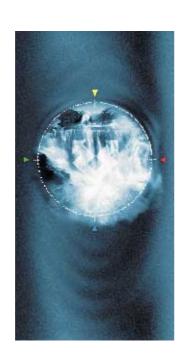
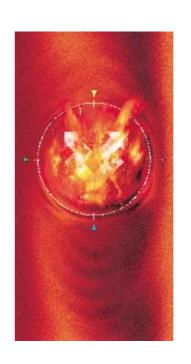
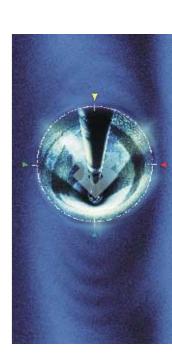
## POHJOLAN VOIMA Annual Report 1999









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#### The Annual General Meeting

The Annual General Meeting of Pohjolan Voima Oy will be held on Thursday, 27 April  $2000\ at\ 10\ am$  in Mikonkatu 15A, 00100 Helsinki.



## CHANGE IS AN OPPORTUNITY. CHANGING IS ESSENTIAL.

#### **OPERATING IDEA**

The Pohjolan Voima Group is a privately-owned group of energy sector companies, which generates and purchases power and heat for the shareholders. It also provides services within its sector for European clients, primarily in Finland and its neighbouring regions.

Ability and long-term commitment are required to ensure future operating conditions in the energy field.

In 1999, Pohjolan Voima's energy generating operations and service operations in the energy sector, were divided into separate business areas. This established good conditions for continuous improvement in the cost-effectiveness of production, for developing expertise and for motivating the personnel. Growth prospects in both business areas are favourable.

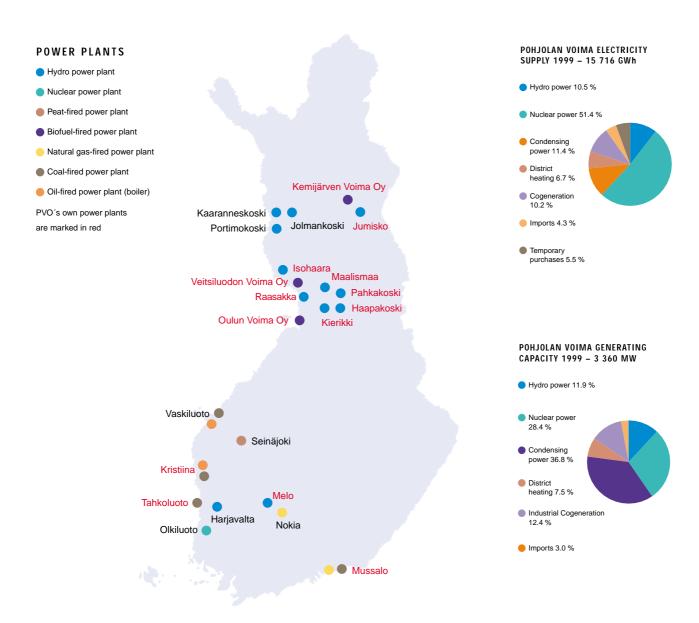
Co-operation began between Pohjolan Voima and TXU Europe. This opens up significant new opportunities in the Nordic countries and in the evolving European Union energy market.

As a whole, Pohjolan Voima will be developed into an international operator, able to offer its shareholders and other customers competitive energy solutions, through a wide range of power sources.

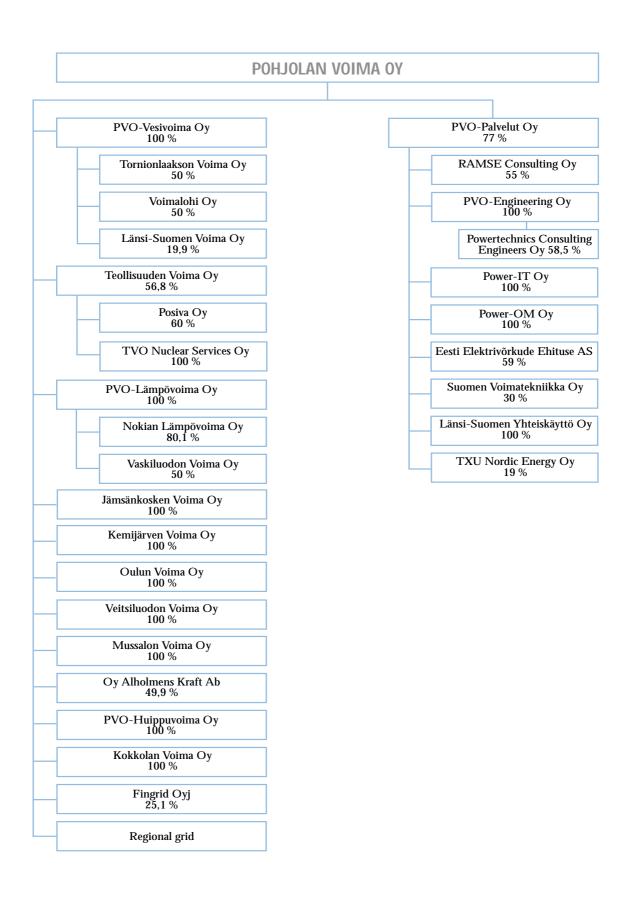
We seek to provide energetic people with opportunities to develop, to grow, and to forge diversified careers.

#### **KEY FIGURES 1999**

	1999	1998	1997	1996
<i>TurnoverM</i> €	518,5	568,1	583,3	679,0
Operating profit $M \in$	65,9	89,5	76,9	112,7
Net interest bearing liabilities $M$ $\in$	758,2	873,6	942,2	1 006,3
As percentage of turnover %	146	154	162	148
Equity to assets ratio %	49	46	42	40
Total assets M€	2 220,0	2 300,7	2 346,7	2 422,4
<i>Investments M</i> €	36,8	74,7	233,8	123,6
Personnel, average	1 454	1 421	1 419	1 397



### **COMPANY STRUCTURE 1.4.2000**



#### PRODUCTION AND SERVICES

#### HYDRO POWER



Pohjolan Voima uses its own hydro power generating capacity to meet daily variations in electricity needs and to balance other production capacity. The status of hydro power in harmonising production and consumption is important. This regulating function is increasingly important under current electricity market conditions.

#### **NUCLEAR POWER**



Nuclear power is used to satisfy a continual and stable demand for electricity. The fixed costs of nuclear power are high but its variable costs are low.

#### THERMAL ENERGY



Thermal energy production uses fuel efficiently in the cogeneration of heat and electricity and in separate condensing power production. Electricity is generated for the use of communities while producing steam for industrial processes or thermal energy for district heating. Large scale, high-efficiency condensation power plants meet Nordic energy needs and ensure efficient operation of the deregulated electricity market under all conditions.

### SPOT TRADING AND IMPORT OF ELECTRICITY



Supply and demand for generating capacity on the deregulated electricity market are governed by the market price. It is the market price which dictates operating arrangements at production units. Spot and derivatives trading occur on the Nordic Nord Pool electricity market. The electricity market influences the power procurement options available to Pohjolan Voima. The Group makes efficient use of the products on the market to optimise its own production.

#### **POWER TRANSMISSION**



The objective of Pohjolan Voima regional grid operations is to control the transmission lines of the Group's power plants and to transfer electricity for customers connected to the regional grid onto the national grid.

#### CONSULTING



Demand for the consulting services of Finland's globalising industry is growing rapidly and the areas of consultation are changing. As a result of acquisitions and mergers, business operations are being divided in new ways, and companies are seeking greater profitability by making their operations more efficient.

#### **ENGINEERING**



The engineering activities provide all the planning, consulting and implementation services needed for power plant projects and transmission technology. The newest operating area is Environment and Renewable Energy. By combining the expertise of the Group companies and by seeking partners to supplement our own abilities, we shall create better opportunities to compete on the international market and to bring about new growth.

### ELECTRICITY SALES SERVICES



Recent developments in the electricity market have led to the need to develop new electricity trading services and products. There have been changes in the actual electricity deliveries and particularly in derivatives trading. The electricity trade is also expanding as deals are made with an increasing number of foreign participants. This development imposes new demands not only on the staff but also on available data systems.

#### INFORMATION SYSTEMS



Changes in the energy sector and increasingly strict efficiency requirements are strengthening demand for information system services. New applications of information technology make it possible to develop service concepts which can be rapidly implemented.

### OPERATION AND MAINTENANCE



Operation and maintenance functions are developed as part of the process of improving the efficiency of energy production to meet the cost-effectiveness and availability demands imposed by the owners. Implementation of services is based on clients' needs and opportunities for co-operation.

### CONTRACTING AND INSTALLATION



Transmission, distribution and telecommunications lines, and the construction and maintenance of electricity substations enable PVO-Palvelut Oy to serve its customers, particularly in turnkey deliveries. Extensive grid expertise ensures the ability to provide the customer with customised solutions and comprehensive cost-effective deliveries.

#### REVIEW BY THE PRESIDENT



The ability of Pohjolan Voima to respond to rapid changes in its operating environment and in the electricity market was further reinforced in 1999. The Group strategy was consistently developed and actively implemented, in association with the owners, to keep pace with the changing operating environment. Management of change is based on operating principles of a long-term, reliable and responsible character.

The Nordic electricity market prices remained at an unhealthy level in 1999. With a persistently low market price for electricity, there is currently no financial justification for investing in generating capacity to cover any increase in demand. The price level is so low that there are no guarantees that decommissioned generating capacity will be replaced. The price of electricity has not been based on the long-term capital risks involved in providing electricity supplies and ensuring adequate generating capacity.

Ability and long-term commitment are required to ensure future operating conditions in the energy field.

#### ORGANISATION AND STRATEGY

Some important and far-sighted reorganisations were implemented in Group operations. Energy generating operations and service operations in the energy sector were divided into separate business areas. This establishes good conditions for continued improvement in the cost-effectiveness of production, for developing expertise and for motivating the personnel. Growth prospects in both business areas are favourable. The service sector is forecast to double its turnover in the foreseeable future.

Another important reorganisation affected the electricity operations of Pohjolan Voima's industrial shareholders. A share deal transferred primary responsibility for electricity sales to TXU Nordic Energy Oy, a joint venture owned by Pohjolan Voima and TXU Europe, which also became the third largest owner of Pohjolan Voima. Co-operation between Pohjolan Voima and TXU opens up significant new opportunities in the Nordic countries and in the evolving European Union energy market.

## CLIMATE POLICY DIRECTS THE ENERGY POLICY OF FINLAND AND THE EUROPEAN UNION

The main thrust of Pohjolan Voima's R&D work focussed on power generating solutions based on renewable biofuels and the development of nuclear power. This is justified as we prepare intelligently for possible greenhouse gas emission restriction requirements based on the Kyoto protocol.

The Finnish government is committed to compiling a climate policy implementation plan. The European Union has stated that it will seek to ratify the Kyoto protocol in 2002. Efforts will be made to reach an international understanding on interpreting the protocol during that year. Factors accelerating the progress of the Kyoto process include research and development of renewable energy sources, improved energy efficiency, development projects to reduce other emissions and the application of market mechanisms to these aspects.

#### **FUELS**

The world-class expertise of Pohjolan Voima's shareholders in the industrial use of wood and an effective basic logistic infrastructure create excellent conditions for exploiting wood-based fuels. During the operating year, construction work was begun at the Alholmen power plant site in Pietarsaari and preliminary decisions were made on biofuel-fired power plant investments in Kokkolan Voima Oy and Jämsänkosken Voima Oy.

Maintaining a diversified generating structure and the broad range of fuels which this requires is important to Pohjolan Voima. Fuels must be readily available and their prices must be genuine and based on free market forces. Natural gas has not met these criteria. The internal market directive for gas will probably not be implemented in Finland to any significant extent. Compared to the proposal of the gas market working group, the bill on the Gas Market Act which has been submitted to the Finnish Parliament has been watered down in a manner which will con-

tinue to require gas users to exercise restraint in committing themselves to further use of natural gas. As a private energy sector operator, we intend to monitor the development of the natural gas market closely and to resort to alternative solutions where necessary.

The operational and financial objectives set for 1999 were achieved throughout the Group. I would like to thank the Group's staff, owners and partners for a successful year.

Timo Rajala President & CEO

## REVIEW BY THE PRESIDENT PVO-PALVELUT OY



Last year Pohjolan Voima made the important decision to separate the Group's production and service functions into different companies. PVO-Palvelut Oy was a result of this structural clarification. The separation provides a broader and firmer basis for responding to the variable and novel challenges of the energy sector. The most important objective is to create added value, not only for customers but also for the owners through profitable growth and more efficient operations.

### EMPOWER - THE SIGN OF NEW SERVICE

Developing service functions has been a time-consuming and demanding undertaking. The key staff of the service group companies assessed the market the expertise and the points of development of various business areas, and defined a strategy for each service business. Alongside this process the mission, vision and values were determined. The main policies were finalised in early 2000. We are now focusing on growth and globalisation in association with selected partners.

A new organisation is ushering in the new millennium, involving eight service companies, most of which are subsidiaries. We are now operating under the Empower trademark. The name is well-suited to our objectives, as we bring novel and different functions onto the energy market.

### THE CHALLENGE OF DEVELOPING STAFF

Our greatest challenge is that of how we manage staff training and expertise development, and acquire new skills for international projects as well. We seek to provide energetic people with opportunities to develop, grow and forge diversified careers. It will now be even more important for us to hire talented people.

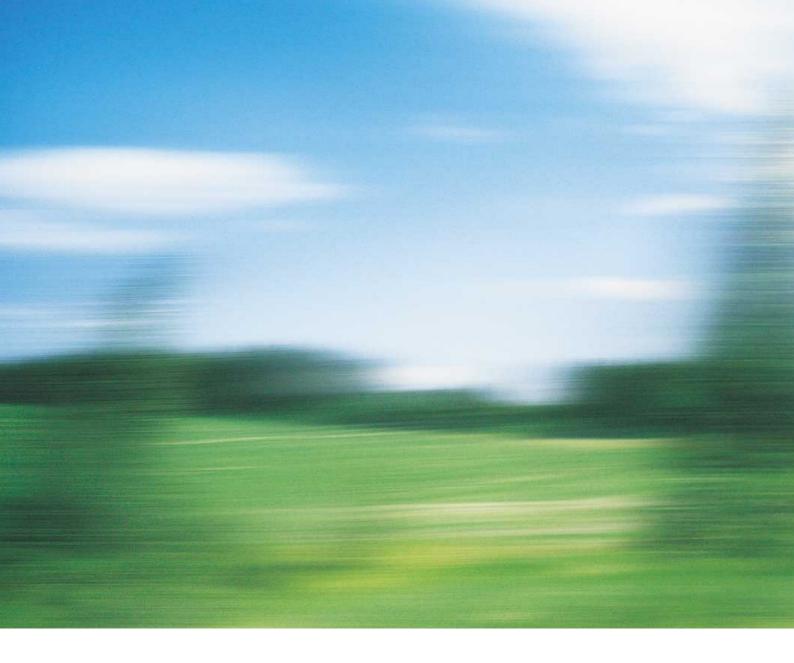
There is a high standard of energy sector expertise in Finland. We also have special skills enabling us to succeed effectively on a broader global platform. This was shown by the energy group report of the Research Institute of the Finnish Economy, ETLA. Change will also provide us with new opportunities.

Networking - finding partners - is an important aspect of the Empower way of working. The rapid globalisation of our sector also requires us to find new partners. Alone we simply are too small.

The development work of the Empower companies which began last year has made a good start and I would like to express my thanks to the staff of all of the service companies for the work which has been done so far. The year 2000 will demand the same kind of enthusiasm and determination to carry matters forward.

Aappo Kontu President





## "THE VIEW THROUGH THE WINDSHIELD IS DIFFERENT FROM THE VIEW THROUGH THE SIDE WINDOW"

#### PLANNING SYSTEM AND SCENARIOS FOR THE FUTURE

Pohjolan Voima has a planning and control system developed for the needs of the group, which was designed and introduced over a three-year period. The system serves as a management instrument, both at the strategic level and also in annual planning and directing operations.

The changes implemented in the operations of Pohjolan Voima in 1999, were based on a long-term development. The Pohjolan Voima Group is a privately-owned group of energy sector companies, which generates and purchases power and heat for the shareholders. It also provides services within its sector

for European clients, primarily in Finland and its neighbouring regions.

### THE TWO GROUPS OF POHJOLAN VOIMA

Two significant reforms in the operating model of Pohjolan Voima were implemented. The Group's operations were divided into two parts so that the production companies owned by the parent company engage primarily in electricity production. This operation will continue to face challenging efficiency demands in order to provide customers with the most cost-effective and competitive electricity available.

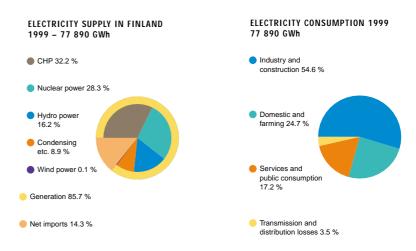
All of the service functions of PohjolanVoima were assigned to the sub-Group. The objective of this Group is to reinforce its market position and achieve profitability targets based on requirements for return on investment. The service Group will pay particular attention to improving its earnings in the external market.

Pohjolan Voima is developing plans for important strategic projects to promote the internationalisation of the Group in the Nordic countries and the Baltic region.



\*Mr Tauno Matomäki, Chairman of the Board of Pohjolan Voima Oy, evaluates industrial energy consumption and the changing operating environment in his speech on the PVO Energy Day on 2 November 1999.

During the current year Pohjolan Voima will continue developing its strategy on the basis of scenarios compiled. The system used for managing operational risks will also be further developed. A characteristic feature of the group as a whole in the current year will be full utilisation of its new business dimensions and the controlled operational development which this demands.



### POHJOLAN VOIMA, ENVIRONMENT AND SOCIETY

#### OPERATING IDEA

The Pohjolan Voima Group is a privately-owned group of energy sector companies, which generates and purchases power and heat for the shareholders. It also provides services within its sector for European clients, primarily in Finland and its neighbouring regions.

**OPERATING PRINCIPLES** RESPONSIBILITY CAPABLE STAFF Pohjolan Voima observes the environmental, health and safety aspects of its work in a responsible and proactive manner, and is improving its operations in these spheres of activity Pohjolan Voima seeks a long-term reliable relationship with interest groups. **ENVIRONMENTAL POLICY** - PVO is aware of the environmental effects of its operations - Effective environmental protection is based on comprehensive management - Personnel play a primary role in environmental protection - PVO takes interest groups into account - PVO contines to develop its operations STABILITY AND RELIABILITY www.pvo.fi **ENVIRONMENTAL SYSTEMS** ENVIRONMENTAL PROGRAMS PROFITABILITY Goals Objectives - Action plans **ENVIRONMENTAL AUDITS** 

Environmental policy and environmental management are essential for the management of Pohjolan Voima. The system comprises the operating idea, operating principles, and the planning for implementing them. All functions comply with the values of Pohjolan Voima. When developing its operations, Pohjolan Voima always takes into account how acceptable any financially feasible mode of production is, as social values change. The Group monitors changes in its operating environment and allows for them in its work.

How socially acceptable various forms of electricity generation are, has varied considerably over the decades. Pohjolan Voima has always constructed electricity generating capacity which is consistent with prevailing social values and political decisions.

Investments in power plants are of considerable magnitude and the commissioned life span of such facilities is at least 30 to 40 years. The changing values of society over the decades are evident from the diversity of generating capacity construction at Pohjolan Voima. The Group takes into consideration how acceptable all financially feasible modes of production are, by developing its power plants and operating methods with a view to meeting contemporary standards at all times.

#### POHJOLAN VOIMA BEARS SOCIAL, FINANCIAL AND ECOLOGICAL RESPONSIBILITY

Stability, responsibility and reliability are among the fundamental values of Pohjolan Voima. These values determine the Group's relationship with interest groups and with society at large

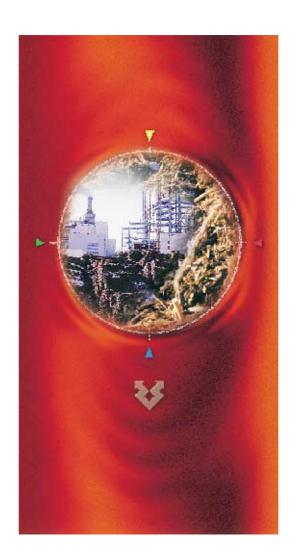
In accordance with the economic aspect of sustainable development, the operations of Pohjolan Voima are efficient and competitive. The more effectively the Group succeeds in this endeavour, the better it will support the competitiveness of the shareholders. Pohjolan Voima is able to respond to the changing needs of the electricity market and thereby to stabilise price levels.

Recognition of its social position and responsibilities has established the basis for improving the standard of environmental protection at Pohjolan Voima. The level of environmental pollution has declined, even though production has increased several times over. Pohjolan Voima has implemented an energy policy programme compiled in 1998 which seeks to harmonise the increased need for electricity with the limitation of carbon dioxide emissions.

### THE KYOTO PROTOCOL AFFECTS THE FUTURE

Following its 1998 technology strategy, Pohjolan Voima has launched several R&D projects seeking to increase the use of renewable energy sources. The power plant currently under construction in Pietarsaari, will be the world's largest biofuel-fired plant. A sizeable, diversified bioenergy programme has been started to acquire fuel for the plant. A major study has also been launched, on the feasibility of using marine wind power as an energy source.

Energy efficiency is vital in order to implement the UN Framework Convention on Climate Change. Improving the efficiency of power plants is a fundamental aspect of maintaining the energy saving agreement and environmental systems. Pohjolan Voima will be well prepared to contribute to the use of the flexibility arrangements agreed in the Kyoto protocol if an international understanding can be reached on its interpretation.



#### THE LATEST POWER PLANT PROJECTS OF POHJOLAN VOIMA

Project	Fuel	Location	Electrical output MW	Commissioning
Raasakka, 3rd machine unit	water	lijoki	21	1997
Melo, renovation	water	Kokemäenjoki	7	1999
Veitsiluodon Voima	wood, peat	Kemi	93	1996
Oulun Voima	wood, peat	Oulu	77	1997
Nokia, conversion	natural gas	Nokia	100	1998
Vaskiluoto, power upgrading	coal	Vaasa	35*	1998
Vaskiluoto, peak-load power plant	oil	Vaasa	160	1998
Olkiluoto, modernisation	nuclear	Eurajoki	140*	1998

In recent years Pohjolan Voima has implemented several power plant projects promoting the principle of sustainable development. Investments which have been decided and those under preparation are continuing the same policy.



### **EVENTS IN 1999**



The "Favourable Winds" service development project was launched at the start of the year. The project ended with a cruise for everyone involved in the development work.



A new control centre for Länsi-Suomen Yhteiskäyttö Oy was officially opened in Harjavalta at the start of June; modern technology and a new working environment have improved the job satisfaction of the staff.



Wood will constitute more than half of the fuel for the world's largest biofuel power plant currently under construction in Pietarsaari in western Finland. Annual fuel consumption will be about 3.5 TWh. Wood residue from logging will be packaged into bales. The energy content of a single bale of 0.6 cubic metres is about 1.1 MWh. The following have a corresponding energy content:

- 1.2 cubic metres of peat,
- 100 kg of coal,
- 100 kg of heavy fuel oil,
- 1100 cubic metres of birch wood trunks,
- 3.7 grams of uranium.

- 3.7 grams of uranium.



PVO is a member of a Nordic consortium investigating the prospects for constructing a natural gas pipeline from Haltenbanken in Norway through Central Sweden to the west coast of Finland. The aim is to construct a gas network supplying the west coast, which will later be linked to a gas nindline from Puccia later be linked to a gas pipeline from Russia.



The Service group trademark, Empower, was launched at the Energy 99 fair



PVO Energy Day was a popular event; 300 leading figures in the energy sector attended.

#### HYDRO POWER

PVO-Vesivoima Oy is a company specialised in generating hydro power, which seeks to preserve and develop skills in maintaining hydro power operations and environmental management. Hydro power constitutes ten per cent of the electricity produced by Pohjolan Voima, which is approximately 15 per cent of total Finnish hydro power capacity.

The combined output of the hydro power plants at the end of 1999 was 410 MW and total production was 1653 GWh. While this was just under the output level for an average year, it fell 406 GWh short of the exceptionally wet preceding year.

### RENOVATIONS BRING GREATER RELIABILITY

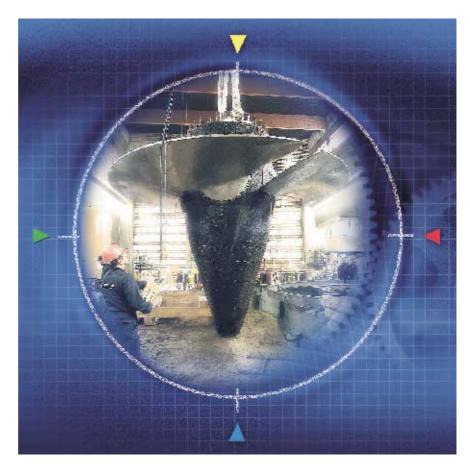
Although hydro power has become more popular as a clean mode of energy production, there are really no prospects for constructing new hydro power capacity in Finland. Some increases in capacity have been realised by renovating existing power plants. Renovation of both installations at the Melo power plant on the Nokianvirta watercourse was completed during 1999. This renovation work increased output by 7 MW to 67 MW.

Repair and maintenance work to one of the installations at the Pahkakoski power plant on the Iijoki river began in January 2000. As a result of replacing the turbines, output increased by 2 MW to 35 MW.

#### **EXPERIENCED HYDRO POWER STAFF**

PVO-Vesivoima employs about one hundred people; the company personnel have extensive experience of various aspects of hydro power generation. These skills are also in demand outside the Pohjolan Voima Group.

According to a service agreement concluded in May 1999, PVO-Vesivoima has assumed responsibility for operational maintenance of the Kokemäki river hydro power plants of Länsi-Suomen Voima Oy, Tyrvään Voimaosakeyhtiö and UPM-Kymmene Oyj, and at the Kokemäki River Regulating Company. In spring 2000 the financial and administrative functions of Länsi-Suomen



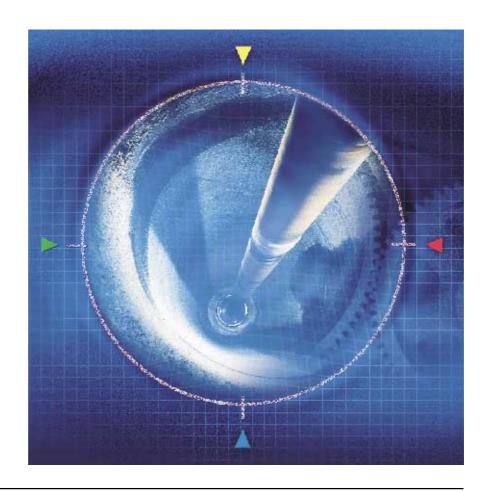
Voima Oy and the Kokemäki River Regulating Company were appended to this agreement.

### ENVIRONMENTAL MANAGEMENT HAS MANY DIMENSIONS

In line with the active environmental policy of Pohjolan Voima, PVO-Vesivoima is working with local government and environment centres to conserve and improve river environments. The programme includes projects promoting versatile use of watercourses.

As part of its environmental management, PVO-Vesivoima is working through its associated company, Voimalohi Oy, to rectify problems caused by power plant construction and watercourse regulation to the fish stocks. Voimalohi released a total of 4.6 million young salmon, trout, whitefish and grayling on behalf of PVO-Vesivoima to the watercourses and sea areas of Kemijoki and Iijoki. Most of the young fish released by PVO-Vesivoima are bred at Voimalohi's own fish farms.





### **NUCLEAR POWER**

More than half of Pohjolan Voima's electricity supply comes from the Olkiluoto power plant owned by its subsidiary Teollisuuden Voima Oy. The output from Olkiluoto in 1999 reached a record 14,203 GWh, 768 GWh more than the preceding year. The output of the plants increased from 710 MW to 840 MW following completion of a modernisation project. The capacity factors were also high at 96.9 per cent for reactor one and 96.6 per cent for reactor two.

Nuclear energy continues to be highly competitive on the open electricity market as the units continue to be as good as new and production malfunctions are minimised.

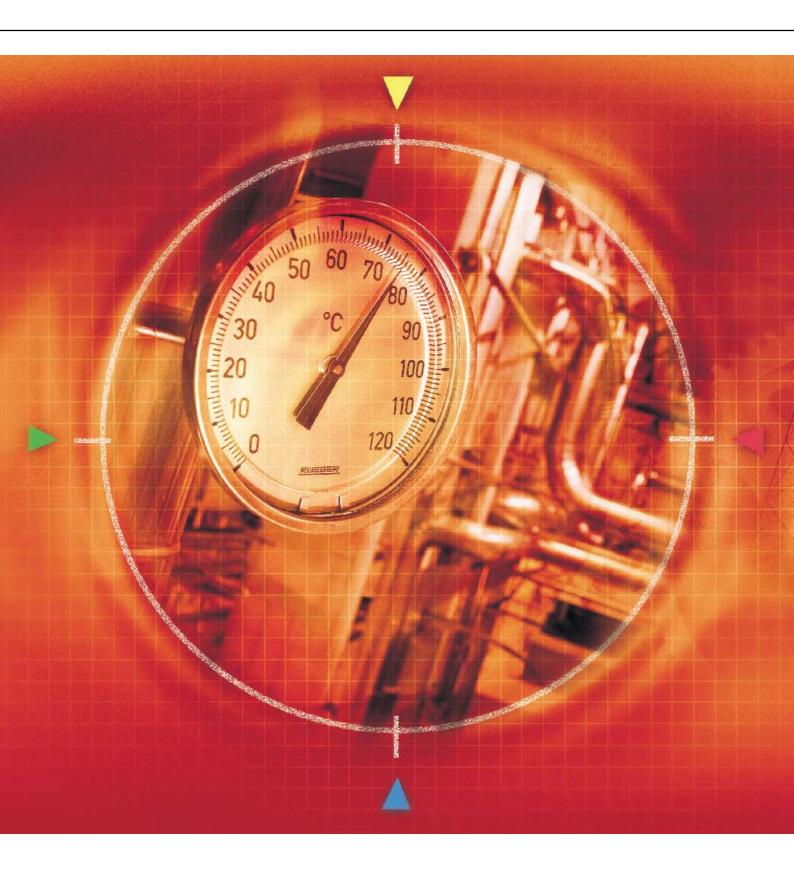
### MANAGEMENT OF SPENT FUEL

The Ministry of Trade and Industry confirmed Teollisuuden Voima's liability for nuclear waste management at FIM 3.8 billion. The company has already accumulated FIM 3.7 billion in its nuclear waste fund,

i.e. almost all of the required sum.

Posiva Oy, a company owned jointly by Teollisuuden Voima Oy and Fortum Power and Heat Oy, is responsible for processing spent nuclear fuel. Posiva has submitted an application to the Finnish Council of State for a preliminary resolution on the construction of a long-term final repository site for spent nuclear fuel at Olkiluoto in Eurajoki. The local authority of Eurajoki municipality has issued a statement supporting this project. The Parliament of Finland is expected to make a decision on this application during spring 2000.





#### THERMAL ENERGY

The Pohjolan Voima Group has a total electricity generating capacity of 1906 MW in its own thermal power plants. Thermal energy generated a total of 4457 GWh in 1999. These power plants are fired by coal, natural gas, peat and biofuel, as well as oil to a minor extent.

### INDUSTRIAL CO-GENERATION AND DISTRICT HEATING

More than half of the combined heat and power production arises while generating thermal energy for industrial processes. This production is the responsibility of separate industrial co-generation companies owned by Pohjolan Voima and the Nokia natural gas CHP plant. The thermal energy generated by the industrial co-generation plants is sold to local industry, while the electricity is supplied to the owners of the relevant series of shares.

Electricity generated in the course of community district heating is produced in Kotka, Nokia, Vaasa and Seinäjoki. These plants can also generate additional electricity independently of district heating deliveries.

About the same amount of electricity was generated at cogeneration plants as in the previous year. This constituted about 17 per cent of total electricity supply at Pohjolan Voima. The fuels used in co-generation of heat and electric power were peat, coal, natural gas and an increasing proportion of biofuel. The CHP plants were in operation for the entire year, excluding the annual maintenance period.

#### **CONDENSING POWER**

Separate coal-fired steam production comprised 12 per cent of Pohjolan Voima electricity supply. The gas-fired power plant at Mussalo in Kotka was inoperative for almost the entire year.

Due to the situation in the Nordic electricity market, considerably less electricity was generated than forecast at coal-fired power plants. In spite of periods of cold weather these plants were shut down as early as the beginning of February. During these stoppage periods the manning shifts of these power plants were partly disbanded and the staff were assigned to maintenance work. Following annual maintenance production was restarted in August-September.

#### COMPETITIVENESS OF FUEL

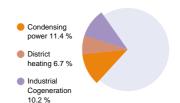
Due to the high price of fuel, natural gasfired electricity generation continued to be uncompetitive. On the other hand, natural gas was used in combined heat and power generation. Pohjolan Voima has a natural gasfired electricity generating capacity of 300 MW.

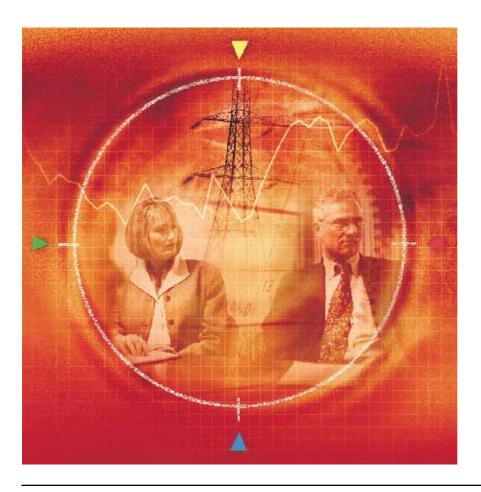
Coal continued to be a competitive fuel, even in the strongly fluctuating electricity market of the Nordic countries.

#### PROMOTING USE OF ASH

The research initiated by Pohjolan Voima and other major power companies into the use of coal ash for earthworks was published by the Finnish Energy Industries Federation, Finergy, in the form of a guide to ash construction [Instructions for Ash Construction in Highways and Landscaping]). The guide covers planning, dimensioning and construction phases of ash construction.

All significant uses of ash continue to be subject to licensing. Because of this, the objective of ash producers is to establish a reliable and straightforward method of environmental impact assessment which could be used when applying for environmental permits. At the same time a quality control system is being developed. These investigations will be completed in spring 2000 and the results will be appended to the Finergy ash construction guide.





## SPOT TRADING AND ELECTRICITY IMPORT

The electricity market exerts a guiding influence on the electricity supply options available to Pohjolan Voima. The Group makes efficient use of the products on the market to optimise its own production.

#### **SPOT TRADING**

About 30 per cent more electricity was procured, than in the preceding year, both through bilateral agreements and on the Nord Pool spot market. Spot trading comprised more than five per cent of total electricity supply.

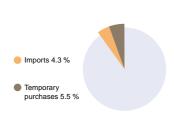
The wet weather which continued throughout 1998 in the Nordic countries increased hydro power generation in Sweden and Norway, and the effects were still visible in the market at the start of 1999. It was possible to replace planned production of condensing power with more cost-effective electricity purchases. The situation changed after the summer. At the end of

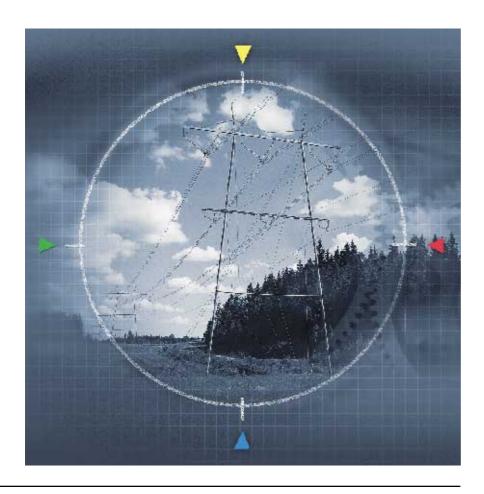
the year, the condensing power plants were all operating according to plan.

It is not sensible to generate thermal energy for short periods when the market fluctuates. Particularly difficult situations arise when limitations in the transmission networks of other countries exert a momentary effect on price levels in Finland. In addition to hydro power, future regulatory capacity will include an increasing proportion of special electricity market products.

#### IMPORTS FROM RUSSIA

Some 670 GWh of electricity was imported from Russia at a capacity of 100 MW. Imports remained at the level of the previous year. This comprised some four per cent of the total electricity supply of Pohjolan Voima. At the end of the year a contract drawn up in 1996 was updated to correspond to the current electri-city market and production capacity. The level of imported capacity will rise from 100 MW to 400 MW at the start of 2001.





### POWER TRANSMISSION

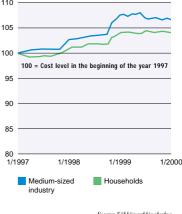
The volume of electricity transmitted in 1999 was 1.9 TWh, i.e. 20 per cent less than in the preceding year. The turnover of regional grid operations was EUR 3.3 million. Twenty kilometres of regional grid were sold during the year, together with an unfinished 400 kV transmission line project between Kymi and Vainikkala. The size of the grid at the end of the year was 250 kilometres.

A decision was made to change the structure of regional grid tariffs from the beginning of the year 2000. The revised tariffs corresponds more precisely to the regional grid cost structure and facilitate operational planning at power plants.

With a 25.1% holding, Pohjolan Voima is a significant owner of the Finnish national grid company, Fingrid Oyj. Fingrid reduced its tariffs by seven per cent as of the beginning of the year 2000. The effect of the reduction was transferred to regional grid tariffs.

A 110 kV transmission line some 160 kilometres in length from Jumisko to Taivalkoski will be replaced by a new line to Pirttikoski. The new line is 40 kilometres in length, some 30 kilometres of which will be constructed in the old transmission line route. Construction of the line is scheduled for the years 2000 and 2001. The total value of this investment is EUR 4 million.

#### THE DEVELOPMENT OF TRANSMISSION COSTS BEFORE TAXES



Source: Sähkömarkkinakesku



#### PVO-PALVELUT OY

The Group provides value-added solutions and services for the production, use and procurement of energy, primarily for the energy sector and for energy-intensive industry.

The aim has been to create an operating environment which will guarantee a service framework meeting the challenges of the future for current and future customers of the group. The group companies have worked together to launch the Empower development program, seeking to design new service packages and utilise skills in a more customer-orientated manner. The globalisation of Pohjolan Voima's major shareholders through mergers and acquisitions has led to the development of the service activities.

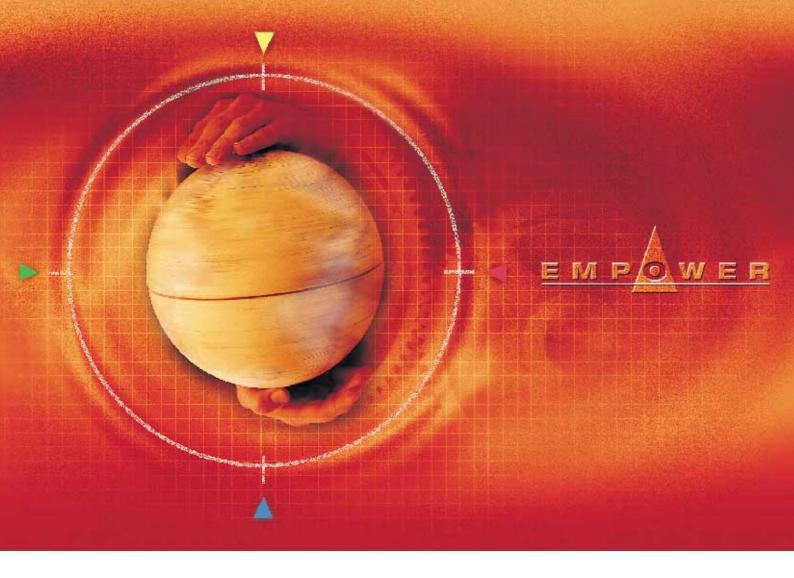
The ownership of PVO-Palvelut Oy was arranged at the end of 1999 so that, in addition to Pohjolan Voima, the owners of Pohjolan Voima would become owners of PVO-Palvelut Oy with their own share series. Two new companies were also established as part of the service function development process: Power- IT Oy and Power-OM Oy. Furthermore, the company purchased the majority of the shares of Power-technics Consulting Engineers Oy.

The reorganisation also involved concentrating financial administration, marketing, real estate administration and personnel administration in a corporate service unit at group level.

The subsidiaries of the PVO-Palvelut Group include Ramse Consulting Oy, Länsi-Suomen Yhteiskäyttö Oy, Power-IT Oy, Power-OM Oy, PVO-Engineering Oy and its subsidiary Powertechnics Consulting Engineers Oy.

At the end of 1999 a total of 239 people worked in these companies. The turnover of the service group was EUR 40,4 million

PVO-Palvelut Oy also owns shares in Suomen Voimatekniikka Oy, TXU Nordic Energy Oy and Fincopower Oy.



#### CONSULTING

### CONSULTING IN TRANSITION PHASE

The electronic trading and transactions are expanding as the use of operational guidance systems is made more efficient. Risk management has become a new competitive factor. Responding to these development trends is a leading theme in developing consulting services.

The consulting services in corporate management are provided by Ramse Consulting Oy. These consulting skills comprise the improvement of the efficiency of commercial processes and operations, data administration, risk management and investment projects. The company is one of Finland's most progressive consulting agencies implementing teamwork and partnership action models. Ramse is a market leader in Finland in its own area of expertise. Its

turnover in 1999 was EUR 4.3 million, of which about one-quarter came from international business. The clientele are mainly from the energy and forestry sectors. The number of personnel at the end of the year was 35.

### COMPLETION OF EXTENSIVE PROJECTS

The past year was one of preparing major projects. A major information system project for Pohjolan Voima and UPM-Kymmene, in which Ramse served as a start-up consultant, was largely completed. A project in France to prepare the operating and maintenance of a new Norske Skog Golbey paper mill, and the introduction of its data system, were completed.

At the end of 1999, the ownership structure of Ramse Consulting Oy changed, as ABB Service Oy became a shareholder with a 43 per cent stake. This ownership link will promote the development of new consulting services and concepts, such as the introduction of maintenance consulting in the forest industry.

Ramse is also making its operations increasingly international as its clientele and owners globalise.

#### **ENGINEERING**

### NEW OPERATIONS, NEW FORMS OF PRODUCTION

The engineering operations of PVO-Palvelut Oy are the responsibility of PVO-Engineering Oy. This company is well established in Finland and is expanding its operations. Some of the most important changes in 1999 included the separation of information technology functions into Power-IT Oy. At the same time a new business area, Environment and Renewable Energy, was created to concentrate on the use of biofuels, wind power and small-scale hydro power and environmental services.

PVO-Engineering has secured a controlling interest in Powertechnics Consulting Engineers Oy. This company is specialised in thermal power processes and especially in power plant technology. The turnover of PVO-Engineering was EUR 15.7 million. At the end of the year, the company had 94 employees.

#### A YEAR OF MAJOR CONTRACTS

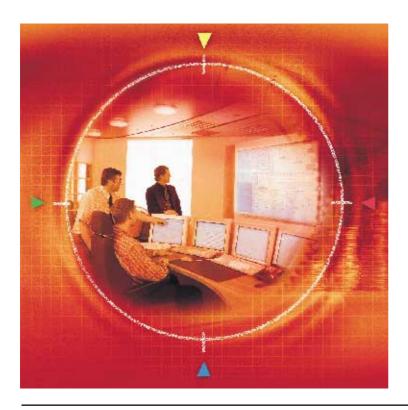
Several biofuel power plant projects are ongoing in Finland, and PVO-Engineering is involved in their preliminary planning. The company has primary responsibility for design and construction services and environmental studies for the multifuel power plant of Oy Alholmens Kraft Ab. The environmental studies and licensing required for the project have been managed in close co-op-



eration with Pohjolan Voima. This agreement also covers Balance of Plant equipment deliveries. PVO-Engineering secured a modification work contract from Fingrid Oyj, 400 kV Forssa transformer station, the value of which is some EUR 4.8 million. The company is also responsible for coordinating the most extensive marine wind power study in Finland launched by Pohjolan Voima, and for its technical and financial reporting. The environmental reports on the project will be produced in association with Insinööritoimisto Paavo Ristola Oy.

In 1999, an initial step was taken in the Latvian energy sector with a feasibility study into the construction of a district heating plant using wood-based fuel and peat at Valmiera in Latvia.

In Estonia, a consortium led by PVO-Engineering, was awarded a turnkey delivery contract worth nearly EUR 6. 7 million for a 330 kV transmission line for state-owned Eesti Energia, following international competitive tendering.



#### **ELECTRICITY SALES SERVICES**

#### COMPREHENSIVE ENERGY SERVICES

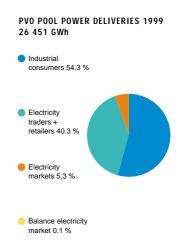
Länsi-Suomen Yhteiskäyttö Oy is responsible for the energy trading services provided by the service group. In 1999, these services comprised the control of grid operations and power plants, as well as services sold to energy companies and industrial companies pertaining to electrical balance management, balance studies, reporting and invoicing. The company already has 50 customers in Finland.

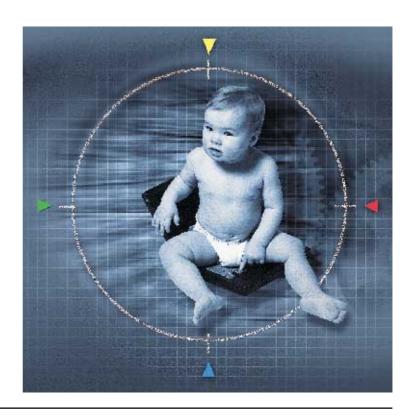
Länsi-Suomen Yhteiskäyttö Oy is a leading developer of energy service operations in Finland. Its responsibilities have long included services pertaining to control of the power plants of Pohjolan Voima and its shareholders, to the optimisation of electricity procurement costs and grid supervision. The company is responsible for operational planning at Pohjolan Voima power plants, and spot market and bilateral purchasing in order to optimise procurement. Services also include the operational activities required for electricity imports from Russia. In 1999, the turnover of Länsi-Suomen Yhteiskäyttö increased to EUR 22.5 million. An average of 72 staff was employed by the company was.

A new control centre in Harjavalta came into operation in the summer and a fully renovated operational control system was introduced in December. Three separate old systems were replaced by a single decentralised system enabling operational control services to be implemented flexibly from any of three control centres.

#### INTERNATIONALISING OPERATIONS

Länsi-Suomen Yhteiskäyttö won an important new customer during the year, when TXU Nordic Energy Oy became an owner of Pohjolan Voima. Länsi-Suomen Yhteiskäyttö is responsible for the balance management and operations of TXU Nordic Energy.





### INFORMATION SYSTEMS

#### MATURE FOR ITS AGE

The service group has extensive energy information technology expertise. The information technology company Power-IT Oy was established in May 1999. Information technology was consolidated into a single company from the beginning of year 2000. Power-IT provides services for operational control, energy management and energy measurement, not only for Pohjolan Voima and its owners, but also for other companies in the sector.

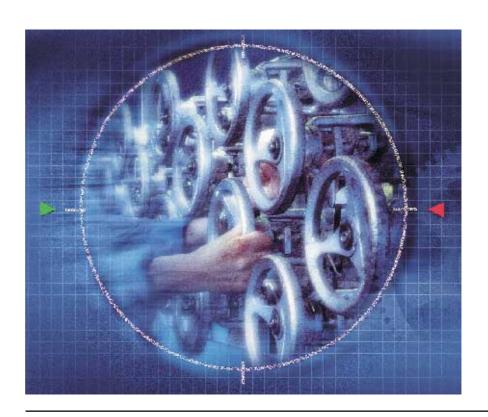
#### PROJECTS IN FULL SWING

The Immpower project encompasses power generation and operational maintenance at Pohjolan Voima; Power-IT was responsible for the technical implementation of the system architecture, for training and for arranging user support. Implementation of the financial adiministration and office systems at Pohjolan Voima were managed in a similar manner.

A third major undertaking in 1999, KVJ 2000, concerned the operational control system of Länsi-Suomen Yhteiskäyttö Oy.

Power-IT had a staff of 57 at the start of the year 2000; 40 of these were transferred from Länsi-Suomen Yhteiskäyttö and 17 from PVO-Engineering.

Power-IT's inventory was purchased from PVO-Engineering, Länsi-Suomen Yhteiskäyttö and Pohjolan Voima.



### OPERATION AND MAINTENANCE

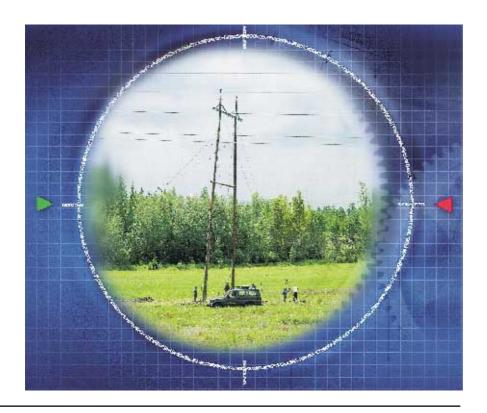
### KNOW-HOW AND INFORMATION MANAGEMENT IN MAINTENANCE

Low electricity prices resulting from the deregulated electricity market have also imposed pressure to modify production operations and improve efficiency. Responsibility for providing and developing operation and maintenance services within the service group lies in Power-OM Oy, a company set up in June 1999.

Operation and maintenance services enhance the efficiency of the customers' energy production. Power-OM develops, produces and applies solutions based on knowhow and information management. This company attends to the development of production maintenance operations, primarly at Pohjolan Voima.

### CO-OPERATION AND NEW ACTIVITIES

An essential part of delevoping Power-OM is to form a co-operation network when providing customers with comprehensive maintenance services. The network will concern providers of the maintenance services as well as equipment suppliers.



### CONTRACTING AND INSTALLATION

### NEW PERSPECTIVES IN GRID CONSTRUCTION

The installation, contracting and maintenance operations of Suomen Voimatekniikka Oy, are divided into four business areas: Transmission Cables, Substations, Distribution Cables and Telecommunications Cables Dusiness area, aquired most recently in 1999, was purchased from Porin Puhelin Oy and Lännen Puhelin Oy, bringing 45 new staff into the Group. The turnover of Suomen Voimatekniikka was FIM 113 million and its total staff numbered 230.

The Substations business area was involved in two major projects for Fingrid Oyj during 1999. In the Transmission Cables business area Suomen Voimatekniikka concluded a three-year maintenance agreement with Fingrid. Suomen Voimatekniika is responsible for maintaining a total of 6,500 kilometres of transmission lines, of which just under one half are in the Fingrid network.

#### **GROWING MARKET**

Some 30 per cent of the turnover arises from Distribution Networks. This is a growing market as energy companies are increasingly outsourcing the construction and maintenance of their distribution networks.

Growth is also expected in the Telecommunications Cables business area, as the telephone companies are also outsourcing their network construction to an increasing degree.

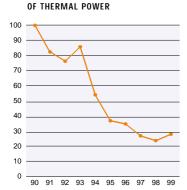
#### CROSS-BORDER SERVICE

PVO-Palvelut expanded its operations to the Baltic States and purchased the majority of shares (59 per cent) in Eesti Elektrivõrkude Ehituse AS with a contract signed on 28 March 2000. This is Estonia's largest company specialising in transmission cable and telecommunications network construction. The acquisition is in line with the objectives of internationalisation in selected areas.

# THE ENVIRONMENTAL YEAR 1999



ENVIRONMENTAL INDEX



Lämpövoiman tuotannon ympäristöindeksi sisältää hiilidioksidin, rikkidioksidin, typen oksidien ja hiukkasten ominaispäästöt sekä läjitettyjen sivutuotteiden määrän, kaikki samalla painoarvolla. Pohjolan Voima made good progress in its environmental protection work. Atmospheric emissions continued to fall and reconditioning work on water environments continued. The power plant organisations completed their environmental management system and were awarded certificates.

#### KYOTO DOMINATED THE HEADLINES

During the Finnish Presidency, the European Union announced its intention to seek ratification of the Kyoto Protocol in 2002. Several practical issues have yet to be resolved. Progress will depend, to a large measure, on the outcome of the Hague follow-up conference in 2000.

A commitment to compile a national action plan was included in the programme of the new Finnish government. Coordinated by the Ministry of Trade and Industry, the various ministries began to prepare sectoral programmes.

### A NEW ENVIRONMENTAL PROTECTION ACT WAS PREPARED

The reform of environmental legislation prepared in 1994 was completed. This reform is based on the European Union's IPPC Directive, which requires an integrated review of the impact of various environmental elements when considering environmental permits. All of the permit provisions governing emissions are now included in the new Environmental Protection Act. The Water Courts will cease to excist and their functions will be transferred to three new environmental permit authorities. The Regional **Environment Centres and local authorities** will continue to serve as permit authorities. The main principle in licensing is known as the one window principle.

#### POHJOLAN VOIMA GROUP CERTIFICATES COVER 30 PER CENT OF FINLAND'S ELECTRICITY GENERATING CAPACITY

The environmental management systems of Pohjolan Voima were completed according to the objective imposed in 1997. DNV Certification OY/AB awarded certificates to PVO-Vesivoima Oy and PVO-Lämpövoima Oy for compliance with an ISO 14001 standard environmental programme. Nokian Lämpövoima Oy was also awarded a sepa-

rate certificate. It is important from the point of view of commitment that it was the power plant organisations themselves which created their programmes. As Teollisuuden Voima, a subsidiary of Pohjolan Voima, also received its own certificate, the entire production capacity of the Pohjolan Voima Group now complies with a certified environmental programme.

The environmental programmes of the plants comprise the objectives and policies of Pohjolan Voima at Group level and the goals and objectives of each plant, based on a review of significant environmental aspects. Implementation and maintenance of the environmental programmes is ensured using environmental reviews conducted at various levels. Continual improvement is required to ensure the continued validity of the certificates.

### A GOOD YEAR FOR THE ENVIRONMENT

From the environmental point of view, 1999 was a good year in Pohjolan Voima. Atmospheric emissions fell again slightly by comparison with the preceding year and were, on average, nearly 60 per cent lower than in 1996-1997.

For the second year in a row it was possible to avoid the use of fossil fuels in the Group's own power generation by replacing a considerable proportion of planned condensing power generation with electricity purchased on the open market.

The problems which arose in utilising fly ash increased the amount of ash which was delivered to landfills. This led to a slight reversal of the long-sustained positive trend in the environmental index for thermal energy production.

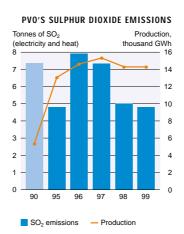
Reconditioning of the water environment continued according to plan in areas affected by hydro power production. This work was largely conducted in association with the Regional Environment Centres. A shortfall in the fish restocking obligation remaining from the preceding year was rectified. The Kemijokisuu fishing tourism centre began operating on premises rented from PVO-Vesivoima Oy.

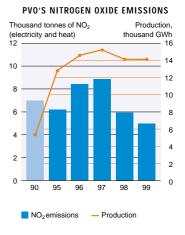
### RESEARCH INTO RENEWABLE ENERGY SOURCES

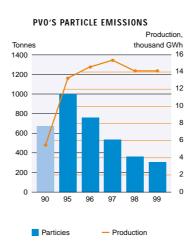
Strenuous efforts are being made to promote the use of renewable energy sources, both at European Union and at national level.

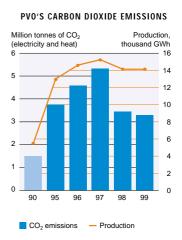
Pohjolan Voima decided to improve its ability to increase the use of renewable energy sources by launching two major study programmes. The objective of the bioenergy programme is to improve the competitiveness of bioenergy and to ensure its technical feasibility. The project is studying the regional potential, alternative harvesting methods, development of harvesting technology, fuel reception systems at power plants and issues pertaining to combustion technology for fresh wood chips.

The project to study the prospects for utilising marine wind power is examining the judicial, environmental, technical and financial conditions for wind power facilities on an industrial scale (100 - 400 MW). The aim is to achieve applicable results for evaluating the construction feasibility of marine wind power facilities. Pohjolan Voima is also developing wind power technology in a separate project.



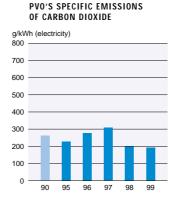


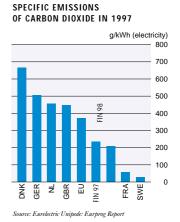






Pohjolan Voima publishes a separate environmental report. (www.pvo.fi)





## BOARD OF DIRECTORS



Back, from left: Timo Rajala (President), Erkki Varis, Juhani Pohjolainen, Rauno Hakkila, Arto Piela (Secretary of the Board of Directors), Esa Tirkkonen. Front, from left: Sven Sohlström, Tauno Matomäki, Martin Stanley.

#### **MEMBERS**

#### **DEPUTY MEMBERS**

Tauno Matomäki Juha Niemelä

Chairman

Chairman of the Board President and CEO UPM-Kymmene Oyj UPM-Kymmene Oyj

Jukka Härmälä Juhani Pohjolainen

Deputy Chairman

CEO M.Sc. (eng.) Stora Enso Oyj Stora Enso Oyj

Rauno Hakkila Veikko Leivonniemi

CEO CEO

Etelä-Pohjanmaan Voima Oy Vaasan Sähkö Oy

Heimo KarinenEsa TirkkonenPresidentDeputy CEOKemira OyjKemira Oyj

Antti Oksanen Erkki Varis
President CEO

Metsäliitto-Yhtymä Oy Metsä-Botnia Ab

Heikki SaraMartin GranholmSenior Vice PresidentExecutive Vice PresidentUPM-Kymmene OyjUPM-Kymmene Oyj

Sven Sohlström
CEO

Juhani Paananen
Director

Perhonjoki Oy Kokkolan Energialaitos

Martin StanleyRichard MairPresidentManaging DirectorTXU Europe Energy TradingTXU Nordic Energy Oy

#### **AUDITORS**

SVH Pricewaterhouse Coopers Oy Authorised Public Accountants

### EXECUTIVE OFFICERS



Back, from left: Mauno Paavola, Jukka Kiviluoto, Aappo Kontu, Minna Korkeaoja, Arto Piela, Jussi Kivimäki (Secretary of the Executive Team). Front, from left: Matti Kaisjoki, Timo Rajala.

#### **MEMBERS**

#### **DEPUTY MEMBERS**

Timo Rajala

President and CEO Pohjolan Voima Oy

Matti Kaisjoki

Executive Vice President
Power Procurement, Thermal Power
Production

Jukka Kiviluoto

President PVO-Vesivoima Oy

Aappo Kontu

**Executive Vice President Services and Technology** 

Minna Korkeaoja

Executive Vice President Group Controller

Arto Piela

Executive Vice President Corporate Strategy, Legal and Environmental Affairs, Communications, Procurement

Mauno Paavola

President and CEO Teollisuuden Voima Oy Risto Vesala Senior Vice President

Transmission, IT Systems

Paavo Onkalo

Senior Vice President Corporate Planning

Risto Mäkinen

Senior Vice President Russia and Baltic Region

Timo Väisänen

Senior Vice President Group Treasurer

Kauko Relander

Senior Vice President Fuels and Procurement, Corporate Relations

### OPERATING ENVIRONMENT AND SHORT-TERM OUTLOOK

In 1999, Finnish electricity consumption totalled 77.9 TWh, representing a 1.6 per cent increase on the previous year. Industry and construction accounted for 42.5 TWh, or 54.6 per cent of total electricity consumption. Industrial consumption grew by two per cent.

The electricity acquisition of the Pohjolan Voima Group during the year under review amounted to 22.2 TWh, or about one third of total Finnish electricity consumption. Pohjolan Voima Oy supplied its shareholders with 15.7 TWh of electricity and Teollisuuden Voima Oy supplied its shareholders, excluding Pohjolan Voima, with 6.5 TWh. Group electricity acquisitions in 1998 amounted to 21.6 TWh, and 15.5 TWh was supplied to shareholders.

Rising demand is accelerating the growth of industrial production and exports. The electricity needs of industry are forecast to increase by 3 per cent in the year 2000, while growth in demand in the forest industry will rise by 3.5 per cent.

#### **CHANGES IN BUSINESS OPERATIONS AND GROUP STRUCTURE**

PVO-Palvelut Oy began operating at the start of the year. All of the shares of the Pohjolan Voima Group, other than those in power generation and transmission, were transferred to the ownership of PVO-Palvelut. PVO-Palvelut incorporated its information technology operations in Power-IT Oy, which began operating at the start of 2000. Some 60 Group staff were transferred to the new company. PVO-Palvelut also established a separate maintenance company, Power-OM Oy.

In March, PVO-Engineering Oy purchased a controlling interest in the energy sector planning company Powertechnics Consulting Engineers Oy.

In August, Pohjolan Voima established the industrial co-generation company Jämsänkosken Voima Oy.

#### **GROUP R&D PROJECTS**

Several R&D projects in line with technology strategy were initiated in 1999. Financing for development work was secured from the European Union, the Ministry of Trade and Industry and the National Technology Agency.

The most important project developing generating capacity is the bioenergy programme. This programme aims to improve the competitiveness of bioenergy and to ensure the technical conditions for its use.

Pohjolan Voima launched a study of the feasibility of marine wind power. The results of this study will enable evaluation of the conditions for wind power construction. Wind power technology is being developed as a separate project.

A modernisation project for operational maintenance data systems in thermal and hydro power plants was completed.

Preparations for potential problems in computerised systems, due to the year 2000, were made by updating and replacing the necessary elements of information systems. The staff of production units and control centres were on full alert at the turn of the year. There were no problems in automation and data systems.

#### **LEGAL ACTIONS PENDING**

Consideration of the action for damages filed by PVO-Vesivoima Oy against the Finnish Government continued at the District Court of Helsinki. The action claims compensation for lost electricity sales revenue due to the prevention of further construction at the Iijoki site.

On 1 March 2000, the Supreme Court of Finland awarded damages of some FIM 100 million to PVO-Vesivoima in its action against the Finnish government seeking compensation for investments rendered worthless due to the enactment of the River Rapids Act.

The appeals filed by PVO-Vesivoima and PVO-Lämpövoima Oy concerning the Natura decision of the Council of State are pending at the Supreme Administrative Court of Finland.

#### **FUTURE DEVELOPMENT PROJECTS**

The projects decided and prepared in recent years are all in line with the principles of sustainable development and the UN Framework Convention on Climate Change.

The construction of a power plant principally fired by wood, bark, forest residue and peat at the Pietarsaari site of UPM-Kymmene Oyj continues. The project is being implemented by Oy Alholmens Kraft Ab. The power plant is due for completion in October 2001.

The feasibility study conducted in collaboration with Rautaruukki Oyj concerning a planned power plant at the Rautaruukki Raahe site was concluded and no investment was begun.

A district heating and electricity co-generation plant planned by Kokkolan Voima Oy awaits an investment decision. The plant would be fired by domestic biofuel, forest residue and peat.

UPM-Kymmene and Pohjolan Voima have planned an investment in the expansion of the Jämsänkoski power generation facilities. The new power plant would be fuelled by bark, forest residue, peat and biosludge. The electricity output would be 52 MW and it would also generate 185 MW of district heating. The plant would be completed in autumn 2002. The investment would be implemented by Jämsänkosken Voima Oy.

In June Kouvolan Seudun Sähkö Oy, Kuusankosken Aluelämmitys

Oy, Pohjolan Voima, UPM-Kymmene and the district heating company owned by the city of Kouvola, concluded an agreement on development work for a planned power plant at Kuusankoski. The new plant would generate 80 MW of electricity, 100–150 MW of industrial steam, and 60–70 MW of district heating. The main fuel would be biofuel from factories, forest residue and peat. Commercial use of the plant could begin at the end of 2002.

The Estlink project to combine the Estonian and Finnish grids through a direct current power link has continued. The project involves Eesti Energia, Helsingin Energia and Graningeverkens AB (publ). The study will be completed in spring 2000.

Posiva Oy, a subsidiary of Teollisuuden Voima, has filed an application at the Council of State for an initial decision on final repository site for spent nuclear fuel to be constructed at Olkiluoto in Eurajoki. The municipal council in Eurajoki has issued a favourable statement on the project.

Teollisuuden Voima is prepared to initiate permit application proceedings for a new nuclear power plant unit. The possible environmental impact of a third nuclear power plant unit to be constructed at Olkiluoto have been assessed. The Ministry of Trade and Industry issued a statement on the EIA report in February 2000.

#### **PRODUCTION**

Electricity generation fell by just under one per cent in Finland during the year under review. This was because of the availability of cheaper foreign electricity on the market. Net imports of electricity increased by nearly 20 per cent.

The Olkiluoto nuclear power plant completed its first full operating year at an increased capacity and a record output was achieved. Due to the rainy weather at the start of year and the low market price of electricity, the output of condensing power plants was lower than in the preceding year.

In coal procurement, the aim was to ensure adequate stocks over the winter 2000. Due to a lower level of demand than usual, the need for procurement was only 0.5 million tonnes, compared to 1.3 million tonnes in 1998. The cost of coal during the summer months of the year under review fell temporarily to a low level. Purchases were made mainly from Russia and also from South Africa and Poland. Coal stocks were on target at the end of the year.

The environmental systems for all production operations were certified in accordance with the assigned objective.

No significant deviations from permit conditions occurred. Emissions from condensing power plants fell slightly by comparison with the preceding year. Specific emission levels also fell. Actual recorded emissions were between 20 and 75 per cent of permitted levels. On European emission standards, Pohjolan Voima's generation does

well.

Pohjolan Voima publishes a separate environmental report on production and its development. Teollisuuden Voima will produce its own environmental report with respect to nuclear power generation.

Pohjolan Voima and its subsidiaries and associated companies have no known environmental liabilities which have not been covered.

# INVESTMENTS GROUP COMPANIES

Investments by the Pohjolan Voima Group totalled EUR 36.8 million. These were mainly investments in repairs and renovation.

In January, PVO-Lämpövoima Oy and Mussalon Voima Oy sold the gas turbines at Tahkoluoto, Kristiinankaupunki and Tolkkinen to Fingrid Varavoima Oy. A 400 kV transmission line from Kymi to Vainikkala was sold to Fingrid Oyj before its completion.

#### **ASSOCIATED COMPANIES**

Acceptance of the new turbine plant at Vaskiluodon Voima Oy was delayed. The turbine delivery does not meet the efficiency guarantees and exceeds the warranty levels for sound and consumption ratio. The generator also has vibration problems. Negotiations with the supplier are continuing.

### **ECONOMY AND FINANCE**

Group turnover was nearly nine per cent lower than in the preceding year, while the amount of energy supplied to the shareholders rose by three per cent. As the Group operates at cost in energy production, a simultaneous rise in supplies and fall in turnover means a fall in the unit price of the product.

Group liquidity remained good. Net interest-bearing liabilities fell by EUR 115.4 million to stand at EUR 758.2 million at the end of the year; 99.5 per cent of this sum was valued in euros and the remainder in foreign currencies. Interest expenses fell by EUR 24.3 million compared to the previous year due to a reduction in net liabilities and a fall in interest rates. Interest income and exchange rate gains fell by EUR 1.6 million.

For liquidity management the Group had domestic CP programmes for a total of EUR 233 million and an ECP programme of USD 100 million. Available revolving credit facilities at the end of the year amounted to USD 230 million and DEM 50 million.

The Group equity to assets ratio at the end of the year was 49.2 per cent. Deferred tax liability is not included in the calculation of the equity to assets ratio, as this is not expected to be realised.

#### SHAREHOLDERS' EQUITY AND SHARE ISSUES

The following issues were subscribed during the financial year:

An increase in the G series capital stock (28 Apr1999) of 29,940 shares at a total subscription price of FIM 9.98 million (EUR 1.68 million) was directed at UPM-Kymmene Oyj, Perhonjoki Oy, the City of Kokkola and Päijät-Hämeen Voima Oy.

The holding of UPM-Kymmene Oyj in Pohjolan Voima continued at 46.1 per cent. Following the share issue, this company owns 55.9 per cent of the G series shares, compared to 0 per cent before the issue.

The holding of Perhonjoki Oy in Pohjolan Voima continued at 1.7 per cent. Following the share issue, this company owns 36.6 per cent of the G series shares, compared to 0 per cent before the issue.

The holding of the City of Kokkola in Pohjolan Voima continued at 2.0 per cent. Following the share issue, this company owns 3.8 per cent of the G series shares, compared to 0 per cent before the issue.

The holding of Päijät-Hämeen Voima Oy in Pohjolan Voima continued at 1.3 per cent. Following the share issue, this company owns 1.3 per cent of the G series shares, compared to 0 per cent before the issue.

- •A D7 share series was established (15 Dec 1999) with 60,000 shares at a total subscription price of FIM 20.0 million (EUR 3.36 million) directed at UPM-Kymmene Oyj. Following the share issue, UPM-Kymmene owned 42.2 per cent of the total capital stock of Pohjolan Voima and 100 per cent of the D7 share series, compared to ownership of 46.1 per cent and 0 per cent respectively before the issue.
- An increase in the capital stock of the G share series (15 Dec 1999) by 59,880 shares at a total subscription price of FIM 19.96 million (EUR 3.36 million) was directed at UPM-Kymmene Oyj, Perhonjoki Oy, the City of Kokkola and Päijät-Hämeen Voima Oy.

The holding of UPM-Kymmene Oyj in Pohjolan Voima continued at 46.1 per cent with 55.9 per cent of the G series shares.

The holding of Perhonjoki Oy in Pohjolan Voima continued at 1.7 per cent with 36.6 per cent of the G series shares.

The holding of the City of Kokkola in Pohjolan Voima was 2.0 per cent before the share issue and 2.1 per cent thereafter. Its ownership of the G series shares continued at 3.8 per cent.

The holding of Päijät-Hämeen Voima Oy in Pohjolan Voima continued at 1.3 per cent with 1.3 per cent of the G series shares.

In September, the following shareholders in Pohjolan Voima: UPM-Kymmene Oyj, Stora Enso Oyj, Kemira Oyj and its pension fund Neliapila, Etelä-Pohjanmaan Voima Oy, and Oy Metsä-Botnia Ab, sold their holdings (81 per cent) in Teollisuuden Sähkönmyynti Oy to Eastern Group plc (now TXU Europe plc) and at the same time relinquished their electricity contract sales. The sales were assigned to Teollisuuden Sähkönmyynti, which had previously served as a sales agent. As part of the arrangement, Teollisuuden Sähkönmyynti purchased shares in the C series of Pohjolan Voima from the above shareholders. Following the deal TXU Nordic Energy Oy (previously Teollisuuden Sähkönmyynti Oy) holds a 14.7 per cent holding in Pohjolan Voima.

The Swedish Graningeverkens AB (publ) purchased Ahlström Energia Oy. This change in ownership obliged Ahlström Energia Oy to offer its shares in Pohjolan Voima for redemption by the other shareholders. The Board of Directors of Pohjolan Voima determined the redemption price in July. Oy Metsä-Botnia Ab, Metsä-Serla Oyj, Myllykoski Oyj and UPM-Kymmene Oyj redeemed the shares and registered their ownership in November.

#### **PERSONNEL**

Introductory courses in environmental affairs for the entire production staff had been completed in 1998. In 1999, in-depth training in the method required for compiling and introducing systems was provided. For this, 740 man days were used.

During the year the Group installed new data systems into use for financial administration and operational maintenance of power plants, and revised its office software. A total of 2,000 man days of user training was provided.

A change workshop project was implemented at PVO-Vesivoima as part of introducing the operational maintenance data system. This project made the introduction of the new system more customerorientated.

With the structural changes which continue to occur within the Group, it is important to develop a good working atmosphere and a sense of teamwork. Three skills management projects were implemented last year with a view to helping the personnel to deal with change.

The average number of personnel working for the Group over the year was 1,454 (1,421); 1,215 of these worked in production companies and the remaining 239 in the Service Group.

		Jan 1 – Dec 31, 1999	Jan 1 – Dec 31, 1998
	Note	1,000€	1,000€
TURNOVER	(1)	518,502	568,094
Change in inventories of			
finished goods		-1,406	-15
Production for own use		-66	1,581
Other operating income	(2)	21,103	2,994
Raw materials and services	(3)	-212,228	-211,962
Personnel expenses	(4)	-65,680	-64,243
Depreciation and value adjustments	(5)	-101,491	-88,915
Other costs and expenses	(6)	-92,794	-118,005
OPERATING PROFIT		65,940	89,529
Financial income and expenses	(7)	-37,798	-53,138
PROFIT BEFORE TAXES		28,142	36,391
Income taxes	(8)	-10,513	-9,345
Minority interest		-2,393	-9,796
PROFIT FOR THE FINANCIAL PERIOD		15,236	17,250

ASSETS	Note	Dec 31, 1999	Dec 31, 1998
		1,000€	1,000€
FIXED ASSETS			
Intangible assets	(9)	59,721	64,910
Tangible assets	(10)	1,517,707	1,590,359
Investments	(11)	280,659	254,549
		1,858,087	1,909,818
CURRENT ASSETS			
Inventories	(12)	207,367	231,148
Non-current receivables	(13)	37,968	39,735
Current receivables	(14)	93,264	81,769
Cash in hand and at bank	(15)	23,334	38,275
		361,933	390,927
		2,220,020	2,300,745

### **EQUITY AND LIABILITIES**

SHAREHOLDERS' EQUITY	(16)		
Share capital		57,379	57,106
Share issue		6,721	16,429
Share premium reserve		306,120	287,126
Revaluation reserve		218,644	218,644
Retained earnings		160,909	143,659
Profit for the financial period		15,236	17,250
		765,009	740,214
MINORITY INTEREST		164,088	160,198
LIABILITIES			
Deferred tax liability	(17)	162,132	151,635
Non-current liabilities	(18)	887,365	1,040,364
<b>Current liabilities</b>	(19)	241,426	208,334
		1,290,923	1,400,333

	1999	1998
	1,000€	1,000€
CASH FLOW FROM OPERATING ACTIVITIES	,	,
Operating profit	65,940	89,529
Adjustments to operating profit <sup>1</sup>	58,122	74,572
Change in net working capital <sup>2</sup>	2,380	-6,571
Interest	-38,009	-56,045
Dividends received	273	180
Other financial income and expenses	-62	2,726
Direct taxes paid	-16	-1,345
Net cash from operating activities	88,628	103,046
CASH FLOW FROM INVESTING ACTIVITIES		
Investments in shares	-6,876	-19
Purchases of tangible and intangible assets	-29,967	-66,056
Proceeds from sale of shares	2,882	1,651
Proceeds from sale of tangible and intangible assets	28,595	7,143
Acquisition of Group companies	7,698	-
Increase in non-current receivables	-7,225	-12,277
Net cash used in investing activities	-4,893	-69,558
CASH FLOW FROM FINANCING ACTIVITIES		
Increase in long-term liabilities	7,159	21,778
Decrease in long-term liabilities	-135,281	-98,610
Increase (-) or decrease (+) in interest-bearing receivables	1,767	362
Increase (+) or decrease (-) in current		
interest-bearing liabilities	18,120	-9,962
Share issue	9,559	23,291
Net cash used in financing activities	-98,676	-63,141
Net increase (+) or decrease (-) in cash and cash equivalents	-14,941	-29,653
Cash and cash equivalents at 1 Jan.	38,275	67,928
Cash and cash equivalents at 31 Dec.	23,334	38,275
1 A live to record to a constant of the Ca		
<sup>1</sup> Adjustments to operating profit Depreciation and value adjustments	101,491	88.915
Gains (-) or losses (+) on sale of fixed assets	-18,500	-866
Share of results of associated companies	-24,869	-13,477
<sup>2</sup> Change in working capital	58,122	74,572
Increase (-) or decrease (+) in inventories	23,781	2,731
Increase (-) or decrease (+) in non-interest-bearing receivables	-11,496	6,724
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	-9,905	-16,026
· ·	2,380	-6,571

# PROFIT AND LOSS ACCOUNT OF PARENT COMPANY

	Note	<b>Jan 1 – Dec 31, 1999</b> 1,000 €	Jan 1 – Dec 31, 1998 1,000€
TURNOVER	(1)	358,806	406,483
Other operating income	(2)	5,587	1,354
Raw materials and services	(3)	-139,093	-163,728
Personnel expenses	(4)	-4,182	-4,119
Depreciation and value adjustments	(5)	-1,737	-1,617
Other costs and expenses	(6)	-221,844	-235,242
OPERATING LOSS (-PROFIT)		-2,463	3,131
Financial income and expenses	(7)	2,960	-573
PROFIT BEFORE APPROPRIATIONS			
AND TAXES		497	2,558
Appropriations			
Decrease in accumulated depreciation	difference	815	1,724
Income taxes	(8)	-549	-1,637
PROFIT FOR THE FINANCIAL PERIOD		763	2,645

ASSETS	Note	<b>Dec 31, 1999</b> 1,000 €	Dec 31, 1998 1,000€
NON-CURRENT ASSETS			
Intangible assets	(9)	1,105	1,576
Tangible assets	(10)	7,858	11,512
Investments	(11)		
Holdings in Group companies		647,232	631,905
Other investments		287,030	336,602
		943,225	981,595
CURRENT ASSETS			
Non-current receivables	(13)	35,479	39,443
Current receivables	(14)	47,581	47,058
Cash in hand and at banks		17,362	35,230
		100,422	121,731
		1,043,647	1,103,326

### **EQUITY AND LIABILITIES**

SHAREHOLDERS' EQUITY	(16)		
Share capital		57,379	57,106
Share issue		6,721	16,429
Share premium reserve		301,491	283,656
Revaluation reserve		218,644	218,644
Retained earnings		35,739	33,094
Profit for the financial period		763	2,645
		620,737	611,574
APPROPRIATIONS			
Accumulated depreciation differen	ce	4,899	5,715
LIABILITIES			
Non-current liabilities	(17)	294,570	402,746
Current liabilities	(18)	123,441	83,291
		418,011	486,037
		1,043,647	1,103,326

	1999	1998
	1,000€	1,000€
CASH FLOW FROM OPERATING ACTIVITIES		
Operating profit	-2,465	3,133
Adjustments to operating profit <sup>1</sup>	-2,603	1,040
Change in net working capital <sup>2</sup>	618	-27,754
Interest	1,143	-3,994
Dividends received	2,531	3,050
Other financial income and expenses	-714	371
Direct taxes paid	-549	-1,637
Net cash from operating activities	-2,039	-25,791
CASH FLOW FROM INVESTING ACTIVITIES		
Investments in shares	-18,364	-8,573
Purchases of tangible and intangible assets	-957	-839
Proceeds from sale of shares	5,651	1,095
Proceeds from sale of tangible and intangible assets	4,573	1,734
Increase in non-current receivables	-3,740	-6,085
Decrease in non-current receivables	53,811	19,315
Net cash used in investing activities	40,974	6,647
CASH FLOW FROM FINANCING ACTIVITIES		
Increase in long-term liabilities	12,175	14,417
Decrease in long-term liabilities	-81,179	-53,966
Increase (-) or decrease (+) in interest-bearing receivables	3,964	2
Increase (+) or decrease (-) in current		
interest-bearing liabilities	-162	-5,883
Share issue	8,399	23,291
Net cash used in financing activities	-56,803	-22,139
Net increase (+) or decrease (-) in cash and cash equivalents	-17,868	-41,283
Cash and cash equivalents at 1 Jan.	35,230	76,513
Cash and cash equivalents at 31 Dec.	17,362	35,230
<sup>1</sup> Adjustments to operating profit  Depreciation and value adjustments	1,737	1,617
Gains (-) or losses (+) on sale of fixed assets	-4,340	-556
<sup>2</sup> Change in working capital	-2,603	1,061
Increase (-) or decrease (+) in non-interest-bearing receivables Increase (+) or decrease (-) in short-term	-523	-6,378
non-interest-bearing liabilities	1,141 <b>618</b>	-21,376 -27,754

#### CHANGES IN ACCOUNTING POLICIES

The consolidated financial statements have been compiled in accordance with the revised Finnish Bookkeeping Act. The manner of presentation of the profit and loss account, balance sheet and notes to the accounts differs from that of the preceding year. The comparability data have been adjusted accordingly.

# PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the parent company, together with those companies in which the parent company holds more than half of the voting rights, either directly or indirectly, or in which it otherwise has a controlling interest according to section 3 of chapter 1 of the Companies Act.

Subsidiaries acquired during the financial year are included in the financial statements from the time of acquisition, while those sold during the year are included up to their date of sale.

# ACCOUNTING PRINCIPLES IN THE CONSOLIDATED FINANCIAL STATEMENTS

#### **MUTUAL SHAREHOLDINGS**

The consolidated financial statements have been compiled according to the purchase method. The price in excess of the equity of the subsidiary has been capitalised in full. This consolidation difference is depreciated according to the depreciation plan of the said fixed asset item.

#### INTER-COMPANY TRANSACTIONS AND MARGINS

All internal transactions, group receivables and liabilities and margins on internal services within the Group have been eliminated.

#### **MINORITY INTERESTS**

Minority interests have been excluded from the consolidated share-holders' equity and from voluntary reserves, and are shown as a separate balance sheet item.

#### **ASSOCIATED COMPANIES**

Associated companies have been consolidated using the equity method. The profit and loss account includes a portion, corresponding to the shareholding of the Group, of the result and change in depreciation difference minus tax liability of associated companies. The value of shares shown in the balance sheet is the proportion of the shareholders' equity and accumulated depreciation difference minus tax liability.

The result of associated companies is shown in other operating expenses.

### ITEMS IN FOREIGN CURRENCIES

The value of debts, receivables and liability commitments valued in foreign currencies has been adjusted to the exchange rate quoted by the Bank of Finland or contract rate on the date of the financial statements. Exchange rate gains or losses from the conversion of

debts and receivables have been entered in the profit and loss account as exchange rate differences.

#### TANGIBLE AND INTANGIBLE ASSETS

Non-current assets have been entered in the balance sheet at their original acquisition cost minus depreciation according to plan.

Revaluations of hydropower constructions and dams are included in the balance sheet values.

Depreciation according to plan is calculated according to expected useful life. Useful lives have been defined as follows:

<ul> <li>hydropower plants</li> </ul>	40-50 years
<ul> <li>nuclear power plants</li> </ul>	10-41 years
<ul> <li>condensing power plants</li> </ul>	25 years
<ul> <li>cogeneration power plants</li> </ul>	4-40 years
• power grids	30 years
<ul> <li>other fixed assets</li> </ul>	5-15 years

In implementing the depreciation plan, the annual utilisation of each plant has also been accounted for.

#### **INVENTORIES**

Current assets have been valued at their original acquisition cost according to the FIFO principle. Where the probable acquisition cost of current assets is less than the original acquisition cost on the date of the financial statements, the difference is not recorded as an expense due to the break-even cost principle.

#### **VOLUNTARY PROVISIONS**

Voluntary provisions, including accumulated depreciation difference, have been divided between unrestricted shareholders' equity and deferred tax liability. The change in voluntary provisions during the financial year has been divided between the result for the period and change in deferred tax liability.

#### **TURNOVER**

When calculating turnover, indirect taxes and allowed discounts are deducted from sales revenues. Sales revenues are recorded as income at the time of delivery.

### PENSION ARRANGEMENTS

Pension coverage in Group companies is arranged with Finnish insurance companies.

#### **INCOME TAX**

Taxes recorded include the estimated taxes corresponding to the results of Group companies for the financial year or the taxes determined on the basis of dividend distributions, adjustments to taxes in earlier financial years and change in deferred tax liability. Deferred tax liability is calculated using the tax base for following years confirmed on the day of the financial statements. Company tax credits based on internal dividend distribution have been eliminated from direct taxes.

Gi	roup	up Parent com	
1999	1998	1999	1998
1,000€	1,000€	1,000€	1,000€
402,508	464,134	304,306	351,120
		45,760	46,142
			9,221
518,502	568,094	358,806	406,483
18,500	866	4,396	577
1,082	1,728	892	931
1,521	400	299	-154
21,103	2,994	5,587	1,354
129,618	124,938	-	
32,353	64,742	136,347	163,187
161,971	189,680	136,347	163,18
22,308	482	-	
	21,800	2,746	54
212,228	211,962	139,093	163,72
1 061	1 093	361	32
			3,13
			3,45
			50
			163
			664
65,680	64,243	4,182	4,11
936	678	71	7:
			12
1,454	1,421	78	8′
s of Group companie	es is 60-65 years.		
0.40%	1 400		
		-	07
			370
10,406	9,402	224	113
			_
78,542	72,802	639	688
	72,802 1,497	639 - 447	688
	1999 1,000 €  402,508 55,952 60,042 518,502  18,500 1,082 1,521 21,103  129,618 32,353 161,971 22,308 27,949 212,228  1,061 51,960 53,021 7,687 4,972 12,659 65,680  936 518 1,454	1,000 € 1,000 €  402,508 464,134 55,952 56,567 60,042 47,393  518,502 568,094   18,500 866 1,082 1,728 1,521 400 21,103 2,994  129,618 124,938 32,353 64,742 161,971 189,680 22,308 482 27,949 21,800 212,228 211,962  1,061 1,093 51,960 50,854 53,021 51,947 7,687 7,115 4,972 5,181 12,659 12,296 65,680 64,243  936 678 518 743 1,454 1,421  s of Group companies is 60-65 years.	1999       1998       1999         1,000 €       1,000 €       1,000 €         402,508       464,134       304,306         55,952       56,567       45,760         60,042       47,393       8,740         518,502       568,094       358,806         18,500       866       4,396         1,082       1,728       892         1,521       400       299         21,103       2,994       5,587         129,618       124,938       -         32,353       64,742       136,347         161,971       189,680       136,347         22,308       482       -         27,949       21,800       2,746         212,228       211,962       139,093         1,061       1,093       361         51,960       50,854       3,194         53,021       51,947       3,555         7,687       7,115       359         4,972       5,181       268         12,659       12,296       627         65,680       64,243       4,182         936       678       71         518       743

	Gr	oup	Parent	company
	1999	1998	1999	1998
	1,000€	1,000€	1,000€	1,000€
(6) OTHER COSTS AND EXPENSES				
Energy purchases	24,998	28,062	214,208	227,159
Share of profits of associated companies	-24,869	-13,477	-	-
Rents and leases	11,625	9,664	1,799	1,418
Real estate taxes	5,376	4,781	9	ć
Other expenses	75,664	88,975	5,828	6,656
	92,794	118,005	221,844	235,242
7) FINANCIAL INCOME AND EXPENSES				
Dividend income				
From Group companies	-	-	-	865
From associated companies	-	-	2,529	2,137
From other companies	273	180	2	48
	273	180	2,531	3,050
Interest income on non-current investments				
From Group companies	-	-	14,886	19,437
From other companies	7,953	12,102	1,289	1,469
•	7,953	12,102	16,175	20,906
Other interest and financial income				
From Group companies	-	-	174	107
From other companies	1,366	6,254	242	2,821
•	1,366	6,254	416	2,928
Total interest income	9,319	18,356	16,591	23,834
Interest and financial expenses				
T. C.				
To Group companies	-	-	-9,469	-1,019
To Group companies To other companies	- -47,390	- -71,674	-9,469 -6,693	
* *	-47,390 - <b>47,390</b>	-71,674 -71,674		-26,438
* *			-6,693	-26,438 -27,457
To other companies	-47,390	-71,674	-6,693 - <b>16,162</b>	-26,438 -27,457
To other companies  Total financial income and expenses	-47,390	-71,674	-6,693 - <b>16,162</b>	-26,438 -27,457 -573
To other companies  Total financial income and expenses  Total interest income includes net exchange rate gains	-47,390 -37,798	-71,674 -53,138	-6,693 - <b>16,162</b> <b>2,960</b>	-26,438 -27,457 -573
To other companies  Total financial income and expenses  Total interest income includes net exchange rate gains  [8] INCOME TAXES	-47,390 -37,798	-71,674 -53,138	-6,693 - <b>16,162</b> <b>2,960</b>	-26,438 -27,457 -573 -371
To other companies  Total financial income and expenses  Total interest income includes net exchange rate gains	-47,390 -37,798 -62	-71,674 -53,138 2,726	-6,693 - <b>16,162</b> <b>2,960</b> -666	-26,438 -27,457 -573 -371
To other companies  Total financial income and expenses  Total interest income includes net exchange rate gains  (8) INCOME TAXES  Taxes for the financial period	-47,390 -37,798 -62	-71,674 -53,138 2,726 1,057	-6,693 - <b>16,162</b> <b>2,960</b> -666	-1,019 -26,438 -27,457 -573 -371 1,349 288

## (9) INTANGIBLE ASSETS

1,000€

GROUP	Formation expenses	Intangible rights	Other capitalised expenditure	Advance payments	Total
Acquisition cost at 1 Jan.	58,106	106	56,377	0	114,589
Increases	10	2	5,693	681	6,386
Decreases	-		-662	-600	-1,262
Acquisition cost at 31 Dec.	58,116	108	61,408	81	119,713
Accumulated depreciation at 1 Jan.	-27,426	-28	-22,100	-	-49,554
Accumulated depreciation on decreases	-		-299	-	-299
Depreciation for the period	-6,153	-11	-3,975	-	-10,139
Accumulated depreciation at 31 Dec.	-33,579	-39	-26,374	-	-59,992
Book value at 31 Dec. 1999	24,537	69	35,034	81	59,721
Book value at 31 Dec. 1998	30,680	78	34,152	-	64,910
PARENT COMPANY					
Acquisition cost at 1 Jan.	-	6	2,084	-	2,090
Increases	-		451	-	451
Decreases	-		-650	-	-650
Acquisition cost at 31 Dec.	-	6	1,885	-	1,891
Accumulated depreciation at 1 Jan.	-	-	-514	-	-514
Depreciation for the period	-	-	-272	-	-272
Accumulated depreciation at 31 Dec.	-	-	-786	-	-786
Book value at 31 Dec. 1999	-	6	1,099	-	1,105
Book value at 31 Dec. 1998	-	6	1,570	-	1,576

## (10) TANGIBLE ASSETS

1,000€

GROUP	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
Acquisition cost at 1 Jan.	39,479	351,934	1,728,267	253,684	9,332	2,382,696
Increases	209	1,515	25,674	584	2,272	30,254
Decreases	-149	-175	-4,833	-12	-10,336	-15,505
Acquisition cost at 31 Dec.	39,539	353,274	1,749,108	254,256	1,268	2,397,445
Accumulated depreciation at 1	Jan	-114,280	-664,752	-13,308	-	-792,340
Accumulated depreciation on d	ecreases -	62	3,590	4	-	3,656
Depreciation for the period	-	-10,365	-78,576	-2,113	-	-91,054
Accumulated depreciation at 31	Dec	-124,583	-739,738	-15,417	-	-879,738
Book value at 31 Dec. 1999	39,539	228,691	1,009,370	238,839	1,268	1,517,707
Book value at 31 Dec. 1998	39,480	237,654	1,063,517	240,376	9,332	1,590,359
Revaluations included in						
acquisition costs at 31 Dec.		66,296		198,849		

Production machinery and equipment at 31 Dec.

865,188

PARENT COMPANY	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
Acquisition cost at 1 Jan.	171	3,462	6,498	-	2,761	12,892
Increases	0	0	310	-	196	506
Decreases	-	-111	-455	-	-2,844	-3,410
Acquisition cost at 31 Dec.	171	3,351	6,353	-	113	9,988
Accumulated depreciation at 1 Ja	n	-395	-985	-	-	-1,380
Accumulated depreciation on dec	reases -			-	-	0
Depreciation for the period	-	-113	-638	-	-	-751
Accumulated depreciation at 31 I	Dec	-508	-1,623	-	-	-2,131
Book value at 31 Dec. 1999	171	2,843	4,730	-	113	7,857
Book value at 31 Dec. 1998	171	3,066	5,513	-	2,761	11,512
Production machinery and equip	nent at 31 D	ec.	4,006			

## (11) INVESTMENTS

1,000€

GROUP	Sha	nres in associated companies	Other shares and holdings	Other receivables	Total
Acquisition cost at 1 Jan.		34,927	36,827	186,329	258,083
Increases		28,519	1,504	3,691	33,714
Decreases		-10,694	-444		-11,138
Acquisition cost at 31 Dec.		52,752	37,887	190,020	280,659
Book value at 31 Dec. 1999		52,752	37,887	190,020	280,659
Book value at 31 Dec. 1998		34,927	36,827	182,795	254,549
PARENT COMPANY	Shares in Group companies	Receivables from Group companies	Shares in associated companies	Other shares and holdings	Total
Acquisition cost at 1 Jan.	631,905	306,784	29,031	786	968,507
Increases	16,440	0	1,931	0	18,371
Decreases	-1,113	-50,071	-981	-450	-52,615
Acquisition cost at 31 Dec.	647,232	256,713	29,981	336	934,263
Book value at 31 Dec. 1999	647,232	256,713	29,981	336	934,263
Book value at 31 Dec. 1998	631,905	306,784	29,031	787	968,507

	Group		Parent company	
	1999	1998	1999	1998
	1,000€	1,000€	1,000€	1,000€
(12) INVENTORIES				
Materials and supplies	2,919	2,817		
Fuel	203,162	225,639		
Work in progress	1,286	2,692		
	207,367	231,148		
Fuel (coal and unrefined uranium)				
Replacement price	57,892	65,729		
Book value	32,448	78,104		
	25,444	-12,375		
(13) NON-CURRENT RECEIVABLES:				
Accounts receivable	279	-	-	-
Loan receivables	4,051	6,071	1,841	5,778
Capital loan receivables	33,638	33,664	33,638	33,665
	37,968	39,735	35,479	39,443
Receivables from Group companies				
Capital loan receivables			1	1
Receivables from associated companies				
Loan receivables	1,564	1,346	1,564	1,346
Capital loan receivables	33,638	33,664	33,638	33,664
•	35,202	35,010	35,202	35,010
(14) CURRENT RECEIVABLES:				
Accounts receivable	70,987	49,596	37,498	29,527
Loan receivables	505	59	-	-
Share issue receivables	6,721	16,429	6,721	16,429
Deferred assets	12,739	15,289	3,320	899
Other receivables	2,312	396	42	203
	93,264	81,769	47,581	47,058
Receivables from Group companies				
Accounts receivable	-	-	1,431	2,861
Other receivables	-	-	23	169
	0	0	1,454	3,030
Receivables from associated companies				
Accounts receivable	2,136	1,463	117	779
Deferred assets	412	-	-	-
Other receivables	564	2,153	20	6
	3,112	3,616	137	785

Main items included in current deferred assets Personnel expenses Interest income Interest expenses Income taxes Indirect taxes Selling price receivable Others	1999 1,000 €  127 6,747 743 513 161 1,791 2,657 12,739	1998 1,000 € 188 11,019 798 32 236	1999 1,000 € - 250 - 132	1998 1,000 € - 319 - 7
deferred assets Personnel expenses Interest income Interest expenses Income taxes Indirect taxes Selling price receivable	127 6,747 743 513 161 1,791 2,657	188 11,019 798 32	- 250 -	- 319 -
deferred assets Personnel expenses Interest income Interest expenses Income taxes Indirect taxes Selling price receivable	6,747 743 513 161 1,791 2,657	11,019 798 32	-	-
Personnel expenses Interest income Interest expenses Income taxes Indirect taxes Selling price receivable	6,747 743 513 161 1,791 2,657	11,019 798 32	-	-
Interest income Interest expenses Income taxes Indirect taxes Selling price receivable	6,747 743 513 161 1,791 2,657	11,019 798 32	-	-
Interest expenses Income taxes Indirect taxes Selling price receivable	743 513 161 1,791 2,657	798 32	-	-
Income taxes Indirect taxes Selling price receivable	513 161 1,791 2,657	32	132	- 7
Indirect taxes Selling price receivable	161 1,791 2,657		132	7
Selling price receivable	1,791 2,657	236	-	•
	2,657	-	4 704	-
Others		0.010	1,791	-
	12 734	3,016	1,147	573
	1w, 100	15,289	3,320	899
Interest-bearing receivables	100.000	010 400	050 710	207 025
Non-current assets	190,020	216,460	256,713	307,625
Current assets	61,527 <b>251,547</b>	44,405 260,865	52,842 <b>309,555</b>	73,833 381,458
(15) CURRENT FINANCIAL ASSETS				
Current financial assets include				
mutual fund units.				
Replacement price	114	259		
Book value	109	253		
	5	6		
(16) SHAREHOLDERS' EQUITY				
Share capital at 1 Jan.	57,106	56,518	57,106	56,518
Transfer from share issues	273	588	273	588
Share capital at 31 Dec.	57,379	57,106	57,379	57,106
Share issue at 1 Jan.	16,429	-	16,429	-
Transfer to share capital	-273	-588	-273	-588
Transfer to share premium reserve	-17,834	-6,273	-17,834	-6,273
Share issues during financial period	8,399	23,290	8,399	23,290
Share issue at 31 Dec.	6,721	16,429	6,721	16,429
Share premium reserve at 1 Jan.	287,126	280,853	283,656	277,383
Share issue premium	18,994	6,273	17,835	6,273
Share premium reserve at 31 Dec.	306,120	287,126	301,491	283,656
Revaluation reserve at 1 Jan.	218,644	218,644	218,644	218,644
Revaluation reserve at 31 Jan.	218,644	218,644	218,644	218,644
Retained earnings at 1 Jan.	160,909	143,659	35,739	33,094
Retained earnings at 31 Dec.	160,909	143,659	35,739	33,094
Profit for the financial period	15,236	17,250	763	2,645
Shareholders' equity at 31 Dec.	765,009	740,214	620,737	611,574

		Group	Parent company	
	1999	1998	1999	1998
	1,000€	1,000€	1,000€	1,000€
Distributable funds at 31 Dec.				
Retained earnings	160,909	143,659	35,739	33,094
Profit for the financial period	15,236	17,250	763	2,645
<ul> <li>Capitalised formation expenses</li> </ul>	-24,517	-30,635	-	-
<ul> <li>Cost of acquisition of own shares</li> </ul>	-3	-	-	-
<ul> <li>Portion of accumulated depreciation difference</li> </ul>	rence			
transferred to shareholders' equity	-172,216	-166,026	-	-
	-20,591	-35,752	36,502	35,739
<ul> <li>of which from share of results of associate</li> </ul>				
companies arising from portion of accumu	ılated			
depreciation difference transferred to				
shareholders' equity	-32,335	-10,048	-	-
	-52,926	-45,800		
SHARE CAPITAL BY SHARE CATEGORY		no.	á FIM	1,000 ¤
Series A		13,350,077	10.00	22,454
- entitling to electricity produced or acquired		10,000,017	10.00	22,10
by PVO-Vesivoima Oy				
Series B		6,534,572	10.00	10,990
- entitling to a 49.6% of Teollisuuden Voima	Ov's	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		.,
production or acquisition	- <b>J</b>			
Series C		8,314,455	10.00	13,984
- entitling to electricity and heat produced or	acquired	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		.,
by PVO-Lämpövoima Oy	1			
Series D3		100,000	10.00	168
- entitling to electricity and heat produced by	Kokkolan Voima O	y		
Series D4		232,000	10.00	390
- entitling to electricity and heat produced				
by Veitsiluodon Voima Oy				
Series D5		100,000	10.00	168
- entitling to electricity and heat produced				
by Kemijärven Voima Oy				
Series D6		300,000	10.00	505
- entitling to electricity and heat produced by	Oulun Voima Oy			
Series E		4,654,743	10.00	7,829
- entitling to electricity and heat produced by	Mussalon Voima O	y		
as well as to 7.2% of the production of Teollis	uuden Voima Oy			
Series G		29,940	10.00	50
- entitling to electricity and heat produced				
by Oy Alholmens Kraft Ab				
Series H		500,000	10.00	841
- entitling to electricity and heat produced				
by PVO-Huippuvoima Oy				

The owners of each series of shares are responsible for the fixed costs of the series in question in proportion to shareholdings irrespective of use of the capacity or energy share, and for variable costs in proportion to the amount of energy received.

			Group		Parent	company
			1999	1998	1999	1998
			1,000€	1,000€	1,000€	1,000€
17) DEFERRED		ГҮ				
Deferred tax lial	•					
From appropr	riations		162,132	151,635		
18) NON-CURI	RENT LIABIL	ITIES				
Bond loans			153,095	205,466	-	-
Loans from fina	ncial institution	ıs	282,097	388,249	44,295	164,647
Pension fund lo	ans		8,177	9,812	-	-
Other non-curre	ent liabilities		443,996	436,837	250,275	238,099
			887,365	1,040,364	294,570	402,746
Liabilities to Gr	oup companies					
Other non-cu	ırrent liabilities		-	-	250,275	237,877
Repayment sche in 2005– (2004– Loans from fi	_		59,080	86,503	-	20,670
Pension fund			1,635	1,635		
	Group compani	es			-	237,868
Other non-cu	ırrent liabilities		4,357	6,721		
			65,072	94,859	-	258,538
Bond loans	Initial loan	Interest %				
1992–1999	DEM	8.375	-	51,129		
Schedule			-	-51,129		
1991-2001	CHF	7.250	62,301	62,198		
1993-2000	JPY	5.100	48,671	37,649		
Schedule			-48,671	-		
1993–2003	JPY	5.300	97,343	75,298		
1997-2004	FIM	5.800	11,773	11,773		
1990-2000	USD	9.590	11,945	20,570		
Schedule			-11,945	-10,286		
			171,417	197,202		
Adjustment o	f swap loans an	d receivables	-18,322	8,264		
			153,095	205,466		

	Group		Parent company	
	1999	1998	1999	1998
	1,000€	1,000€	1,000€	1,000€
9) CURRENT LIABILITIES				
Bonds	52,372	61,165	-	-
Loans from financial institutions	62,272	23,977	51,463	12,290
Pension fund loans	1,635	1,635	-	-
Other non-current liabilities	1,104	5,727	-	-
Advances received	669	1,812	-	-
Accounts payable	38,708	35,605	50,878	37,934
Deferred liabilities	57,639	69,504	12,806	22,619
Other short-term liabilities	27,027	8,909	8,294	10,448
	241,426	208,334	123,441	83,291
To Group companies				
Accounts payable			48,362	36,161
Deferred liabilities			8,774	14,007
Other short-term liabilities			2,700	5,803
			59,836	<b>55,97</b> 1
To associated companies				
Advances received	-	1,737	-	-
Accounts payable	2,266	2,001	656	320
Deferred liabilities	463	120	-	-
	2,729	3,858	656	320
Main items included in current				
deferred liabilities				
Personnel expenses	9,774	10,499	509	676
Interest expenses	23,071	38,706	11,941	20,264
Income taxes	14	346	-	
Indirect taxes	159	1,111	155	22
Others	24,621	18,842	201	1,657
	57,639	69,504	12,806	22,619
Interest-free and interest-bearing liabilities				
Non-current				
Interest-bearing	887,365	1,040,364	294,570	402,746
Current	887,365	1,040,364	294,570	402,746
Interest-free	119,085	114,294	64,321	63,180
Interest-bearing	122,341	94,040	59,120	20,111
more bound	241,426	208,334	123,441	83,291

	Group		Parent company		
	1999	1998	1999	1998	
	1,000€	1,000€	1,000€	1,000€	
(20) CONTINGENT LIABILITIES					
Mortgages					
As security against own debt	62,401	65,225			
Guarantees					
Guarantees for loans					
On behalf of associated companies	80,318	60,986	80,121	60,775	
On behalf of others	699	729	699	729	
Other guarantees					
On own commitments	193	193	5,359	-	
On behalf of Group companies	-	-	44,707	42,045	
	81,210	61,908	130,886	103,549	
Leasing commitments					
Commitments for 2000 / 1999	8,193	8,764			
Commitments for subsequent years	122,672	139,313			
	130,865	148,077			
Other commitments	604	1,140	336	336	
Nuclear waste management liabilities					
Nuclear waste management liability	645,404	627,005		-	
Assets in nuclear waste					
management fund (31 Mar.)	623,304	587,060		-	
Guarantee under section 44 of					
the Nuclear Energy Act	104,144	111,559	59,150	63,362	
Nuclear waste management receivables pledged					
to government nuclear waste management fund	190,020	180,609		-	
(04) DEDIVATIVES ASDEEMENTS					
(21) DERIVATIVES AGREEMENTS	_				
The capital values of derivative contracts related to l	nedging				
against exchange rate risks were the following:					
Interest rate derivatives					
Option agreements					
Purchased	113,638	172,847	-	-	
Written	80,000	0	-	-	
Swap agreements	285,166	397,901	119,322	126,141	
Currency derivatives					
Forward contracts	0	4,209	-	-	
Swap agreements	393,032	516,422	39,642	111,888	

#### **GRID OPERATIONS**

Grid business consists of the Pohjolan Voima Oy's regional grid operations.

#### **ALLOCATION OF JOINT ITEMS**

The joint cost items have been allocated according to the matching principle. The capital structure of the balance sheet is derived from the equity to assets ratio requirements imposed by Pohjolan Voima on the Group companies.

#### **VALUATION OF FIXED ASSETS**

Fixed assets have been valued according to the valuation principles used in the Group.

#### RETURN ON INVESTMENT

The return on investment was 23 per cent.

#### ROI % =

#### **PERSONNEL**

An average of 0.5 employees worked in grid operations. All necessary maintenance services and some administrative services were purchased externally.

#### **INVESTMENTS**

The investments in the grid amounted to 167 thousand euros.

BALANCE SHEET	Dec 31, 1999	Dec 31, 1998	BALANCE SHEET	Dec 31, 1999	Dec 31, 1998
ASSETS	1,000€	1,000€	EQUITY AND LIABILITIE	1,000€ S	1,000€
NON-CURRENT ASSETS			SHAREHOLDERS' EQUIT'	Y	
Intangible assets			Calculated equity	2,838	2,838
Capitalised expenditure	893	1,144	Retained earnings	1,989	363
			Profit for the financial period	1,901	1,626
Tangible assets				6,728	4,827
Grid	3,659	4,423			
Advance payments and			APPROPRIATIONS		
work in progress	83	2,758	Accumulated depreciation		
	4,635	8,325	difference	3,659	4,423
CURRENT ASSETS					
Current receivables			LIABILITIES		
Accounts receivable	649	858	Current		
Deferred assets	1,888	151	Accounts payable	608	219
Cash in hand and at banks	4,764	1,476	Deferred liabilities	941	1,341
	7,301	2,485		1,549	1,560
	11,936	10,810		11,936	10,810

PROFIT AND LOSS ACCOUNT

Jan 1 – Dec 31

Other operating income

Raw materials and services

Other costs and expenses

Financial income and expenses

Profit before appropriations

Decrease in accumulated

depreciation difference

Profit for the financial period

Depreciation and value adjustments

Personnel expenses

Operating profit

and taxes

Appropriations

Income taxes

Turnover

1999

3,273

776

-1.287

-102

-492

-390

1,778

92

1.870

770

-739

1,901

1.000€

1998

1.000€

4,880

-338

-2.902

-159

-586

-285

610

78

688

1,573

-635

1,626

		Ownership	Share of	Book value
	Domicile	share, %	votes, %	in 1,000 €
SUBSIDIARY SHARES				
OWNED BY THE PARENT COMPANY:				
Jämsänkosken Voima Oy	Helsinki	100.0	100.0	8
Kemijärven Voima Oy	Helsinki	100.0	100.0	1,682
Kokkolan Voima Oy	Helsinki	100.0	100.0	3,364
Mussalon Voima Oy	Helsinki	100.0	100.0	40,972
Oulun Voima Oy	Helsinki	100.0	100.0	15,810
PVO-Huippuvoima Oy	Helsinki	100.0	100.0	3,498
PVO-Lämpövoima Oy	Helsinki	100.0	100.0	1,682
PVO-Palvelut Oy	Helsinki	77.0	98.5	1,699
PVO-Vesivoima Oy	Helsinki	100.0	100.0	266,827
PVO-Voimaverkko Oy	Helsinki	100.0	100.0	3
Raahen Voima Oy	Helsinki	100.0	100.0	8
Rouhialan Voimansiirto Oy	Helsinki	100.0	100.0	3
Teollisuuden Voima Oy	Helsinki	56.8	49.9	300,476
Veitsiluodon Voima Oy	Helsinki	100.0	100.0	10,710
Others				489
NAMES DV QUEQUEAU PAR				647,231
DWNED BY SUBSIDIARIES: Länsi-Suomen Yhteiskäyttö Oy	Helsinki	100.0	100.0	329
Nokian Lämpövoima Oy	Helsinki	80.1	80.1	3,071
Posiva Oy	Helsinki	60.0	60.0	1,009
Posivia Oy	Helsinki	100.0	100.0	3
Power Contractor Oy	Espoo	100.0	100.0	8
Power-IT Oy	Helsinki	100.0	100.0	1,000
Power-OM Oy	Helsinki	100.0	100.0	1,000
Powertechnics Consulting Engineers Oy	Espoo	58.5	58.5	169
PVO-Engineering Ltd	Helsinki	100.0	100.0	336
Ramse Consulting Oy	Helsinki	55.0	55.0	357
Synton Oy	Helsinki	100.0	100.0	337
TVO Nuclear Services Oy	Eurajoki	100.0	100.0	8
1 VO Nuclear Services Oy	Eurajoki	100.0	100.0	6,393
ASSOCIATED COMPANY SHARES				
OWNED BY THE PARENT COMPANY:				
Fingrid Oyj		25.1	33.4	28,054
Oy Alholmens Kraft Ab		49.9	49.9	1,795
Others				132
DWNED BY SUBSIDIARIES:				29,981
Tornionlaakson Voima Oy		50.0	50.0	84
Vaskiluodon Voima Oy		50.0	50.0	848
Voimalohi Oy		50.0	50.0	168
Suomen Voimatekniikka Oy		30.0	30.0	1,606
Others		00.0	00.0	113
				2,819
OTHER SHARES AND HOLDINGS		10.0	10.0	00.00
Länsi-Suomen Voima Oy Others		19.9	19.9	33,685
Onicis				4,316 <b>38,001</b>

Pohjolan Voima 57

# PROPOSAL OF THE BOARD OF DIRECTORS FOR RECORDING THE FINANCIAL RESULT

The Group has no distributable assets.

The profit and loss account of the parent company Pohjolan Voima shows a profit of EUR 763,187.64, and the distributable equity totals EUR 36,502,308.90.

The Board of Directors proposes to the Annual General Meeting that the profit be transferred to the retained earnings account and that no dividend be distributed.

Signed in Helsinki this 16 March 2000

Tauno Matomäki Jukka Härmälä Rauno Hakkila

Chairman Deputy Chairman

Heimo Karinen Antti Oksanen Heikki Sara

Sven Sohlström Martin Stanley Timo Rajala
Managing Direct

Managing Director

#### REPORT OF THE AUDITORS

To the shareholders of Pohjolan Voima Oy.

We have audited the accounts, the accountig records and the administration of Pohjolan Voima Oy for the financial year 1999. The accounts prepared by the Board of Directors and the Managing Director include, for both the group and the parent company, a report n operations, an income statement, a balance sheet and notes to the accounts. We provide our opinion on the accounts and the administration based on our audit.

We conducted ou audit in accordance with generally accepted auditing standards. We have audited the accounting records, and the accounts, the disclosures and the presentation of information, including the accounting policies, to an extent sufficient to give us reasonable assurance that the financial accounts are free of material misstatement. The audit of the administration has included obtaining assurance that the actions of the members of the Board of Directors and the Managing Director have been in conformity with the regulations of the Companies´Act.

In our opinion the accounts the accounts have been prepared in accordance with the regulations of the Accounting Act and other legislation and regulations relevat to the preparation of the accounts, and give a true and fair view of the goup's and the parent company's results from operations and financial position in accordace with such legislation and regulations. The accounts including the group accounts may be approved, and the members of the Board of Directors concerning the disposition of the distributable funds is in accordance with the Companies'Act.

Signed in Helsinki this 4 April 2000

SVH Pricewaterhouse Coopers Oy Authorised Public Accountants

Pekka Nikula Authorised Public Accountant

## SHAREHOLDERS AND DISTRIBUTION OF SHARES ON APRIL 1,2000

Etelä-Pohjanmaan Voima Oy	4,3
Helsingin kaupunki	1,4
Eläkevakuutusyhtiö Ilmarinen	4,4
Kemira Oyj + Eläkesäätiö Neliapila	4,5
Kokkolan kaupunki	2,0
Kotkan Energia Oy	1,4
Kymppivoima	2,1
Kyro Oyj Abp	0,2
Oy Metsä-Botnia Ab	1,5
Metsä-Serla Oyj	2,5
Myllykoski Oyj	1,5
Oulun kaupunki	0,1
Perhonjoki	1,7
Porin kaupunki	1,2
Päijät-Hämeen Voima Oy	1,3
Stora Enso Oyj	16,5
TXU Nordic Energy Oy	14,7
UPM-Kymmene Oyj	38,2
Vantaan Energia Oyj	<u>0,5</u>
Yhteensä	100

## MANAGEMENT

POHJOLAN VOIMA OY

Timo Rajala President and CEO

Power Procurement and Thermal Power Production

Matti Kaisjoki

**Executive Vice President** 

Services and Technology

Aappo Kontu

Executive Vice President

Accounting, Financial Control and Assessment

Minna Korkeaoja Executive Vice President

Corporate Strategy, Legal and Environmental Affairs

Communications, Procurement

Arto Piela

**Executive Vice President** 

Personnel Jussi Mäki

Senior Vice President

Corporate Planning
Paavo Onkalo
Senior Vice President

Transmission and IT Systems

Risto Vesala

Senior Vice President

Financing
Timo Väisänen
Senior Vice President

PVO-VESIVOIMA OY

Jukka Kiviluoto President

Operation and Maintenance

Heikki Sylander

Manager

Environmental Affairs

Riku Oinonen

Manager

PVO-LÄMPÖVOIMA OY

Matti Kaisjoki President

Production Martti Talsio

Director

Administration and Finance

Aimo Tenkula Manager

Kristiina Power Plant **Jari Grönvall** Plant Manager

Mussalo Power Plant Pauli Ylinen Plant Manager

Nokia Power Plant **Heikki Tuominen** Plant Manager

Seinäjoki Power Plant Matti Tiilikka Plant Manager

Tahkoluoto Power Plant

**Jari Grönvall** Plant Manager

Vaskiluoto Power Plant Mauri Blomberg Plant Manager **PVO-PALVELUT OY** 

Aappo Kontu President

Corporate Services **Reijo Tikkala** Director

Länsi-Suomen Yhteiskäyttö Oy

Orvo Laurila Managing Director

Power-IT Oy Antti Ruokonen Managing Director

Power-OM Oy **Eero Hakala** Managing Director

Powertechnics Consulting Engineers Oy

Jukka Rahkonen Managing Director

PVO-Engineering Ltd Veli-Matti Jääskeläinen Managing Director

Ramse Consulting Oy Juhani Vanhala Managing Director

Eesti Elektrivõrkude Ehituse AS

Andres Vainola Managing Director



## **ADDRESSES**

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