Group as a whole and the individual business activities. The separate businesses, for their part, are responsible for the actual development of products and equipment. In the case of Vapo Timber, research activities are arranged in collaboration with other sawn goods producers.

"The task of the Research Department is to look into the future. Our on-going work is focused on developing efficient, environmentally-friendly production methods, as well as new products for the future. An important aspect of our work is seeking out and screening information and knowledge that is already available. Also, we have to try and keep up with present and future trends," says Timo Nyrönen, R&D Director.

1997 saw the completion of two separate fuel peat life cycle analysis projects, which were undertaken by the Technical Research Centre of Finland (VTT) and the Finnish Environment Agency. These provided

**Vapo, VTT and Wärtsilä NSD are test-manufacturing pyrolysis oil using a pilot plant in Otaniemi, near Helsinki.**

information about the ways in which peat production and utilization impact the environment. Vapo was involved in the projects and provided expertise, information, and funding. The analyses show that the environmental loading and impact caused by the production and utilization of peat are extremely small.

The two-year 'Peatland drainage and peat dewatering' project undertaken by VTT Energy was also completed during the year. This project was concerned with the harrowing process in milled peat production and it studied how the moisture level, number of passes, and harrowing method affect drying. As part of the project, a computer program was developed which calculates the correct harrowing time for different weather conditions. This program will be distributed for use by Vapo's contractors in 1998.

In 1993 a major research project was launched to study the production of "bio-oil" or pyrolysis oil from indigenous wood and other biomass, and this has now reached the pilot production stage. Testing work has now progressed so far that during 1998 it will be possible to calculate whether construction

of a larger-scale plant is economically feasible. Vapo is working together with VTT and Wärtsilä NSD in the project, and Neste Oy has also performed combustion tests on the pyrolysis oil.

Four new tunnel composting plants went into operation at the end of 1997, and this meant that during the year the Research Department performed a large number of composting trials using samples supplied by customers. For this purpose Vapo has been operating its own pilot composting plant since spring 1996. This plant enables the research team to identify the optimal mix and process parameters for each individual mixture of input material.

The Research Department has been involved in the further development of Vapo Biotech's biofilters. In the case of the peat-based filter, the objective is to increase the loading capacity and thus to reduce the necessary surface area.

Testing of the second-generation biofilter, Biohelmi ('Biopearl'), continued during 1997 using a pilot-scale unit, which was used to filter out hydrogen sulphide and carbon disulphide. Following two years of pilot-scale testing, Vapo Biotech is now in a position to construct a full-scale Biohelmi filter.

Another focal concern in the Biohelmi project has been its potential use for eliminating VOCs (volatile organic compounds). During 1997 test measurements were performed in practical operating conditions, suitable microbes were tested, and work was done to identify the optimum operating environment for the microbes.

For Kekkilä Oy the Research Department performs development related testing and analysis work on an on-going basis. In addition, Kekkilä and the Research Department have been jointly involved in the creation of a European standard for horticultural peat. 



## VAPO'S LABORATORY PROVIDES RESEARCH SERVICES FOR THE ENTIRE GROUP

Vapo's laboratory provides research and analysis services for all the units within the Group. Composting related analysis for Vapo Biotech was the area of work showing the greatest increase during 1997. The laboratory also developed more accurate methods to assess and study the maturity and stability of compost.

The laboratory's odour measuring work is also related to the environmental business activities, and it is used in the testing and development of bio-

projects. The most important of these concerned the development of European CEN standards for growing media. Vapo's laboratory has participated in related ring tests around Europe.

Within Finland the laboratory has been involved in a longer term project to develop new analysis methods to monitor growing media which fall within the scope of Finland's fertilizer legislation. The Plant Production Inspection Centre accepted and adopted these as its official



**Minna Salonen uses an FTIR spectrometer to study the properties of compost.**

filters. During the autumn the laboratory began work measuring and analyzing VOCs for the Bio-helmi filter development project.

Vapo's project to develop the use of wood as an energy source increased the amount of wood fuel analysis which is performed for Vapo Energy. This was done to compile basic data on the characteristics of different types of wood fuels. In summer 1997 the laboratory also participated in an extensive survey to determine how much sheathed cottongrass fibre is present in the peatlands controlled by Vapo.

In addition to these analysis services for the Group, the laboratory was also involved in both domestic and international

methods at the beginning of 1998. The same methods are used in the new quality instruction issued by the Association of Finnish Peat Industry, and the laboratory was also involved in work to update this instruction. Other work in which the laboratory has collaborated with Finnish institutions include measuring power station mass balances for the SIHTI 2 research programme, and participation in the preparation of guidelines for quality determination and the creation of quality classifications for both wood fuels and refuse derived fuels (RDF). ♣

## A YEAR OF EXTERNAL NETWORKS

For Vapo Oy's Information Management Department, 1997 represented a major step forward in the creation of external network connections. The most concrete manifestation of this was the opening of external e-mail links for Vapo employees with the adoption of Lotus Notes software.

Work was also begun to build network connections with key customers in order to speed up the transfer of information. In the case of Vapo Energy, for instance, this means the data contained in delivery notes. As part of the project to build external connections, a data security survey was undertaken and a 'firewall' was constructed to protect the information systems.

This work will be continued in 1998, when Vapo Timber's internal network will be developed and the Vapo and Kekkilä data communications networks will be linked. In a company like Vapo, which operates in many locations around Finland, an effective data communications network has a significant role to play in both the company's internal and external operations.

In 1997 work was begun to prepare for EMU and the Year 2000. An EMU working group was set up to study the timetable and possible impact of the adoption of the euro. Work was also done to determine whether computer software will need to be replaced to cope with the new millennium. ♣

**EMPLOYEE PARTICIPATION  
(EP) COMMITTEE MEMBERS**

1.7.1995-30.6.1997

1.7.1997-30.6.1999

**Salaried peat industry personnel**

Jaakko Argillander  
(Lauri Korkeala)

Ilpo Vuorela  
(Lauri Korkeala)

**Peat industry workers**

Teuvo Penttinen  
(Kauko Korhonen)  
Risto Saarikoski  
(Ilpo Viinämäki)

Teuvo Penttinen  
(Ilpo Viinämäki)  
Riku Hakala  
(Kauko Korhonen)

**Sawmill workers**

Juhani Nevalainen  
(Juha Palokas)  
Erkki Flink  
(Eetu Karjalainen)

Juhani Nevalainen  
(Juha Palokas)  
Erkki Flink  
(Markku Salonen)

**Forestry workers**

Hannu Turpeinen  
(Reijo Hampinen)

Hannu Turpeinen  
(Eetu Karjalainen)

**Salaried forestry personnel**

Heikki Miettinen  
(Paavo Kivimäki)

Heikki Miettinen  
(Paavo Kivimäki)

**Sawmill supervisors**

Juha Castrén  
(Veikko Manninen)

Juha Castrén  
(Veikko Manninen)

**Salaried office personnel**

Maija Kirvesoja  
(Kirsi Pennanen)  
Merja Katajasalo  
(Rauni Levola)

Arja Koponen  
(Kirsi Pennanen)  
Merja Katajasalo  
(Rauni Levola)

**Senior salaried personnel**

Ilkka Ilmavirta  
(Maila Salmelin)

Ilkka Ilmavirta  
(Tenho Ruuska)

**EMPLOYEE REPRESENTATIVES ON  
IN-HOUSE MAGAZINE  
EDITORIAL BOARD 1996-1997**

Erkki Flink, sawmill workers  
Pentti Haataja, senior salaried employees  
Hannu Laukkanen, supervisors  
Anneli Ovaska, salaried office personnel  
Pauli Turunen, peat industry workers



**SKILLED, ACTIVE  
PERSONNEL THE GOAL**

Vapo Oy provides its staff with greater training opportunities than industry in general. Last year every Vapo employee spent roughly seven days engaged in some form of training. The figure is approximately the same as in 1996, when the training average for industry as a whole was five days a year per employee.

"The goal of training and other forms of staff development is to ensure that Vapo personnel are kept fully up to date, properly motivated and in possession of high-level skills. Training is also an excellent means of nurturing the Group's common culture and values", says Vapo's Human Resources Director Eero Mäntylä.

Rapid changes in society and in the business world demand that staff training is a constant process. This is the only way to respond to challenges posed among other things by shifts in job content and duties, the drive to increase productivity, developments in terms of management methods and the desire to make full use of staff capabilities.

One trend affecting training is increased staff participation in

the management of the company's operations as well as their own. At the same time the role of those in supervisory positions is shifting further in the direction of staff development and training, as well as closer to customer service. At Vapo, too, many traditional management tasks have already been passed to teams.

Another trend which has to be taken into account when planning training is the rise in the mean age of Group personnel. This is a particularly clear phenomenon at Vapo, since at the end of the 1970s the company took on a lot of new staff and the official line has consistently been to avoid the use of early retirement schemes. In personnel policy the desire has been to act in a responsible and honest manner while maintaining a strict commitment to profitability. The aim is to keep staff fit for work right up to retirement age.

Where new personnel are concerned efforts are being made to create channels of employment in which the first contact with Vapo might occur via a period of practical training in summer, for example, or by



**Vapo's employees spent an average of seven days in training during 1997.**

producing a master's thesis or the like and progressing into full-time employment in that way. This can naturally also be achieved via apprenticeship training.

In 1997 a Vapo training programme spanning several years and involving the whole staff was brought virtually to completion. The programme has covered profit thinking, management and cooperation feedback, project management, negotiation skills, self-knowledge training and communication. For Vapo's personnel the programme represents a way of acquiring the necessary qualifications for current tasks as well as a channel into specialist and general management duties. The programme is overhauled at 4-5 year intervals and is preceded by an assessment of training needs, the results of which then determine the content of the next training programme. The other training project which has involved the whole Group is team-work training, which has continued since the beginning of the 1990s. In the autumn a staff survey was conducted at Vapo with the aim of establishing employees' level of motivation, in other words their enthusiasm for work and

factors influencing this. The survey was the very first of its kind and will henceforth be conducted annually.

In Vapo Oy Energy trainer training concerning all personnel groups was started in 1997, the aim of which is to improve and maintain mental and physical fitness as well as to assimilate new ways of working. This programme of training will continue in 1998. The creation and maintenance of Vapo Energy's quality and environmental management systems also involved a great deal of training during the past year. Last year environmental systems were set up at Vapo Timber's Hankasalmi and Kevätniemi sawmills as well as in wood procurement. In the course of 1997 the first training sessions associated with this were also arranged. The actual audit training will be organized during 1998. At Kevätniemi sawmill internal and external customer service training was given, the goal of which was to boost efficiency and develop activities in areas designated as criteria for Finnish quality awards. ♣

## EMPLOYEE REPRESENTATIVES IN BUSINESS UNIT MANAGEMENT GROUPS 1.1.1996 - 31.12.1997.

	<b>Western Finland</b>
	Tapani Koivistoinen (Kosti Kaukajoki) Sirpa Mäki-Pirilä 1.1.1996-13.9.1997
	Heimo Pihlajamäki 14.9.1997-31.12.1997
	<b>Eastern Finland</b>
	Teuvo Penttinen (Aarno Kuivalainen) Merja Koponen (Hannu Laukkanen)
	<b>Northern Finland</b>
	Jouko Niva (Eino Ämmänpää) Anneli Ovaska (Ensio Kauppila)
	<b>Hankasalmi</b>
	Pertti Janhunen Veikko Manninen
	<b>Kevätniemi</b>
	Juha Palokas (Armas Ruokolainen) Birgitta Kettunen (Merja Katajasalo)
	<b>Nurmes</b>
	Reino Määttä Tuomo Rautiainen
	<b>Paltamo</b>
	Tuomo Rautiainen Kalevi Siivikko (Mauri Bogdanoff)
	<b>Kekkilä Oy</b>
	Timo Nieminen Ilpo Viinamäki

## REPORT OF THE BOARD OF DIRECTORS

### Market conditions

The Finnish economy continued to make favourable progress in 1997, and this meant that demand for energy remained stable. Total energy consumption grew by 2% from the previous year to 354 TWh. Energy produced from indigenous sources amounted to 108 TWh, which is 31% of total energy consumed. Fuel peat accounted for 20% of energy from indigenous sources, and it generated over 7% of the electricity and more than 20% of the district heating produced in Finland.

The energy markets remained in a state of transition, and this was reflected in changes in the structure of the industry, increased activity in the markets among energy suppliers and buyers, and reduced electricity prices.

An amendment to the energy taxation system, implemented at the beginning of 1997, weakened the competitive position of fuel peat and wood fuels for electricity generation. In the case of wood fuels, the situation was corrected from the beginning of 1998 with the introduction of a tax exemption on the use of these fuels to generate electricity.

In the sawn goods sector, 1997 brought yet another major shift in market conditions. The year began with good demand and favourable price levels, but there was a sharp fall in prices towards the end of the year due to over-supply. Finland's total sawn goods output increased by around 11% from the previous year, and export deliveries were up by some 5%. Average prices for exports approached the level reached in 1994, which set a record for the 1990s. Exports by the Vapo Timber group increased by 15% and represented 6% of Finland's total sawn goods exports.

In Europe the overall market for horticultural products showed little growth, while in Finland there was a slight contraction. Sales of growing media and fertilizers were also impacted by cold weather during the spring, which delayed peak trading and reduced sales volumes to a certain extent. In Finland competition in the professional grower sector increased further with the entry of new fertilizer suppliers into the market. The Kekkilä group's turnover was up by more than 6%, with the greatest increase in sales being recorded in the Danish subsidiary.

As expected, markets in the environmental business sector showed rapid growth, which was accelerated by the introduction of more stringent waste disposal legislation. For Vapo Oy Biotech this situation was reflected in rapid business growth. During the year under review Biotech supplied a total of four tunnel composting plants.

### Turnover

Group turnover was up by 13% from the previous year and totalled FIM 1 861 million (1996: FIM 1 645 million).

Most of the increase in Group turnover came from the sawn goods business, which increased its turnover by 31% from the previous year. The impact of the downturn in the sawn goods markets in the latter part of the year will not be seen in the delivery figures until those for 1998 are available.

Deliveries of biofuels decreased by 2% to a total of 19 TWh. The energy business recorded a turnover of FIM 834 million, which is of the same order as in the previous year.

The Parent Company, Vapo Oy, reported turnover of FIM 883 million (FIM 886 million), the Vapo Timber group FIM 821 million (FIM 629 million) and the Kekkilä group FIM 150 million (FIM 141 million). The figures for the Parent Company include the turnover of the environmental business activities, which amounted to FIM 31 million.

### Operating profit

The Vapo Group recorded an operating profit of FIM 253 million (FIM 186 million) for the accounting period. The Parent Company, Vapo Oy, reported operating profit of FIM 140 million (FIM 167 million), the Vapo Timber group FIM 102 million (FIM 15 million), and the Kekkilä group FIM 9 million (FIM 7 million). The significant improvement in the Vapo Group's operating profit was mainly due to the improved results of the Vapo Timber group. Vapo Oy's financial result is in line with the development of its business activities and is stated after charging a provision of FIM 22 million for environmental purposes. The environmental business activity has now reached the commercial stage and produced a profit, and the Kekkilä group's operating profit is in line with the development of its business activities. The foreign business activities did not reach the targets that had been set.

### Investments

The Vapo Group's total investments for the period were FIM 120 million. Of this total, the Parent Company accounted for FIM 73 million, the Vapo Timber group for FIM 35 million and the Kekkilä group for FIM 12 million.

The largest single investments were FIM 48 million to develop and expand peat production, FIM 4 million to implement environmental protection measures, FIM 12 million to upgrade the trimming plant at Nurmes Sawmill, and FIM 14 million to rebuild the debarking and kilning plants at Hankasalmi Sawmill.

### Financing

The net decrease in long-term borrowing during the year was FIM 65 million (FIM 52 million). Interest-bearing net debt totalled FIM 195 million at the end of the financial period. The majority of the investments

were financed from income. The Group's solvency ratio at the year-end was 62% and its net debt ratio 15%.

The Vapo Group's net financial expenses were FIM 9 million or 2.3% of the operating margin. The liquidity position was good throughout the period and the current ratio (the ratio of current assets to current liabilities) was 2.4.

**Changes in Group structure**

At the end of the year Mustankorkea Oy was established in Jyväskylä to handle waste disposal activities in the Jyväskylä region. The company began its operations at the beginning of 1998. This company's other shareholders are the local authorities in the City of Jyväskylä, Jyväskylä Rural District, Laukaa and Muurame, with a total combined holding of 45%.

Vapo Timber Import Oy, which was established to secure timber supplies for Vapo Timber Oy's Kevätniemi and Nurmes Sawmills, handles timber purchases for Vapo's sawmills from the Karelia region of Russia. It began its operations at the beginning of July, 1997.

The subsidiary company Biolappi Oy, which operated a sludge treatment service in northern Finland, ceased its business activities at the end of November 1997. The sludge dewatering operations are being continued by Vapo Oy Biotech.

**Research and development**

The Vapo Group's R&D activities are split between many separate fields, in line with the Group's different business operations. At the Group level projects aimed at increasing usage of biofuels have been a priority issue, and Vapo has supplied research data on the nature of peat as a form of bioenergy to the European Union.

The project to increase the utilization of wood as a source of energy has been one of the most important in 1997. Efforts to ensure that peat can maintain and improve its competitiveness have involved a number of projects to develop new methods and equipment. Research into the use of peat for non-fuel purposes has been undertaken with the objective of developing improved growing media and new peat fibre products. Intensive efforts have been made to develop Vapo Oy Biotech's products, and the results can be seen in increased sales and improved financial results.

Expenditure on research within the Group amounted to some FIM 24 million in 1997, and the Group employs 22 people in R&D on a full-time basis. During the summer 12 temporary research employees were taken on, and they were mainly involved in field research work. Collaboration with universities and research institutes has been both intensive and fruitful. Additionally, Vapo Timber Oy is a shareholder in Finnish Wood Research Ltd and Metsäteho Oy.

**Environmental review**

During 1997 development work was undertaken in line with the principles of the Vapo Group's environmental



**Vapo's Board of Directors (from top left): Kari Poikolainen (Secretary), Juha Tuominen, Raimo Rantala, Aarno Heinonen, Esko Muhonen (Chairman) and Mauri Jaakonaho.**

policy. As a result of this an environmental management system was completed in the Western Finland Business Unit. The same work has now been started in Vapo Oy Energy's other business units. In addition to the development of new methods, research has also been done to study the life cycle of peat, the biodiversity of peatlands, and the dust and noise impacts caused by peat production.

Environmental management systems have been prepared for Vapo Timber Oy's Hankasalmi, Kevätniemi and Nurmes sawmills, and a project has been launched to prepare quality and environmental management systems for the timber procurement activity. Environmental parameters have been determined for all of Vapo's business activities.

**The outlook**

Vapo continues to systematically pursue its strategy of developing production and utilization of

- fuel peat and other biofuels
- sawmill products
- growing media and fertilizers
- air treatment and waste handling systems

The liberalization of the electricity market and amendments to the energy taxation system have had a negative impact on the utilization of fuel peat for electricity generation, but consumption of indigenous biofuels – peat and wood – nevertheless continues to increase.

In its biofuel production activities, Vapo's objective is still to raise the share of total energy produced with fuel peat from 6% in the year under review to 8% by

the year 2003. This effort is also being supported by the approval of peat as a biofuel, which has been secured on the basis of long-term research and analysis.

Sales of indigenous fuels will continue to be stable over the next few years as utilization rates remain high. However, changes in the electricity markets will affect the energy business, and will thus also impact the trade in fuels.

Usage of wood fuels is increasing rapidly in Finland. Vapo's sales of wood fuels and other biofuels and refuse-derived fuels are increasing significantly.

The sawn goods markets will decline during the first part of the year. It is believed that the balance between supply and demand will improve towards the end of the year and bring about an upturn in price levels. The availability of saw logs has been good, and it is expected to remain good throughout 1998, but the high price of raw timber will depress the sawmills' financial performance. For the Vapo Timber group changes in external factors will mean lower turnover and a deterioration in profitability.

In the markets for growing media and fertilizers no significant changes are expected during 1998. It is anticipated that the Finnish hobby gardening market will continue to grow slowly, while the professional market will probably remain at the same level as last year. Elsewhere in Europe the overall markets in this sector are expected to show slight growth. Kekkilä Oy's turnover is expected to develop in line with the markets.

The environmental business activity will continue to grow at a rapid rate, but the plants to be constructed in Finland will be completed in different years, and this will impact the way turnover is built up. The next few years will see a 5 - 10 year peak in construction of waste treatment plants, after which sales of plants will decrease significantly. The market for waste handling and environmental protection services, by contrast, is set to become a permanent and extensive activity, with the growth phase occurring during the same 5-10 year period.

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## ADMINISTRATION 31.12.1997

### Supervisory Board

Chairman

Markku Koski, MP

Vice Chairman

Aarne Heikkilä, Executive Director

Members

Terttu Kangasharju, R&D Engineer

Juha Karpio, MP

Armas Komi, MP

Christel Liljeström, Farmer

Reijo Lindroos, MP

Erkki Pulliainen, MP

Taisto Turunen, Chief Director

Jan Vapaavuori, Master of Laws

### Staff representatives on Supervisory Board

(1.7.1996-30.6.1998)

Kauko Korhonen, peat industry workers

Juhani Nevalainen, sawmill workers

Kaisa Runtti, salaried office personnel

### Deputy staff representatives on

### Supervisory Board (1.7.1996-30.6.1998)

Teuvo Penttinen, peat industry workers

Erkki Flink, sawmill workers

Marja Meriläinen, salaried office personnel

### Board of Directors

Esko Muhonen, Chairman,

Managing Director, Vapo Oy

Juha Tuominen, Vice Chairman,

Managing Director, Vapo Timber Oy

Raimo Rantala, Controller,

Vapo Oy

Mauri Jaakonaho, Deputy Managing Director,

Valmet Oy

Arno Heinonen, Controller,

Werner Söderström Oy

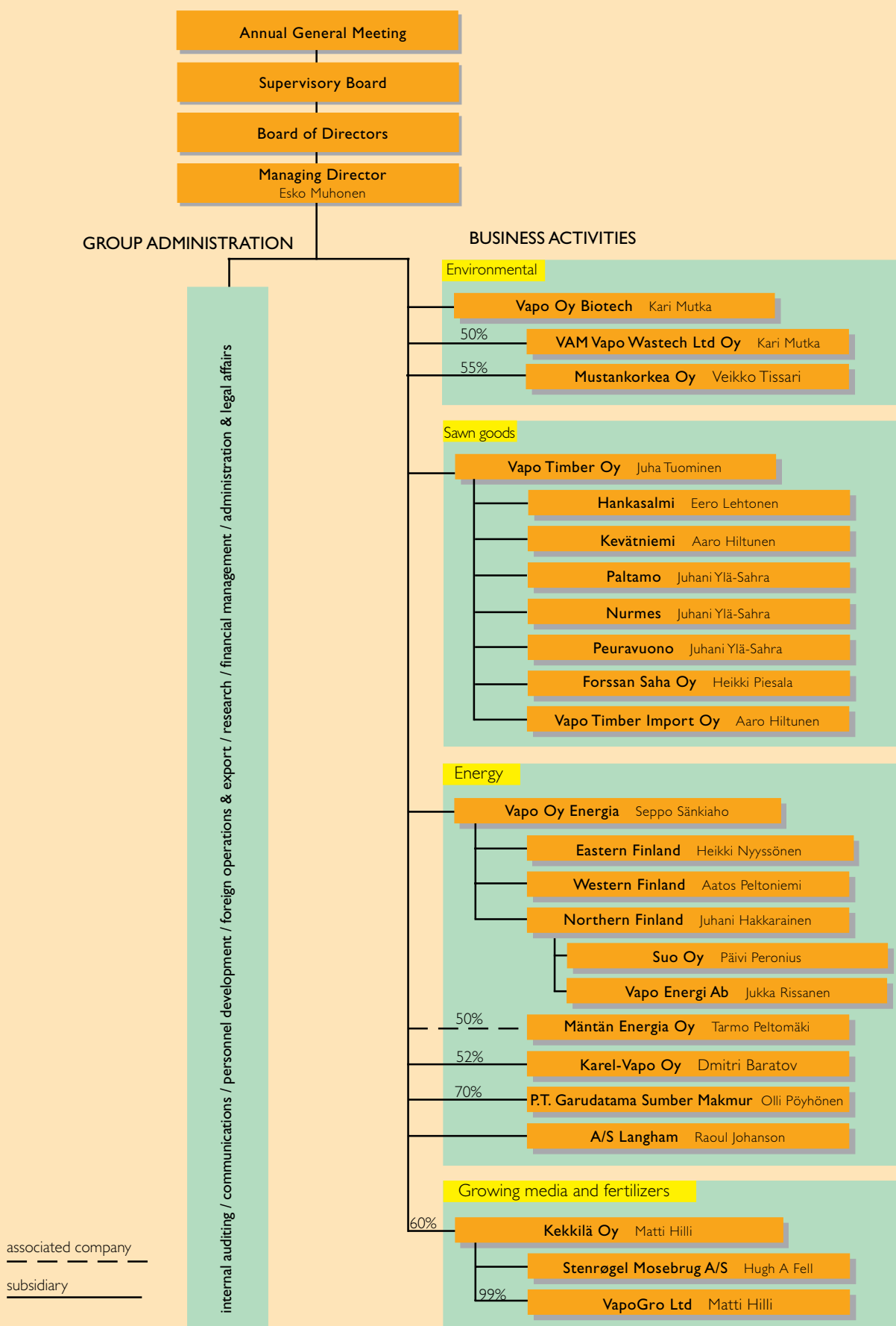
### Auditors

Tuokko Deloitte & Touche Oy

Certified Public Accountants

Yrjö Tuokko, CPA

GROUP ORGANIZATION 1.1.1998



## INCOME STATEMENT

	Notes	Group		Parent Company	
		1.1.-31.12.	1.1.-31.12.	1.1.-31.12.	1.1.-31.12.
FIM 1000		1997	1996	1997	1996
TURNOVER	1	1 861 276	1 645 433	883 270	886 388
Increase in finished goods inventories		+111 303	+976	+59 063	+10 687
Production for own use		20 945	37 201	20 714	37 089
Share of associated company profit		1 182	784		
Other operating income		5 810	7 196	5 917	5 675
Expenses:					
Materials and supplies:					
Purchases during the period		602 343	433 669	72 978	78 772
Increase/decrease in inventories		-38 127	+25 681	+559	+706
External charges		682 953	616 664	501 841	478 516
Salaries, wages and social expenses	2	217 458	202 675	97 448	99 250
Rents		5 868	7 292	6 402	6 123
Other expenses		179 501	138 017	81 803	51 273
Preparation of peat reserves		-15 552	-25 974	-15 551	-25 974
		1 634 444	1 398 024	745 480	688 666
OPERATING MARGIN		366 072	293 566	223 484	251 173
Depreciation 3					
Depreciation of fixed assets and other capitalized expenditure		-112 009	-107 272	-83 356	-84 130
Amortization of goodwill		-663	-663		
OPERATING PROFIT		253 400	185 631	140 128	167 043
Financial income and expenses: 5					
Dividend income		214	374	5 305	5 734
Interest income from long-term investments				3 194	3 618
Other interest income		8 093	10 501	6 858	8 541
Other financial income		978	212	2 933	1 872
Exchange rate differences		3 751	-556	7 080	1 265
Interest expenses		-21 190	-27 566	-19 183	-25 642
Other financial expenses		-443	-617	-291	-283
Total financial income and expenses		-8 597	-17 652	5 896	-4 895
PROFIT BEFORE EXTRAORDINARY ITEMS, APPROPRIATIONS TO RESERVES AND TAXES		244 803	167 979	146 024	162 148
Extraordinary income and expenses: 6					
Extraordinary expenses			-2 068		
PROFIT BEFORE APPROPRIATIONS TO RESERVES AND TAXES		244 803	165 911	146 024	162 148
Decrease/increase in depreciation difference 4					
Decrease in voluntary reserves				31 656	-25 835
Direct taxes					
For the accounting period		-81 183	-42 072	-55 972	-42 575
Change in deferred tax liability		5 328	-6 235		
NET PROFIT BEFORE MINORITY INTEREST		168 948	117 604	121 708	108 718
Minority interest		-562	+931		
NET PROFIT		168 386	118 535	121 708	108 718



**BALANCE SHEET**

FIM 1000

	Notes	Group		Parent Company	
ASSETS		31.12.1997	31.12.1996	31.12.1997	31.12.1996
<b>FIXED ASSETS AND OTHER LONG-TERM INVESTMENTS</b>					
	7				
<b>Intangible assets</b>					
Intangible rights		7 125	6 883	5 788	6 118
Goodwill		1 728	2 390		
Other capitalized expenditure		8 958	9 946	4 309	4 842
Advances paid		149	207		207
		<u>17 960</u>	<u>19 426</u>	<u>10 097</u>	<u>11 167</u>
<b>Tangible assets</b>					
Land and water areas		94 889	91 507	78 975	75 596
Buildings and structures		143 255	144 615	59 707	59 170
Machinery and equipment		401 409	493 405	255 766	356 958
Preparation of peat reserves and other tangible assets		456 248	462 921	431 341	437 504
Advances paid and construction in progress		20 301	15 091	7 179	10 892
		<u>1 116 102</u>	<u>1 207 539</u>	<u>832 968</u>	<u>940 120</u>
<b>Shares and other long-term investments</b>					
	8				
Investments in associated companies		3 168	2 737		
Shares and holdings		25 827	22 027	152 054	145 345
Loans receivable				48 083	56 244
Capital loan				3 589	3 140
		<u>28 995</u>	<u>24 764</u>	<u>203 726</u>	<u>204 729</u>
<b>CURRENT ASSETS</b>					
<b>Inventories</b>					
Materials and supplies		97 281	58 828	4 606	5 165
Work in progress		10 457	314	465	134
Finished goods		471 560	383 496	383 399	324 666
Advances paid		13 280	7 403	586	373
		<u>592 578</u>	<u>450 041</u>	<u>389 056</u>	<u>330 338</u>
<b>Receivables</b>					
	9				
Accounts receivable		251 218	224 647	150 442	160 010
Loans receivable		501	1 026	18 035	14 210
Prepaid expenses and accrued income		26 229	34 191	11 062	15 286
Other receivables		13 504	8 808	272	410
		<u>291 452</u>	<u>268 672</u>	<u>179 811</u>	<u>189 916</u>
<b>Investments</b>					
Other investments		155 270	89 265	149 287	62 183
Cash on hand and bank balances		36 935	47 100	2 073	16 779
<b>BALANCE SHEET TOTAL</b>		<u>2 239 292</u>	<u>2 106 807</u>	<u>1 767 018</u>	<u>1 755 232</u>

## BALANCE SHEET

FIM 1000					
	Notes	Group		Parent Company	
SHAREHOLDERS' EQUITY AND LIABILITIES		31.12.1997	31.12.1996	31.12.1997	31.12.1996
<b>SHAREHOLDERS' EQUITY</b>					
	10				
Restricted equity					
Share capital		300 000	300 000	300 000	300 000
Exchange rate difference		819	-23		
Ordinary reserve		82			
		<u>300 901</u>	<u>299 977</u>		
Transferred from voluntary reserves and depreciation difference					
		325 859	341 641		
Non-restricted equity					
Contingency reserve		179 030	179 030	178 945	178 945
Exchange rate difference		154	240		
Transferred from change in voluntary reserves and depreciation difference during accounting period					
		13 663	-16 276		
Retained earnings		307 981	241 286	214 104	141 386
Profit for the period		168 386	118 535	121 708	108 718
		<u>669 214</u>	<u>522 815</u>	<u>514 757</u>	<u>429 049</u>
<b>MINORITY INTEREST</b>					
		32 120	32 977		
<b>RESERVES</b>					
	11				
Accumulated depreciation difference					
				372 904	404 560
Voluntary reserves					
Transition reserve					
Other reserves					
Provisions		22 000		22 000	
<b>VALUATION ITEMS</b>					
	12	299			
<b>LIABILITIES</b>					
Long-term					
	13				
Debenture loans		21 000	21 000	21 000	21 000
Loans from financial institutions		218 123	257 599	156 105	208 499
Pension fund loans		60 439	65 302	54 509	58 834
Other long-term liabilities		8 175	8 658	6 111	6 378
Deferred tax liability		127 874	134 569		
		<u>435 611</u>	<u>487 128</u>	<u>237 725</u>	<u>294 711</u>
Current					
	9				
Loans from financial institutions		73 735	98 456	66 050	93 552
Pension fund loans		4 851	4 975	4 325	4 428
Advances received		101 520	96 358	78 857	75 954
Accounts payable		139 158	109 428	39 584	41 565
Accrued liabilities		127 432	75 198	71 225	51 580
Other current liabilities		6 592	37 854	59 591	59 833
		<u>453 288</u>	<u>422 269</u>	<u>319 632</u>	<u>326 912</u>
<b>BALANCE SHEET TOTAL</b>					
		<u>2 239 292</u>	<u>2 106 807</u>	<u>1 767 018</u>	<u>1 755 232</u>

STATEMENT OF SOURCE AND APPLICATION OF FUNDS

FIM 1000	Group		Parent Company	
	1997	1996	1997	1996
<b>SOURCES OF FUNDS</b>				
Finance from operations				
Operating margin	366 072	293 566	223 485	251 173
Interest and other financial income	13 037	11 087	25 369	21 030
Disposal of fixed assets	91 528	3 567	89 980	2 605
	<u>470 637</u>	<u>308 220</u>	<u>338 834</u>	<u>274 808</u>
Finance from other sources				
Increase in shareholders' equity	1 273			
Increase in minority interest		3 296		
Increase in provisions	22 000		22 000	
	<u>23 273</u>	<u>3 296</u>	<u>22 000</u>	
	<u>493 910</u>	<u>311 516</u>	<u>360 834</u>	<u>274 808</u>

APPLICATION OF FUNDS

Profit distribution				
Interest on liabilities	21 634	28 739	19 474	25 925
Taxes	81 183	42 072	55 972	42 575
Dividends	36 000	36 000	36 000	36 000
	<u>138 817</u>	<u>106 811</u>	<u>111 446</u>	<u>104 500</u>
Investments				
Fixed assets	116 078	161 344	64 008	90 738
Other long-term investments	4 332	8	103	6 792
Change in valuation items	-299			
	<u>120 111</u>	<u>161 352</u>	<u>64 111</u>	<u>97 530</u>
Repayment of capital				
Decrease in shareholders' equity		466		
Decrease in minority interest	22			
Decrease in long-term liabilities	69 686	58 219	84 358	56 828
	<u>69 708</u>	<u>58 685</u>	<u>84 358</u>	<u>56 828</u>
	<u>328 636</u>	<u>326 848</u>	<u>259 915</u>	<u>258 858</u>

BREAKDOWN OF CHANGE IN WORKING CAPITAL

Increase (+)/decrease (-) in liquid assets	+78 620	-2 197	+62 293	+2 387
Increase (+)/decrease (-) in inventories	+142 537	-28 673	+58 718	+9 811
Increase (-)/decrease (+) in current liabilities	-55 883	+15 538	-20 092	+3 752
	<u>+165 274</u>	<u>-15 332</u>	<u>+100 919</u>	<u>+15 950</u>

## ACCOUNTING PRINCIPLES

### Extent of consolidation

The consolidated financial statements include the Parent Company, Vapo Oy, and all active companies in which the Parent Company either owns more than 50% of the voting rights or otherwise exercises real control. The financial statements of Karel-Vapo Oy have not been consolidated as they are not material to the Group's financial statements. Mustankorkea Oy, which was established in 1997, has not been included in the consolidated financial statements as its actual operations begin in 1998. Associated Companies are those in which the Parent Company owns a 20–50% holding.

### Principles of consolidation

The acquisition method of consolidation has been adopted. Inter-company transactions, receivables and liabilities, internal margins and distribution of profit within the Group have been eliminated. Minority interest has been disclosed separately from the Group's net profit and shareholders' equity in the consolidated accounts. Corporation tax credits received by subsidiary companies have been set off against the tax charge for the period in the consolidated accounts.

The results of associated companies are accounted for in the consolidated financial statements using the equity method.

In the consolidated financial statements the depreciation difference and voluntary reserves have been separated into shareholders' equity and deferred tax liabilities, and that part of the change in depreciation difference and voluntary reserves which has an effect on income is shown in the balance sheet only and explained in a note.

### Foreign currency items and hedging arrangements

In translating the accounts of overseas subsidiaries into Finnish Marks, income statements have been translated at the average rate of exchange for the accounting period and balance sheets at the Bank of

Finland's average rate of exchange at the balance sheet date. Exchange differences arising on the translation of these accounts are shown as restricted and non-restricted shareholders' equity.

Foreign currency denominated receivables and liabilities have been translated to Finnish Marks at the Bank of Finland's average rate at the balance sheet date, with a related credit or charge to income for the period. Exchange rate gains and losses arising on the translation of receivables and liabilities have been entered as exchange rate differences in the income statement.

Forward contracts and options used as hedges against exchange rate risks are stated at the appropriate rate on the balance sheet date. The interest component is apportioned over the term of the contract, and exchange rate differences arising on contracts to hedge liabilities or receivables are entered as exchange rate differences in the income statement.

### Inventories

Inventories are valued at the lower of direct cost and net realizable value. Inventories include peat reserves that have been processed ready for sale. Unprocessed peat reserves are included in fixed assets and depreciated according to utilization.

### Fixed assets and depreciation

Fixed assets are stated at original cost less depreciation. Planned depreciation is charged on a straight-line basis against the original cost of the asset. In each case the straight-line depreciation rate is based on the useful life of the asset:

- intangible rights 5–10 years
- buildings and structures 20–40 years
- machinery and equipment 5–15 years
- peat reserves - according to utilization
- other capitalized expenditure 4–10 years
- goodwill 5–10 years

## NOTES TO THE ACCOUNTS

FIM 1000

Note number	Group		Parent Company		
	1997	1996	1997	1996	
<b>1</b>	<b>TURNOVER BY BUSINESS ACTIVITY</b>				
	- fuel peat activities	834 103	835 831	837 029	841 385
	- horticultural peat activities	148 901	139 534		
	- sawmills	815 499	626 944		
	- other business activities	62 773	43 124	46 241	45 003
		<u>1 861 276</u>	<u>1 645 433</u>	<u>883 270</u>	<u>886 388</u>
	<b>TURNOVER BY MARKET AREA</b>				
	- Finland	1 247 622	1 182 923	866 428	870 528
	- Other Scandinavian countries	92 613	71 096	8 983	7 008
	- Other European countries	410 194	310 988	697	776
	- Other markets	110 847	80 426	7 162	8 076
		<u>1 861 276</u>	<u>1 645 433</u>	<u>883 270</u>	<u>886 388</u>
<b>2</b>	<b>SALARIES, WAGES AND SOCIAL EXPENSES</b>				
	Salaries and wages	166 851	154 536	74 385	75 141
	Pension expenses	26 662	25 932	12 755	12 992
	Social expenses	23 945	22 207	10 308	11 117
		<u>217 458</u>	<u>202 675</u>	<u>97 448</u>	<u>99 250</u>
	Taxation value of fringe benefits	2 243	2 277	895	956
	Total	<u>219 701</u>	<u>204 952</u>	<u>98 343</u>	<u>100 206</u>
	Salaries, wages and social expenses relating to the Supervisory Board, the Board of Directors and the Managing Director	6 964	6 130	2 599	2 350
	Average number of employees during the financial period	1 119	1 046	513	502
<b>3</b>	<b>PLANNED DEPRECIATION</b>				
	Intangible rights	2 812	2 930	2 218	2 537
	Goodwill	663	663		
	Other capitalized expenditure	1 955	1 853	829	607
	Buildings and structures	10 290	9 588	4 374	4 452
	Machinery and equipment	67 089	62 173	47 037	47 587
	Preparation of peat reserves and other tangible assets	29 863	30 728	27 792	28 947
	Shares			1 106	
	Total	<u>112 672</u>	<u>107 935</u>	<u>83 356</u>	<u>84 130</u>
<b>4</b>	<b>CHANGE IN DEPRECIATION DIFFERENCE</b>				
	Buildings and structures	-1 563	-1 612	-2 129	-1 854
	Machinery and equipment	-6 644	32 930	-22 246	20 349
	Preparation of peat reserves	-6 735	7 340	-7 281	7 340
	Total	<u>-14 942</u>	<u>38 658</u>	<u>-31 656</u>	<u>25 835</u>
<b>5</b>	<b>FINANCIAL INCOME RECEIVED FROM GROUP COMPANIES</b>				
	Dividend income			4 378	5 133
	Interest income from long-term investments			3 194	3 616
	Interest income from short-term investments			278	1
	<b>FINANCIAL EXPENSES PAID TO GROUP COMPANIES</b>				
	Interest expenses			1 151	1 559

FIM 1000 Note number	Group		Parent Company		
	1997	1996	1997	1996	
<b>6</b>	<b>EXTRAORDINARY EXPENSES</b>				
		2 068			
	Reduction in value of decommissioned production plant.				
<b>7</b>	<b>FIXED ASSETS AND OTHER CAPITALIZED EXPENDITURE</b>				
	Intangible rights				
	Initial cost 1 Jan	20 007	38 027	17 442	35 486
	- additions 1 Jan - 31 Dec	3 055	2 474	1 888	2 450
	- disposals 1 Jan - 31 Dec	-1 107	-20 494	-593	-20 494
	Initial cost 31 Dec	21 955	20 007	18 737	17 442
	- accumulated planned depreciation 31 Dec	-14 830	-13 124	-12 949	-11 324
	Book value 31 Dec	7 125	6 883	5 788	6 118
	Goodwill				
	Initial cost 1 Jan	6 648	6 648		
	- additions 1 Jan - 31 Dec				
	Initial cost 31 Dec	6 648	6 648		
	- accumulated depreciation 31 Dec	-4 920	-4 258		
	Book value 31 Dec	1 728	2 390		
	Other capitalized expenditure				
	Initial cost 1 Jan	29 971	5 541	21 561	1 320
	- additions 1 Jan - 31 Dec	962	24 575	296	20 241
	- disposals 1 Jan - 31 Dec		-145		
	Initial cost 31 Dec	30 933	29 971	21 857	21 561
	- accumulated depreciation 31 Dec	-21 975	-20 025	-17 548	-16 719
	Book value 31 Dec	8 958	9 946	4 309	4 842
	Land and water areas				
	Initial cost 1 Jan	91 507	84 835	75 596	71 658
	- additions 1 Jan - 31 Dec	3 610	7 075	3 493	4 075
	- disposals 1 Jan - 31 Dec	-228	-403	-114	-137
	Book value 31 Dec	94 889	91 507	78 975	75 596
	Buildings and structures				
	Initial cost 1 Jan	209 932	200 451	101 377	101 793
	- additions 1 Jan - 31 Dec	11 277	13 627	6 121	335
	- exchange rate differences 1 Jan - 31 Dec	2			
	- disposals 1 Jan - 31 Dec	-3 958	-4 146	-3 743	-751
	Initial cost 31 Dec	217 253	209 932	103 755	101 377
	- accumulated depreciation 31 Dec	-73 998	-65 317	-44 048	-42 207
	Book value 31 Dec	143 255	144 615	59 707	59 170
	Accumulated difference between total and planned depreciation 1 Jan				
		34 665	36 277	28 849	30 704
	- increase in depreciation difference 1 Jan - 31 Dec	888	402		
	- decrease in depreciation difference 1 Jan - 31 Dec	-2 451	-2 014	-2 129	-1 855
	- adjustment to depreciation difference, balance sheet	-1 102			
	Accumulated difference between total and planned depreciation 31 Dec	32 000	34 665	26 720	28 849

FIM 1000				
Note number	Group		Parent Company	
	1997	1996	1997	1996
<b>Machinery and equipment</b>				
Initial cost 1 Jan	839 182	768 881	641 948	614 883
- additions 1 Jan - 31 Dec	67 625	86 092	34 501	40 564
- exchange rate differences 1 Jan - 31 Dec	166			
- disposals 1 Jan - 31 Dec	-159 074	-15 791	-154 851	-13 499
Initial cost 31 Dec	747 899	839 182	521 598	641 948
- accumulated depreciation 31 Dec	-346 490	-345 777	-265 832	-284 990
Book value 31 Dec	401 409	493 405	255 766	356 958
Accumulated difference between total and planned depreciation 1 Jan				
- increase in depreciation difference 1 Jan - 31 Dec	265 967	232 048	202 758	182 409
- decrease in depreciation difference 1 Jan - 31 Dec	15 730	34 049		20 349
- adjustment to depreciation difference, balance sheet	-22 374	-130	-22 246	
- adjustment to depreciation difference, balance sheet	-3 780			
Accumulated difference between total and planned depreciation 31 Dec	255 543	265 967	180 512	202 758
<b>Machinery and equipment, share of book value 31 Dec</b>				
	281 129	254 543	144 856	145 233
Adjustments have been made to the depreciation difference shown in the balance sheet in respect of buildings and structures and machinery and equipment. These adjustments relate to differences revealed when a subsidiary company adopted a new fixed asset management system. The adjustments have no effect on the profit for the financial period.				
<b>Preparation of peat reserves and other tangible assets</b>				
Initial cost 1 Jan	662 218	615 746	631 076	591 527
- additions 1 Jan - 31 Dec	22 674	46 858	21 629	39 935
- exchange rate differences 1 Jan - 31 Dec	337			
- disposals 1 Jan - 31 Dec		-386		-386
Initial cost 31 Dec	685 229	662 218	652 705	631 076
- accumulated depreciation 31 Dec	-228 981	-199 297	-221 364	-193 572
Book value 31 Dec	456 248	462 921	431 341	437 504
Accumulated difference between total and planned depreciation 1 Jan				
- increase in depreciation difference 1 Jan - 31 Dec	172 953	165 613	172 953	165 613
- decrease in depreciation difference 1 Jan - 31 Dec	546	7 340		7 340
- decrease in depreciation difference 1 Jan - 31 Dec	-7 281		-7 281	
Accumulated difference between total and planned depreciation 31 Dec	166 218	172 953	165 672	172 953
<b>Shares and holdings</b>				
Initial cost 1 Jan	24 764	24 756	145 345	141 223
- additions 1 Jan - 31 Dec	4 332	921	7 917	4 263
- disposals 1 Jan - 31 Dec	-101	-913	-102	-141
Initial cost 31 Dec	28 995	24 764	153 160	145 345
- accumulated depreciation			-1 106	
Book value 31 Dec	28 995	24 764	152 054	145 345
<b>TAXATION VALUES</b>				
Land and water areas	58 711	56 895	52 147	50 178
Buildings and structures	153 589	157 310	73 391	74 772
Shares and holdings	166 464	131 708	163 960	113 667
	378 764	345 913	289 498	238 617
Book value has been used in cases where taxation value is not available.				





FIM 1000 Note number	Group		Parent Company	
	1997	1996	1997	1996
<b>11</b>	<b>VOLUNTARY RESERVES AND DEPRECIATION DIFFERENCE IN THE CONSOLIDATED ACCOUNTS</b>			
	Voluntary reserves	2 933	7 019	
	Depreciation difference	453 760	473 584	
		<u>456 693</u>	<u>480 603</u>	
	Entered as followed:			
	Deferred tax liability	127 874	134 569	
	Minority interest	2 960	4 393	
	Transferred to shareholders' equity	325 859	341 641	
		<u>456 693</u>	<u>480 603</u>	
	Provisions			
	Provision for expenditure on environmental work at sites released from peat production	22 000		22 000
<b>12</b>	<b>VALUATION ITEMS</b>			
	Valuation items 1 Jan	0		
	Unrealized exchange rate gain on loan granted to subsidiary in sub-group	299		
	Valuation items 31 Dec	<u>299</u>		
<b>13</b>	<b>LONG-TERM LIABILITIES DUE AFTER FIVE YEARS OR MORE</b>			
	Loans from financial institutions	38 337	18 828	26 400 1 233
	Pension fund loans	44 942	48 808	40 775 44 011
	Other long-term liabilities	6 606	8 495	2 107 2 295
		<u>89 885</u>	<u>76 131</u>	<u>69 282</u> <u>47 539</u>
	DEBENTURE LOANS			
	Debenture loan 1994/1999 - repayable in a single instalment	21 000	21 000	21 000 21 000
	CHARGES ON ASSETS, MORTGAGES PLEDGED, GUARANTEES, AND OTHER CONTINGENT LIABILITIES			
	Charges on assets			
	- for corporate debts	1 878	1 878	1 878 1 878
	- in respect of delivery contracts	1 006		
		<u>2 884</u>	<u>1 878</u>	<u>1 878</u> <u>1 878</u>
	Mortgages pledged			
	- for corporate debts	122 016	94 989	5 000 5 000
	- in respect of contracts	1 000		
		<u>123 016</u>	<u>94 989</u>	<u>5 000</u> <u>5 000</u>
	Guarantees			
	- for Group company debts			39 741 26 231

FIM 1000 Note number	Group		Parent Company	
	1997	1996	1997	1996
Other contingent liabilities				
- for Group companies, relating to guarantee periods	2 281	2 281	2 281	2 281
- for Group companies, relating to delivery contracts	55 757	63 003	37 428	46 003
- leasing liabilities	185			
- other liabilities	1 854	1 516	99	
- open forward contracts	59 446	80 384		67 203
	<u>119 523</u>	<u>147 184</u>	<u>39 808</u>	<u>115 487</u>
Charges on assets, mortgages pledged, guarantees and other contingent liabilities, total	<u>245 423</u>	<u>244 051</u>	<u>86 427</u>	<u>148 596</u>

**PARENT COMPANY SHARES AND HOLDINGS**

Group companies	Parent Company shareholding %	Group share of shareholders' equity	Number of shares	Parent Company shareholding		Profit/loss per most recent financial statement
				Nominal value	Book value	
		FIM 1000		FIM/share	FIM 1000	FIM 1000
Vapo Timber Oy group, Jyväskylä	100	236 811	5000	25 000	71 000	69 851
Biolappi Oy, Rovaniemi	100	17	96	960	100	-302
Suo Oy, Jyväskylä	100	713	150 000	150	9	105
Biofilter Oy, Helsinki	100	879	60	600	760	1
Vapo (U.K.) Ltd, London	99		99		1	
Kekkilä Oy group, Eurajoki	60	42 381	1 514 383	15 144	47 087	5 419
A/S Langham, Haapsalu	100	235	10	1	783	-355
Vapo Energi Ab, Haparanda	100	1 832	10 000	600	600	506
P.T. Garudatama Sumber Makmur, Jakarta	70	252	5 000	680	5 534	-3 956
VAM Vapo Wastech Ltd Oy, Jyväskylä	50	2 159	6	600	3 000	1 755
Mustankorkea Oy, Jyväskylä	55		275	2 750	2 750	
Karel-Vapo Oy, Petroskoi	52		171		291	
Total					131 915	
<b>Associated companies</b>						
Mäntän Energia Oy, Mänttä	50	3 168	2000	1 000	1 000	2 363
<b>Other Parent Company owned shares and holdings</b>					19 139	

**CALCULATION OF FINANCIAL RATIOS**

Return on capital invested (ROI) %	= 100 x	$\frac{\text{Profit before extraordinary items} + \text{interest and other financial expenses}}{\text{Average capital invested}}$
Return on equity (ROE) %	= 100 x	$\frac{\text{Profit before extraordinary items} - \text{taxes}}{\text{Average of (Shareholders' equity} + \text{reserves} + \text{minority interest)}}$
Solvency ratio %	= 100 x	$\frac{\text{Shareholders' equity} + \text{reserves} + \text{minority interest}}{\text{Balance sheet total} - \text{advances received}}$
Earnings / share	=	$\frac{\text{Profit before extraordinary items} - \text{taxes} - \text{minority interest}}{\text{Average number of shares}}$
Shareholders' equity / share	=	$\frac{\text{Shareholders' equity}}{\text{Number of shares at end of period}}$
Dividend / share (FIM)	=	$\frac{\text{Dividend for period}}{\text{Number of shares at end of period}}$
Dividend / earnings (%)	= 100 x	$\frac{\text{Dividend / share}}{\text{Earnings / share}}$

## PROPOSAL FOR THE DISTRIBUTION OF PROFITS

According to the Consolidated Balance Sheet, the Group's non-restricted shareholders' equity and distributable funds total FIM 669 million. The Parent Company's non-restricted shareholders' equity is FIM 515 million, of which profit for the financial period is FIM 122 million.

The Board of Directors proposes that the profit for the period as shown in the financial statements be utilized as follows:

- a dividend of FIM 57 million or 19% of the registered share capital be paid;
- the sum of FIM 300.000 be allocated for charitable purposes at the discretion of the Board of Directors;
- a total of FIM 64 million be transferred to the retained earnings account.

Jyväskylä, 12 March 1998

Esko Muhonen  
Chairman, Managing Director

Juha Tuominen    Aarno Heinonen    Mauri Jaakonaho    Raimo Rantala

## AUDITORS' REPORT

### To the shareholders of Vapo Oy

We have audited the accounting, the financial statements and the corporate governance of Vapo Oy for the period 1 January to 31 December 1997. The financial statements, which include the report of the Board of Directors, Parent Company and consolidated income statements, balance sheets and notes to the financial statements, have been prepared by the Board of Directors and the Managing Director. Based on our audit we express an opinion on these financial statements and on corporate governance.

We have conducted the audit in accordance with the Finnish Standards on Auditing. Those standards require that we perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining on a test basis evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by the management as well as evaluating the overall financial statement presentation. The purpose of our audit of corporate governance is to examine that the members of the Supervisory Board, the Board of Directors and the

Managing Director have legally complied with the rules of the Companies Act.

### In our opinion

- the financial statements have been prepared in accordance with the Accounting Act and other rules and regulations governing the preparation of financial statements,
- the financial statements give a true and fair view, as defined in the Accounting Act, of both the Parent Company's and the Group's result of operations as well as of the financial position,
- the financial statements, with the consolidated financial statements, can be adopted,
- the members of the Supervisory Board, the Board of Directors and the Managing Director of the Parent Company can be discharged from liability for the period audited by us, and
- the proposal by the Board of Directors regarding the distribution of the profit for the accounting period is in compliance with the Companies Act.

Jyväskylä, 12 March 1998

TUOKKO DELOITTE & TOUCHE OY  
Certified Public Accountants  
Yrjö Tuokko, CPA

## STATEMENT OF THE SUPERVISORY BOARD

The Supervisory Board has examined Vapo Oy's Financial Statements, Consolidated Financial Statements and Auditors' Report for 1997, and has found that these require no comment on the part of the Supervisory Board.

The Supervisory Board recommends the adoption of the Parent Company Income Statement and Balance Sheet and of the Consolidated Income Statement and

Balance Sheet and supports the proposal of the Board of Directors as regards the distribution of profits.

The Company's present articles of association stipulate that all the members of the Supervisory Board are elected each year at the Annual General Meeting.

Helsinki, 25 March 1998

Markku Koski

Aarne Heikkilä    Terttu Kangasharju    Juha Karpio    Armas Komi  
Christel Liljeström    Reijo Lindroos    Erkki Pulliainen    Taisto Turunen    Jan Vapaavuori

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- Regional centre unit office
- ⊗ Helsinki office
- Peat production site
- Sawmill
- ◆ Kekkilä Oy
- ▲ Horticultural peat plant

