





**1943-2003**

*Pohjolan Voima was established in 1943. In the course of the decades, the hydropower company has grown into a diverse power company. In addition to Finnish industry, the Group currently supplies energy for a number of municipalities and towns.*

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**Annual General Meeting**  
**The Annual General Meeting of**  
**Pohjolan Voima Oy was held on Tuesday,**  
**18 March 2003 at 1 pm**  
**at Töölönkatu 4, 00100 Helsinki.**

## HIGHLIGHTS IN 2002

*Pohjolan Voima is a privately owned group of companies in the energy sector, which produces electricity and heat for its shareholders in Finland. The Group also develops and maintains technology and services in its sector.*

- Pohjolan Voima Oy's electricity supply totalled more than 21 TWh, and on 18 December 2002 the peak output was 3 450 MW. In December, the Group also set a one-month record for electricity supply, 2.4 TWh. Pohjolan Voima supplied a good 6 TWh of heat for its shareholders during the year.
- Pohjolan Voima's imports of electricity from Russia increased to not quite 3 TWh.
- Veitsiluodon Voima Oy and Oulun Voima Oy were sold to Stora Enso Oyj.
- Empower Engineering Oy's shares were sold to Enprima Oy, in which Pohjolan Voima's subsidiary, Powest Oy, is a shareholder.
- The Jämsänkoski, Ristiina and Kuusankoski biomass-fired power plants, which generate electricity and heat, were completed.
- The Finnish Parliament ratified the decision in principle by the Council of State concerning the construction of a new nuclear power plant unit. Teollisuuden Voima Oy will build the nuclear power plant at either Olkiluoto or Loviisa.
- The construction of a district heat accumulator was launched in Ylivieska.
- The construction of the world's largest recovery plant began in Pietarsaari. Pohjolan Voima's subsidiary, Wisapower Oy, is involved in the project.
- Construction of the Savonlinna biomass-fired power plant was launched.
- The construction of two 1 MW wind power plants was launched in Kokkola.
- The environmental impact assessment report concerning an offshore wind power plant was completed.
- The feasibility study of the mid-Nordic natural gas pipeline was completed.
- The Martinlaakso gasification plant of refuse-derived fuel in Vantaa was granted an environmental permit.
- The Ministry of Trade and Industry granted Pohjolan Voima a permit for a cross-border line to construct a sea cable between Finland and Estonia.
- In the annual nation-wide evaluation of the reporting on environmental and social responsibility, Pohjolan Voima received an award for the many years' high-quality environmental reporting.
- Oy Alholmens Kraft Ab, together with Timberjack Energy Technology, ranked second in the Energy Globe Award 2002 competition.

## KEY FIGURES

		2002	2001*	2000	1999	1998
Turnover	€ million	670	570	508	519	568
Operating profit	€ million	38	33	26	66	90
Net interest-bearing liabilities	€ million	774	780	705	758	874
As percentage of turnover	%	115	137	139	146	154
Equity-to-assets ratio	%	48	49	51	49	46
Total assets	€ million	2 357	2 310	2 160	2 220	2 301
Investments	€ million	197	182	55	37	75
Personnel		803	784	1 855	1 454	1 421

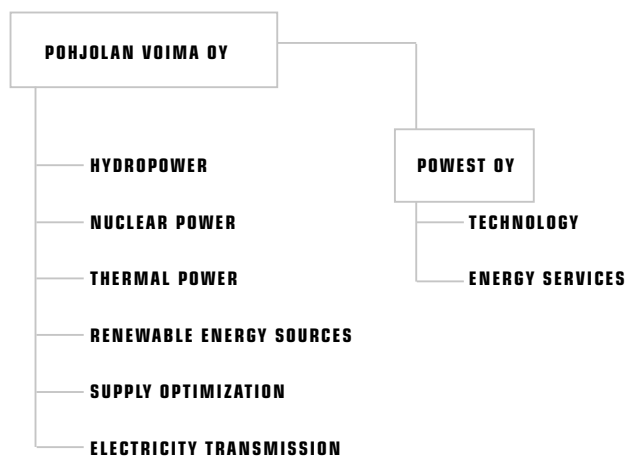
\*The Group's accounting practice was changed in such a manner that the service companies were not included in the consolidated financial statements.

# POHJOLAN VOIMA GROUP

## SHARES AND HOLDINGS AS OF 31 DECEMBER 2002


	%
Etelä-Pohjanmaan Voima Oy	4.2
City of Helsinki	1.4
Ilmarinen Mutual Pension Insurance Company	4.3
Kemira Oyj + Eläkesäätiö Neliapila	4.4
City of Kokkola	2.2
Kotkan Energia Oy	1.3
Kymppivoima Tuotanto Oy	2.1
Kyro Corporation	0.2
Oy Metsä-Botnia Ab	1.5
M-real Corporation	2.5
Myllykoski Corporation	1.5
City of Oulu	0.1
Perhonjoki Oy	2.1
City of Pori	1.1
Päijät-Hämeen Voima Oy	1.3
Stora Enso Oyj	14.4
TXU Nordic Energy Oy	14.5
UPM-Kymmene Corporation	40.4
Vantaa Energy Ltd	0.5
<b>Total</b>	<b>100.0</b>

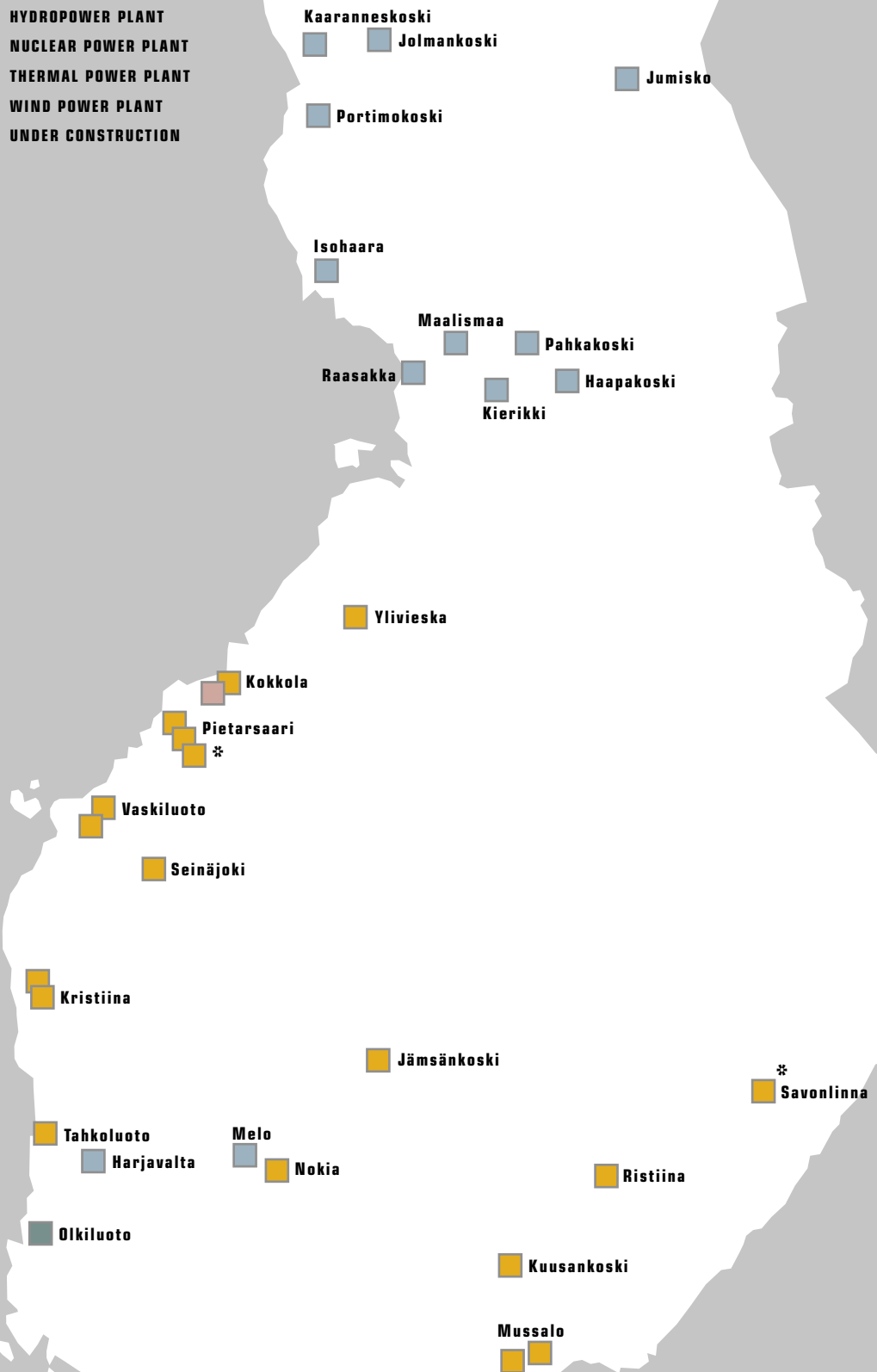
## POHJOLAN VOIMA'S BUSINESS SECTORS



## POWER PLANTS, 1 JANUARY 2003

Power plants wholly or partially owned by the Pohjolan Voima Group.

-  HYDROPOWER PLANT
-  NUCLEAR POWER PLANT
-  THERMAL POWER PLANT
-  WIND POWER PLANT
-  UNDER CONSTRUCTION



## A YEAR OF FAVOURABLE DECISIONS

In 2002, Pohjolan Voima's three new biofuel-fired power plants began generating electricity and heat, and the Group launched implementation of two new power plant projects. The nuclear power project progressed in the desired way, as Parliament approved the construction of a new nuclear power plant.

With regard to Pohjolan Voima's R&D projects, the gasification of municipal waste into a commercial fuel progressed to the licensing phase, and towards the end of the year the environmental authority granted a permit for the gasification plant of refuse-derived fuel, which is planned at the Martinlaakso power plant of Vantaa Energy Ltd. Partial replacement of coal by the clean gas is a noteworthy means of cutting carbon dioxide emissions. The studies into offshore wind power in Kokkola show that a large wind farm is technically feasible, but the factors of uncertainty linked with the licensing procedure considerably hinder the planning of investments in wind power. The economic competitiveness of wind power plants is not yet sufficient, either.

The Mid-Nordic Gas Pipeline Study, conducted by Pohjolan Voima, was completed in March. The European Commission was the co-financier of the study. The work offered valuable information on the technical and economic opportunities of building a natural gas pipeline from Norway, through Sweden, to Finland. A number of questions remained unresolved, however, and it is not realistic to implement such a project in the near future, although it would undoubtedly be justifiable in terms of enhancing the gas market.

Low rainfall levels in summer and autumn characterized the Nordic electricity markets. Towards the end of the year, the market price of electricity was high, and plenty of energy was generated at the thermal power plants. With regard to the sufficient supply of energy, it was particularly important that the power plants operated reliably. The high price of market electricity, which persisted throughout the winter, proves that there is a deficit in power plant capacity in the Nordic countries. Although electricity and heat did not run out, the question has been raised whether the deregulated electricity markets and the integrally related electricity exchange, Nord Pool, function effectively.

Finland could not have managed with the year of scanty rain without operating the coal and oil-fired power plants. This is a fact that should be kept in mind when investigating, on the basis of Parliament's statement, the opportunities to diminish the use of coal.



Pohjolan Voima's entire power plant capacity was already put into operation in early autumn, including the gas and oil-fired condensing power plants classified as peak-load power, which Pohjolan Voima had kept in operating condition even during the years of normal precipitation. Pohjolan Voima's strategy to maintain its power plants in the long term proved its strength once again.

In the energy sector, investments are made for long-term use. In design and implementation, efforts are made to integrate the increasing demand for electricity, technical development, the changing operating environment and the foreseeable changes in the attitudes of society. The energy sector must keep abreast of the times, and even ahead of them.

Pohjolan Voima, for its part, fulfils its shareholders' increasing energy requirement in both the short and the long term. The operations that have been pursued for six decades now have contributed to accumulating an appreciable amount of technical expertise in the Group. This expertise has been enhanced sometimes even through bitter struggles for the right to implement competitive economy in the production of energy and the transmission of electricity to consumers. Strengthened by competition, Pohjolan Voima possesses the most versatile, technically top-level production machinery in the Nordic countries as well as the know-how to operate it.

There is increasing agreement on the objectives of climate policy. Finland ratified the Kyoto Protocol during the year under review. Emissions trading is being developed within the EU. The system will considerably change the daily operating environment of the energy sector. In the Nordic countries, some 85% of the electricity on average is generated by carbon-dioxide-neutral means. Owing to the small amount of hydropower, the corresponding figure for Finland is some 65%, which is indeed high as well. The less water is available and the higher the demand, the more electricity and heat is generated by thermal power using fossil fuels. If the thermal power plants have to acquire expensive emission allowances from the market in the future to be able to generate electricity, the resulting costs will be shifted in full as an additional factor in the price of electricity and heat generated by these means.

Company reorganization was implemented towards the end of the year, when Empower Engineering and Fortum Engineering merged into Enprima Oy. In addition to Pohjolan Voima and Fortum Corporation, the owners of the new company include BE & K International, Inc. and the active management. At the Nordic level, the restructuring produced a significant consulting firm that focuses on power plant design. This created the scope for the maintenance of expertise and competition in the field, which is a noteworthy aspect from Pohjolan Voima's point of view as well.

Empower's ownership was also reorganized. Etelä-Pohjanmaan Voima purchased 16% of Empower Oy's shares and the Pohjolan Voima Group's ownership fell below 50%. However, Pohjolan Voima's ownership and opportunity to influence continue to be important in developing Empower.

It is increasingly obvious that Pohjolan Voima is a pure production company that serves its shareholders. We have managed to implement all changes in good co-operative spirit with the personnel. I would like to thank the entire Group's personnel for their enthusiastic and reliable work contribution. I also extend my profound gratitude to the Company's shareholders for their close co-operation and confidence.

Timo Rajala  
President and CEO



## POHJOLAN VOIMA AND SOCIETY

Pohjolan Voima plays a significant role in the production chain of large Finnish companies in the export industry. Furthermore, the Group is an important electricity supplier to the towns and municipal energy companies that are its shareholders. Pohjolan Voima is a major player in the Nordic electricity markets as well. The Group aims to reliably supply its shareholders with competitively priced energy that has been generated by environmentally acceptable means.

Energy issues continue to arouse interest in society. In recent years, the debate has concerned the effects of energy generation on the climate and the environment. The issues of the availability and price of energy arose in 2002. In the open electricity market the price varies in accordance with supply and demand. As a result of the low rainfall levels in 2002 the price rose sharply, since no electricity was available from Sweden and Norway as in previous years.

Pohjolan Voima seeks to safeguard a steady energy price for its shareholders. It also aims to integrate the increasing electricity requirement with a reduction in greenhouse gas emissions. To this end, the key elements include the Group's construction programme of bio-fuel-fired power plants and the new nuclear power plant unit. The Group built its first wind power plant and continues to seek new technological systems through its research and development operations. Pohjolan Voima aims to safeguard the versatile energy supply structure by building new power plants.



The efficiency of Pohjolan Voima's energy supply is based on overall optimization of the use of the Group's own and the shareholders' production resources. The Group's biggest electricity producer, Teollisuuden Voima Oy's Olkiluoto Power Plant has been granted a WEC Award for the best nuclear power plant in the world. In thermal power production, a wide range of energy sources, combined heat and power production (CHP), and optimization of the electricity supply increase competitiveness. These forms of production combined with hydropower production, which can be regulated, and with the electricity imports, form a significant part of the Nordic electricity markets.

### **ECONOMIC WELFARE OVER A WIDE AREA**

Pohjolan Voima has power plants in 22 locations in Finland. The effects on employment and the real estate taxes paid by the company, EUR 6 million, play an important role in the power plant locations. The utilization of domestic energy sources contributes to increasing Pohjolan Voima's importance for the Finnish economy.

District heat is a favourable form of energy for communities and the environment. Pohjolan Voima's power plants supplied district heat to the towns of Jämsänkoski, Kokkola, Kouvola, Kotka, Kuusankoski, Nokia, Pietarsaari, Seinäjoki, Vaasa and Ylivieska. Furthermore, the supply of heat to the town of Savonlinna is scheduled to begin during 2003.

*Pohjolan Voima's first construction project was to build a railway bridge over the Kemijoki River. The bridge beam was delivered from Glasgow in 1946.*

*The turbines of the Isohaara old power plant were put into operation in 1948 and 1949. The two horizontal turbines of the Isohaara new power plant began generating electricity in 1993.*





*Construction of the Jumisko power plant began by building a road from Kemijärvi to Jumisko. The power plant was excavated inside the rock.*

*The Jumisko turbine has generated electricity for 50 years now.*





### RESPONSIBLE OPERATIONS THROUGHOUT THE CHAIN

Through its environmental policy, Pohjolan Voima has publicly committed itself to good management and continuous improvement of environmental issues. The industrial shareholders have also committed themselves to sustainable development programmes, energy conservation and compliance with good environmental practice. Pohjolan Voima informs its subcontractors and other co-operation partners of its expectations, and monitors their operations.

Pohjolan Voima utilizes a wide range of energy sources. Nuclear power plays a significant role in the energy production. Its use is careful, responsible and strictly controlled throughout its life cycle. The risk of accidents has been minimized by multiple safety systems.

Meeting the increasing need for electricity will require – in addition to a new nuclear power plant – full-scale utilization of biomass and investments in other energy systems that comply with climate policy.

Pohjolan Voima closely monitors changes in the operating environment, which can often be foreseen through the views of stakeholders. Society's serious attitude towards the prevention of climate change has been detectable for nearly ten years now. Although binding legislation is foreseen only now, Pohjolan Voima has already taken this issue into account in its investments and R&D operations for a long time. With regard to operations of the existing power plants, interaction with the local stakeholder groups is valuable.

Pohjolan Voima is upgrading its management of social responsibility. Surveys of the stakeholder groups were launched in 2002. The work is being continued by defining Pohjolan Voima's operating procedure and by updating the operating policies of the different areas of social responsibility in such a manner that they will form an integrated management system of the social responsibility.

### OPERATING ENVIRONMENT

The World Summit on Sustainable Development held in Johannesburg considered, for the first time, sustainable development as an entity formed by international economy and trade, social aspects and environmental issues. The Conference also recognized the importance of energy for the implementation of sustainable development, and considered it necessary to enhance all energy sources. Heavy emphasis was placed on renewable energy sources.

The Kyoto Protocol will enter into force as soon as Russia has ratified it. Emissions trading within the EU was confirmed, when the Council of the Ministers of the Environment reached a political understanding about the matter in December. Obligatory emissions trading concerns all industrial sectors significant in terms of emissions. In this system, the relevant authority fixes a carbon dioxide emission quota for each plant. Exceeding the quota requires a plant to buy an additional emission allowance from the market and, on the other hand, remaining below the quota enables the plant to sell surplus allowances on the market. Emissions trading is anticipated to fundamentally affect the competitive position of the operators in the energy sector and to substantially raise the price of electricity. Emissions trading is scheduled to begin in 2005 at the earliest.

In the EU, about 30 directive projects or processes are underway that may have effects on the operations of power producers in Finland. Some ten EU directives have reached the implementation phase. Of these, the Large Combustion Plants Directive, the EU Water Framework Directive and the Waste Incineration Directive are the most significant from Pohjolan Voima's viewpoint. With regard to the proposal for an amendment to the national Electricity Market Act, the increased authority and regulation of the Electricity Market Authority aroused criticism among players in the sector.

An extensive, wide-ranging and objective discussion about energy policy preceded Parliament's vote on additional nuclear power. Parliament added four statements to the decision in principle; they required the Government to take measures, for instance, to cut the use of coal in a controlled manner and to promote energy conservation and renewable energy forms. Both public administration and companies have taken the statements seriously. Towards the end of 2002, concern about the sufficiency of electricity and the functioning of the markets under the conditions of low rainfall levels became a subject of public debate.

## POHJOLAN VOIMA'S FORMS OF ENERGY SUPPLY

Pohjolan Voima's electricity supply structure is versatile. Each form of production has a specific function. The wide range of energy sources, the different properties of the power plants, electricity imports and utilization of the electricity market make it possible to optimize production in accordance with each market situation and thus achieve the most economical combination of electricity supply.

**Hydropower** Hydropower plants can be stopped, started and regulated more easily than other power plants. Most hydropower is generated when the consumption and price are high.

**Nuclear power** Nuclear power satisfies the continuous and consistent need for electricity, known as the base load. In the cost structure of nuclear power, variable costs are small, and it is therefore economical to operate the plants as much as possible.

**Condensing power** At condensing power plants, as high a proportion of the fuel as possible is converted into electricity, but the excess heat cannot usually be utilized. Condensing power plants complement other production capacity and ensure the effective functioning of the Group's electricity supply under all conditions. Coal is the main fuel used. In the price of electricity generated at condensing power plants, the proportion of fuel costs is high.

**Reserve and peak-load power** Reserve and peak-load power plants are gas and oil-fired condensing power plants. Their fuel costs are high, and they are used little.

**Combined heat and power production (CHP)** In combined heat and power production (CHP), nearly all of the energy contained in fuels is converted into electricity and heat. The use of power plants is mainly determined on the basis of the heat requirement. The fuels used include coal, peat, natural gas and wood.

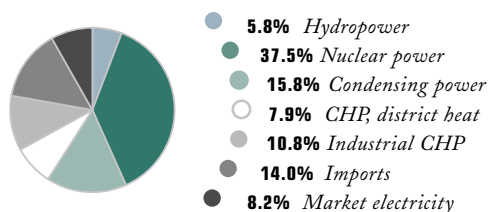
**Electricity imports** Most of the imports of electricity are based on a long-term contract with a Russian supplier.

**Market electricity** Pohjolan Voima utilizes the electricity markets to optimize operation of the power plants as a whole.

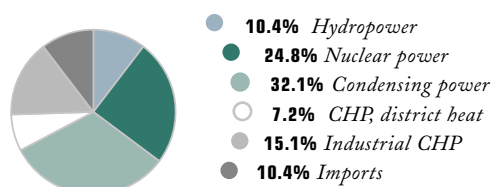
**Electricity transmission** Pohjolan Voima owns about 126 kilometres of transmission lines, along which the electricity generated at the Group's power plants is transmitted from the plants to the grid. Fin-grid Oyj is in charge of the electricity transmission in the Finnish grid.



POHJOLAN VOIMA'S ELECTRICITY SUPPLY IN 2002 21 372 GWh



POHJOLAN VOIMA'S ELECTRICITY SUPPLY CAPACITY IN 2002 3 852 MW





*Pohjolan Voima has built two hydropower plants on the Kemijoki River and five power plants on the Iijoki River. The Raasakka power plant was completed last, in 1971.*

*In recent years, hydropower plants have been systematically repaired and renovated.*





*In 1955, Pohjolan Voima's Managing Director Erkki Aalto was the head of Atomienergia Oy, whose task was to promote nuclear power in Finland.*

*Teollisuuden Voima began operations in 1969. Pohjolan Voima was one of the founders. The Olkiluoto power plant units were completed in 1978 and 1979.*





## POHJOLAN VOIMA'S SUPPLY OF ELECTRICITY, HEAT AND FUELS

In 2002, electricity consumption in Finland amounted to 83.9 TWh. The consumption of electricity was 3.3%, or 2.7 TWh, higher than in the previous year.

In early 2002, the regional price in Finland quoted in the Nord Pool electricity exchange was kept at a lower level than in the previous year. After the exceptionally dry summer the prices began to rise sharply, and towards the end of the year they reached a record high. As a result of the changed situation, even Pohjolan Voima's gas-fired and oil-fired condensing power plants were put into operation in November.

In 2002, Pohjolan Voima generated a total of 16 628 GWh of electricity, which accounted for 23% of the electricity produced in Finland. Pohjolan Voima's electricity supply totalled 21 372 GWh, which was 7% higher than in the previous year and represented nearly 26% of the entire consumption in Finland.

The water conditions on the Kemijoki and Iijoki Rivers worsened towards the end of 2001, and the low precipitation persisted throughout 2002. The situation was similar in the whole of Finland and the rest of the Nordic countries. On the Kokemäenjoki River, the discharge towards the year-end was among the lowest in the long

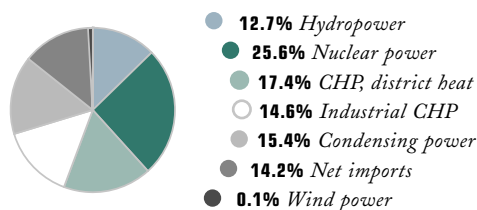
monitoring history. The production of hydropower, 1 239 GWh, was therefore considerably below the average and accounted only for 5.8% of the entire supply.

2002 was a very good year for Teollisuuden Voima. The company generated 14 106 GWh of electricity at the Olkiluoto nuclear power plant. In accordance with its shareholding, Pohjolan Voima obtained 8 015 GWh of the electricity generated at the Olkiluoto power plant units. The load factor of the plant units, 96.0%, continued to be among the top figures in the world.

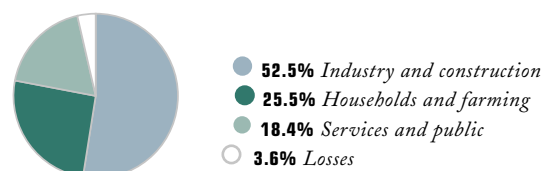
Thermal power generation amounted to 7 373 GWh, of which condensing power accounted for 3 382 GWh. The production of thermal power has increased substantially for two successive years now, and it represented 15.8% of the Group's total supply in 2002. Relatively speaking, the increase was largest in natural gas- and oil-based condensing power production. In November and December, significant amounts of electricity were generated with these forms of production for the first time in several years. The newly completed power plants also increased the amount of thermal power generated.

In 2002, electricity was imported from RAO "UES of Russia" at a capacity of 400 MW. Pohjolan Voima purchased a total of 2 988 GWh of electricity from RAO "UES of Russia". Pohjolan Voima's purchases from the Nordic electricity markets amounted to 1 756 GWh.

ELECTRICITY SUPPLY IN FINLAND IN 2002 83.9 TWh



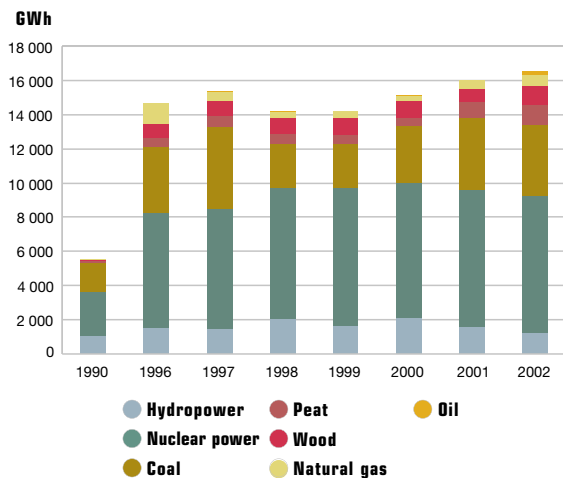
ELECTRICITY CONSUMPTION IN FINLAND IN 2002 83.9 TWh



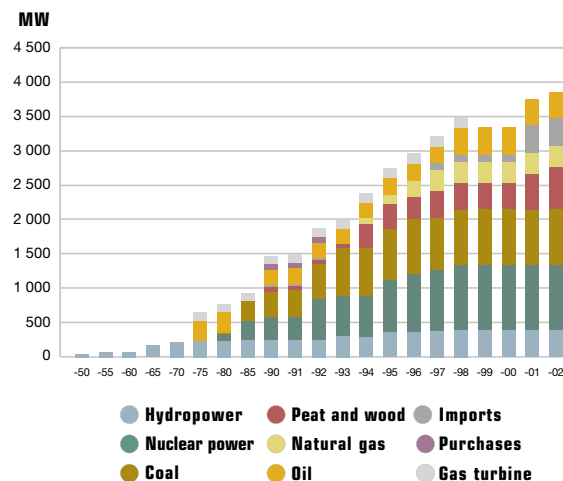




### ELECTRICITY GENERATION



### ELECTRICITY GENERATION CAPACITY



At the end of 2002, Pohjolan Voima's electricity supply capacity was 3 852 MW. The increase in capacity was due to the power plants completed during the year. At the turn of the year, the Group sold its entire share capital of Veitsiluodon Voima and Oulun Voima to Stora Enso; as a result, the Group's supply capacity was reduced to 3 570 MW in the beginning of 2003.

### ELECTRICITY TRANSMISSION

Pohjolan Voima owns 25.1% of the Finnish grid company, Fingrid Oyj. The amount of electricity transmitted in Pohjolan Voima's regional grid was 2 120 GWh. The turnover of regional grid operations was EUR 3.6 million. At the end of the year, the size of the grid was 126 kilometres.

### FUEL PROCUREMENT

Coal deliveries totalled some 1.1 million tonnes (7.8 TWh). The supply sources were, in order of magnitude, Russia, Poland and the island of Spitsbergen (Norway).

The use of peat totalled 5.7 TWh and the use of wood 2.3 TWh. Bark was the most important wood fuel. A total of 0.44 TWh of logging residue was also used at the Jämsänkoski, Kokkola, Kuusankoski, Pietarsaari, Seinäjoki and Ylivieska power plants. Pohjolan Voima's investment programme is being continued, and the use of biofuels will continue to increase during 2003. Thanks to investments in R&D, the use of logging residue in particular is expected to continue increasing rapidly.

*The Kristiina oil-fired power plant was completed in 1974. During the oil crisis, the fuel price more than quadrupled. The oil boiler was laid up, and a coal boiler was completed in 1983 to function as the power unit for the turbine.*

*A new turbine was acquired for the coal boiler in 1989, and the old oil-fired power plant was restored to its original condition.*



## POHJOLAN VOIMA'S INVESTMENT PROGRAMME

In the past decade, Pohjolan Voima was the largest investor in energy production in the Nordic countries. This trend has continued in the 21st century. In 1999-2002, the Group took decisions to invest in seven power plants that would use wood and peat as fuels and in five wind power plants. The value of the power plant investments totals EUR 620 million. During 2002, the Group took decisions to invest in the Pietarsaari recovery boiler plant, the Savonlinna biofuel-fired power plant and the Kokkola and Oulunsalo wind power plants. The Ministry of Trade and Industry granted Pohjolan Voima a subsidy for all the investments decided in 2002.

### FIRST FULL YEAR OF OPERATION AT THE KOKKOLA AND PIETARSAARI POWER PLANTS

The first full year of operation of Kokkolan Voima Oy's power plant with an electrical output of 20 MW and Oy Alholmens Kraft Ab's power plant with an electrical output of 240 MW was successful. Particularly the cold weather conditions and the high price level of electricity towards the end of 2002 raised the production volumes.

The Kokkola power plant generated 65 GWh of electricity. Heat deliveries totalled 234 GWh, which accounts for 98% of the heat requirement in the town of Kokkola.

During its first full year of operation, Alholmens Kraft generated 1 470 GWh of electricity and 505 GWh of district heat and process steam.

### THE JÄMSÄNKOSKI, KUUSANKOSKI AND RISTIINA BIOMASS-FIRED POWER PLANTS COMPLETED

The Jämsänkoski, Kuusankoski and Ristiina power plants, which form part of Pohjolan Voima's biofuel programme, were completed and commissioned during the year under review. The power plants partly replace the capacity that has been taken out of use.

The power plants generate electricity, process steam and heat. The electrical output of the Ristiina power plant is 10 MW, that of the Jämsänkoski power plant 46 MW, and that of the Kuusankoski power plant 76 MW.

### THE SAVONLINNA AND PIETARSAARI POWER PLANTS BEING BUILT

Jointly with Suur-Savon Sähkö Oy, Pohjolan Voima took a decision to build a power plant with an electrical output of 17 MW in Savonlinna. The power plant will generate process steam, district heat and electricity. Construction of the power plant began in January 2002. The power plant will be commissioned in the autumn of 2003. It will generate electricity and process steam for the needs of the plywood mill, and electricity and district heat for residents of the town.



UPM-Kymmene Corporation is increasing the capacity of its Pietarsaari mills. As part of the extension, Pohjolan Voima's subsidiary, Wisapower, will implement a recovery boiler plant and a turbine plant, whose electrical output will be 140 MW. The project is scheduled for completion in the spring of 2004.

Both the Savonlinna and the Pietarsaari projects will partly replace the capacity that is taken out of use.

### THE KOKKOLA WIND POWER PLANTS BUILT

Pohjolan Voima's subsidiary, PVO-Innopower Oy, launched the construction of two 1 MW wind power plants in the harbour of Kokkola. The power plants were built in January 2003. The plants are Finnish wind power plants that employ state-of-the-art technology, and they provide an important reference when launching the imports of wind power plants. In addition to Kokkola, PVO-Innopower took a decision to invest in three wind power plants in Oulunsalo and is planning construction in Kristiinankaupunki. These projects are expected to be completed in the course of 2003.

## POHJOLAN VOIMA'S RESEARCH AND DEVELOPMENT PROJECTS

The Kyoto process steered the investments in technology development. At Pohjolan Voima, the Kyoto Protocol is implemented through the objectives to reduce carbon dioxide emissions, which are sought to be achieved by cutting the use of fossil fuels and by increasing the efficiency of existing power production processes. The use of biofuels and refuse-derived fuels and wind power, together with nuclear power, are the potential instruments for reducing carbon dioxide emissions. Environmental issues relating to new energy sources were also under study. Furthermore, efforts were made to recycle by-products produced in the current production processes.



*Pohjolan Voima's programme to build biofuel-fired power plants was launched in Pietarsaari in 1999.*

*Alholmens Kraft's power plant was completed in 2001. As part of the power plant project, what is called the 'residue bale technique' was developed to recover crowns and branches. The power plant can use all the residue bales available in the area.*



### **GASIFICATION OF REFUSE-DERIVED FUEL**

Gasification tests of refuse-derived fuel produced from municipal waste and combustion tests of the clean gas continued. Test runs of the developed gasification and gas cleaning process continued at the pilot plant of the Technical Research Centre of Finland VTT in Otaniemi, Espoo, during 2002. The process functioned well, and the cleanliness of the gas produced was similar to the level of commercial fuels. The design of a production-scale installation began on the basis of the results obtained in the tests. The clean gas can be burnt in a pulverized coal boiler and replace some of the coal, thus reducing the emissions produced. Preparations for the implementation of a gasification plant planned at the Martinlaakso power plant in Vantaa continued. The environmental impact assessment procedure of the gasification plant was completed, and the authority gave a favourable opinion. An environmental permit was granted for the plant. Commercialization of the developed technology and the consideration of new implementation sites were launched.

### **WIND POWER**

Studies into the opportunities of producing wind power on an industrial scale in the sea area off the town of Kokkola continued by assessing the environmental impact. The first EIA report in Finland drawn up on a sea area was completed in December 2002. The assessment shows that the most significant environmental effects concern the scenery. The report states that the licensing procedures required by the construction of offshore wind power are complicated and slow, and the production costs are high.

### **BIOFUEL PROGRAMME**

Pohjolan Voima's biofuel programme includes the power plant investment programme and the R&D operations linked with the fuel acquisition and operation of power plants. The objective is to increase the use of logging residue to 500 000 cubic metres. Under the biofuel programme, studies concerned the collection of biomass and its refining for use as biofuel, and logistics. Studies linked with biomass are underway at Pohjolan Voima, concerning, for instance, the availability, acquisition methods, storage and environmental effects of logging residue. Furthermore, studies pertain to the upgrading of the biomass reception and handling systems, automation systems and combustion technology, and the use of biomass ash as a fertilizer. With regard to the acquisition methods of logging residue, the greatest achievement was the breakthrough of what is called the 'residue bale technique'. The development of this technique was launched at the same time as the decision to invest in Alholmens Kraft's power plant was taken in 1999. Upon completion of Jämsänkosken Voima's power plant and the site crusher built at the plant, a new product, crushed



stumps, was introduced into the fuel market. The suggestion for using stumps as an energy source was put forward by forest researchers, who assessed that the removal of stumps would help eliminate root rot fungus (*Heterobasidion annosum*) from the felling area.

### **REED CANARY GRASS**

Pohjolan Voima launched the cultivation project of reed canary grass in 2002. The target set for the project is to achieve a cultivated area of 4 000 hectares in southern and central Ostrobothnia by 2005. If the project is successful, carbon dioxide emissions could be reduced by some 40 000 tonnes a year.

### **NATURAL GAS PIPELINE STUDY**

The Mid-Nordic Gas Pipeline Study concerned opportunities of building a natural gas pipeline from Norway to the western coast of Finland. The initial idea was to replace coal with natural gas at the coal- and oil-fired condensing power plants on the western coast. The study involved calculation of the potential consumption of the power plants and neighbouring areas, dimensioning of the gas pipeline for the calculated consumption potential, alignment of the pipeline, calculation of the investment and operating costs, and assessment of the environmental effects. In technical terms, the natural gas pipeline was found to be feasible, but the economic examination proved that natural gas would be an expensive fuel alternative.

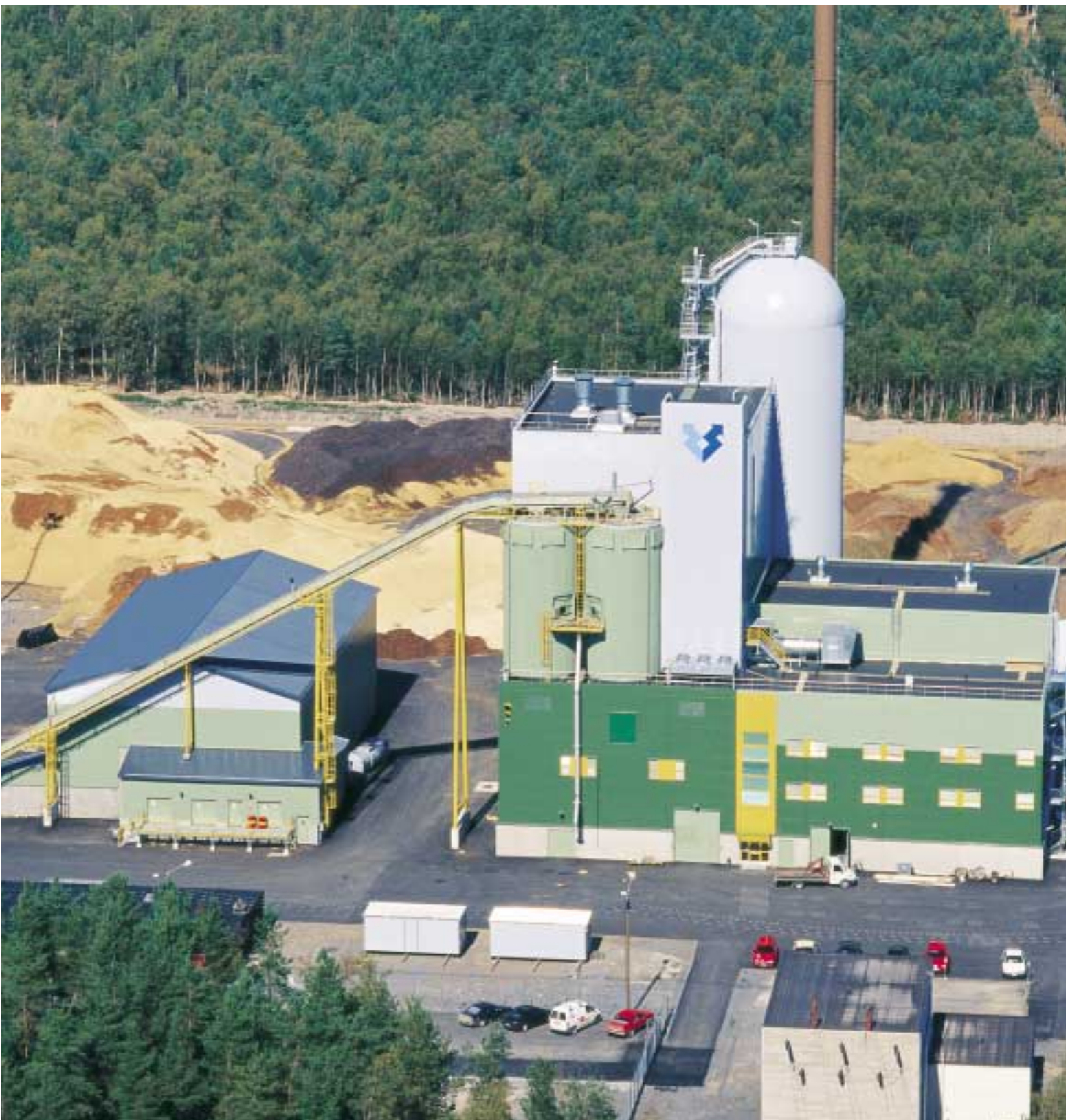
### **TRANSMISSION CONNECTION TO ESTONIA**

Preparations aimed to build a transmission connection between Estonia and Finland continued. The objective is to build a high-voltage direct-current connection between the Espoo substation in Finland and the Harku substation in Estonia. Technical studies and preliminary design with a view to implementing the connection were completed during 2002, and readiness for the launching of the implementation phase exists. In February, the Ministry of Trade and Industry granted the project a permit for a cross-border line in accordance with the Electricity Market Act; the permit is valid for five years. A Water Court's permit was granted for the project in February 2003.



*Pohjolan Voima first designed and implemented hydropower plants, after which it launched the large oil- and coal-fired power plant projects.*

*The power plant planned and built for the town of Kokkola utilizes local fuels. A district heat accumulator has been built at the plant to safeguard a reliable supply of district heat.*





*Pohjolan Voima has been building power plants throughout its history. The completion of projects has always been celebrated, and stakeholder groups have been interested in visiting the power plants.*





## PERSONNEL AND STAKEHOLDERS

### LONG-TERM PERSONNEL POLICY

In the midst of structural changes brought about at Pohjolan Voima, relations with the personnel are of great importance. Co-operation has helped to make the changes in personnel in a controlled manner, and the personnel have been able to rely on the long-term planning of the personnel policy. In addition to the Group's own personnel, labour market organizations have been kept up-to-date in change situations by means of joint meetings.

In 2002, Pohjolan Voima carried out an extensive personnel study, whose results have been reviewed in each Group company and division. The results show that the personnel have committed themselves to working for the company and want to contribute to the Group's success by their own actions. The personnel have a stronger work motivation and sense of their own competence than average.

According to the personnel study, rewarding practices must be improved. The personnel felt that there were deficiencies in encouragement and fairness, and that the evaluation criteria differed.

The wage systems of the technical and administrative employees have been reformed. The arrangements concerning workers and even senior employees are about to be carried out. The criteria for measuring competence linked with the systems are being rethought.

Promotion of the working capacity is included in the Group strategy. Besides occupational health and safety and maintenance of physical condition, these activities include, for example, enhancement of expertise. In 2002, special emphasis was placed on preventive physical therapy, which included, e.g., a personal physical fitness programme, keep-fit exercises and nutritional guidance. In the future, increased attention will be focused on issues connected with workload management and the maintenance of working energy. The programme has helped prevent early retirement.

### CO-OPERATION

Three Group meetings were held in 2002; the participants included the representatives of the different personnel groups and the Group's top management. A separate personnel meeting was organized for the service company that is withdrawing from Pohjolan Voima, and an agreement was reached on an extensive forum for discussion.

Co-operation committees functioned at the local level. In accordance with the Act on Personnel Representation in the Administration of Undertakings, the personnel had their representatives in the man-

agement groups of the Group's subsidiaries. In almost all Group companies, the scope of the system used was wider than required by law.

Furthermore, up-to-date information was transmitted to the personnel through Pohjolan Voima's Intranet and the personnel bulletin, which was issued three times in 2002.

### CO-OPERATION WITH STAKEHOLDERS

Pohjolan Voima considers it important that the stakeholders are well informed about the necessity, properties and effects of the various forms of energy production. This requires continuous interaction, information and communication. When upgrading Pohjolan Voima's management of social responsibility, co-operation with the stakeholder groups is a first priority. To facilitate this work, power plant-specific surveys of the stakeholder groups were launched in November 2002. The purpose is to complete the survey in the course of 2003.

In hydropower production, several restoration measures of the aquatic environment are taken jointly with the Regional Environment Centres and municipalities. Voimalohi Oy, which is in charge of the fish stocking, continuously maintains active interaction with the local fishery associations, research institutes and authorities both along the Kemijoki and Iijoki Rivers and in the sea area.

Teollisuuden Voima regularly informs the representatives of the municipality of Eurajoki and its neighbouring municipalities of its operations. Olkiluoto is a popular visiting site, and more than 15 000 people annually visit the exhibition at the Visitors Centre.

The thermal power plants co-operate with municipalities particularly in the utilization of by-products. Many municipalities are Pohjolan Voima's shareholders and co-operation partners.

Pohjolan Voima is actively involved in the operations of industry and organizations in the energy sector. The most important of these include the Finnish Energy Industries Federation FINERGY, the Energy Forum of Finland, EURELECTRIC, the co-operative organization of European energy producers, and the Confederation of Finnish Industry and Employers (TT).

Pohjolan Voima informs its stakeholder groups of its operations and maintains contact regularly with them. With regard to communications, the Group utilizes Pohjolan Voima's home pages, in addition to various events and the conventional bulletins for stakeholders. The objective is that the stakeholders can easily obtain information on the Group's operations.



## ENVIRONMENTAL MANAGEMENT

Pohjolan Voima conducts long-range energy business, for which an essential precondition is the preservation of a safe, healthy and diverse environment. Pohjolan Voima's environmental policy emphasizes environmental issues as a part of the personnel's work. The environmental policy is based on the Group's operating principles.

The management of environmental issues and its continuous improvement are based on the certified environmental management systems. The certificate of hydropower production was renewed, and it is valid until 2005. The planning of the environmental management systems of the new plants was launched. The implementation of the measures proposed by the environmental programmes is monitored with the aid of audits at different levels.

In 2002, there were no serious deviations from regulatory compliance of the production plants. At the Seinäjoki power plant, the limit set for particle emissions was temporarily exceeded twice. The measurement had to be interrupted for a short time owing to failure of the equipment.

In the annual nation-wide evaluation of the reporting on environmental and social responsibility, Pohjolan Voima received an award for the many years' high-quality environmental reporting. Pohjolan Voima has published an Environmental Report annually since 1994. In recent years, Pohjolan Voima has reported on environmental issues primarily through the Internet pages. The most significant information is also published in the Annual Report.

Many licensing issues were pending. Of them, the following were the most important:

- *Consideration of Oy Alholmens Kraft Ab's appeal concerning the environmental permit for a disposal area for power plant ash continued at the Vaasa Administrative Court.*
- *The West Finland Regional Environment Centre granted a permit to dispose of power plant ash in Kristiinankaupunki. PVO-Lämpövoima Oy filed an appeal against the regulations imposed by the permit to the Vaasa Administrative Court.*
- *The South Savo Regional Environment Centre granted an environmental permit for the Savonlinna power plant.*
- *The Western Finland Environmental Permit Authority granted Porwest Oy and Vapo Oy a permit for the construction of a gasification plant for refuse-derived fuel in Vantaa.*
- *The application concerning revision of the environmental permit for the Tahkoluoto power plant is under consideration by the Western Finland Environmental Permit Authority.*
- *The application concerning the sea cable planned between Finland and Estonia was under consideration by the Western Finland Environmental Permit Authority. The decision was rendered in February 2003.*

- *The Ministry of Trade and Industry granted a permit in accordance with the Electricity Market Act for a cross-border line to be implemented by the sea cable.*
- *The environmental impact assessment procedure concerning the studies into offshore wind power in Kokkola continued.*
- *The environmental impact assessment procedure concerning the disposal of power plant ash was established in Vaasa.*

## ENVIRONMENT AND ECONOMY

In Pohjolan Voima's hydropower production, the amount of environmental costs is significant, and the costs have been controlled systematically for a long time. The system for identifying the environmental costs of thermal power production was in use for the first time. Teollisuuden Voima uses its own environmental accounting system.

The environmental costs of hydropower production remained at the previous year's level, amounting to EUR 3 million. The costs calculated per megawatt-hour generated rose to EUR 2.40 as a result of the decreased production. Most of the costs resulted from the fish stock management obligations. PVO-Vesivoima Oy has long been carrying out various voluntary restoration measures jointly with Regional Environment Centres and municipalities. The co-operation partners have provided financing worth EUR 3.6 million in all for this work since 1992. In 2002, the contribution of the co-operation partners was EUR 170 000.

The environmental costs of the thermal power plants totalled EUR 4.9 million, or EUR 0.82 per megawatt-hour generated. The figures do not include the new biomass-fired power plants. No coverable environmental damage was caused at the thermal power plants. Environmental income came from the sale of by-products, but the amount of income was small in comparison with the costs. The obligatory emissions trading, which will enter into force in the next few years, will increase the environmental costs of thermal power to a completely new level.

The construction of an ash disposal site began in Kristiinankaupunki. The cost of the first investment phase totals about EUR 2.3 million. In the next few years, Vaskiluodon Voima, the company jointly owned by Pohjolan Voima and Etelä-Pohjanmaan Voima, will construct ash disposal sites in Vaasa and Seinäjoki. The value of the environmental investments in the power plants commissioned in 2002 is estimated at EUR 8.4 million.

Teollisuuden Voima's environmental investments at Olkiluoto amounted to EUR 0.8 million. The investments continued to reduce emissions into watercourses. Teollisuuden Voima Oy paid EUR 11.6 million to the State Nuclear Waste Management Fund.

No such obligations have been imposed on the Group owing to which it would have been necessary to set aside reserves in the accounting.

## ENVIRONMENTAL EFFECTS OF PRODUCTION

Pohjolan Voima defines the environmental parameters of the generated electricity per form of production. In addition to the wholly owned power plants, the reporting takes account of due proportions of the emissions from the Group's subsidiaries and associated companies. Purchased electricity is not included in the parameters, and it is not possible to define the exact origin and environmental quality parameters of this acquisition.

### THERMAL POWER

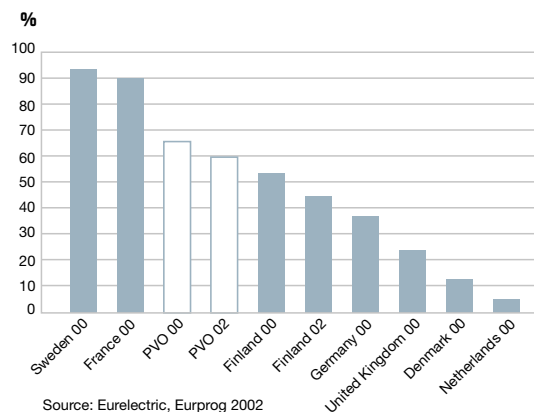
The high degree of utilization of the thermal power plants and completion of the new power plants increased total emissions from Pohjolan Voima's thermal power production. The environmental index that describes the environmental burden per production unit showed a slight decrease, owing to the increased amount of ash stored in dumps.

#### Climate change

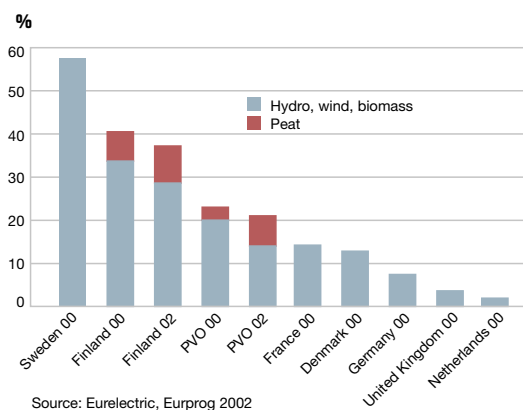
The increase in greenhouse gases, mainly carbon dioxide, in the atmosphere constitutes the threat of climate change. The impact is global and does not depend on the location of the emission source.

Pohjolan Voima's greenhouse gas emissions totalled 6 million tonnes, and they accounted for 8% of the total greenhouse gas emissions in Finland. The emissions grew by one million tonnes over the previous year. The largest increases resulted from the fact that sufficient amounts of wood-based fuels were unavailable and therefore the new plants had to use peat and coal as fuels. The choices of fuels and energy efficiency affect the volume of emissions.

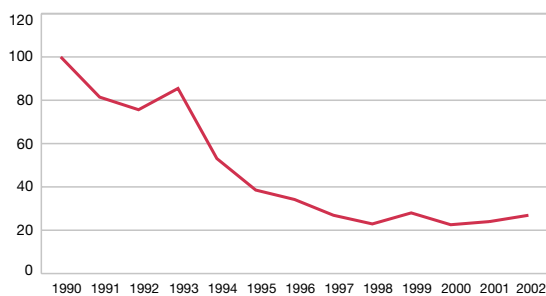
**ELECTRICITY GENERATION STRUCTURE** *Emission-free (hydro, nuclear, wind, etc.)*



**ELECTRICITY GENERATION STRUCTURE** *Renewables and peat*

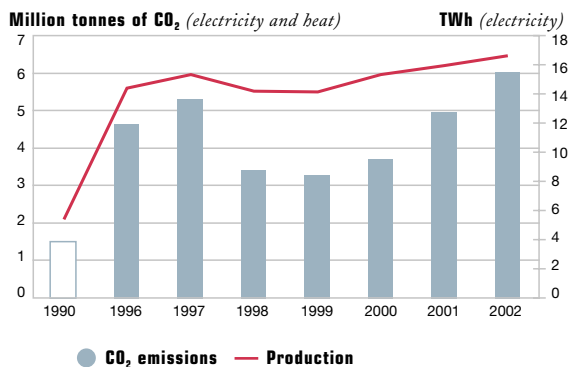


#### ENVIRONMENTAL INDEX OF THERMAL POWER 1990 – 2002

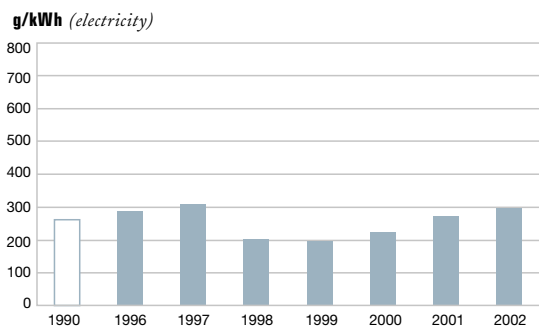


The environmental index of thermal power includes the specific emissions of carbon dioxide, sulfur dioxide, nitrogen oxides and particles, and the volume of by-products stored in disposal areas. All factors carry the same weight.

#### POHJOLAN VOIMA'S CARBON DIOXIDE EMISSIONS



#### POHJOLAN VOIMA'S SPECIFIC EMISSIONS OF CARBON DIOXIDE



#### Acidification

The acidification of soil results from the deposition of acidifying emissions, which are released into the atmosphere, onto the ground. Such emissions include sulfur and nitrogen compounds. The effect of emissions extends over a wide area.

Pohjolan Voima's new plants and the use of heavy fuel oil-fired peak-load power plants increased both sulfur and nitrogen oxide emissions. However, the sulfur emissions were about 35% below the amounts allowed by the environmental permits, and with regard to the nitrogen oxide emissions the corresponding figure was about 15%. Pohjolan Voima accounted for some 10% of the sulfur emissions in Finland and some 5% of the nitrogen oxide emissions in Finland. The emissions from outside Finnish borders place the greatest burden on Finnish soil. Some 10% of the sulfur deposition and 15% of the nitrogen deposition originate from Finland. Hence, Pohjolan Voima's emissions are of little importance in terms of acidification.

Sulfur emissions are controlled by the choice of fuel and desulfurization techniques. The emissions of nitrogen oxides are mainly reduced by combustion technology, since the bulk of the nitrogen originates from combustion air.

#### Health effects

Studies have shown a statistical correlation between the high fine-particle contents of ambient air and some health effects. The mechanism by which fine particles affect human health is still unknown.

Pohjolan Voima's particle emissions continued to be reduced despite the increased generation. The emissions during the year under review were only about 15% of the amount allowed by the permits. Particle emissions are reduced with the aid of electrostatic precipitators and desulfurization plants. Power plants account for a small proportion of the particles and other impurities present in urban air, of the order of a few per cent at most. Pohjolan Voima monitors research into this subject and is involved in the joint studies carried out in this field.

Pohjolan Voima has conducted a number of studies concerning the migration of heavy metals contained in fuels and other materials at power plants. Measurements show that ash absorbs nearly all of the metals. The migration of heavy metals into the environment is insignificant, and therefore poses no health risks.

#### By-products

The power plants in the Pohjolan Voima Group produced a total of 385 000 tonnes of fly ash, bottom ash and desulfurization gypsum. Of this amount, about 75% was utilized. The gypsum was used as a raw material in the manufacture of plasterboard. Fly ash and bottom ash were mainly used as a material for earth works.

PVO-Lämpövoima launched the construction of a disposal site for power plant ash in the Lälby area in Kristiinankaupunki. For the first time, the waterproofing bottom structure was made of fibre clay, which is produced from the de-inking of recycled paper.

### Future outlook

In the Nordic electricity markets, the large amount of electricity generated by hydropower thanks to heavy rainfalls has reduced the need for fuel-based electricity production and consequently the emissions from it in many recent years. On the other hand, the drought that began in the latter half of 2002 increased the use of thermal power plants, and the situation continues unchanged in 2003. Since the consumption of electricity is increasing at the same time, it can no longer be expected that the emissions will be reduced to the previous years' level. Pohjolan Voima cuts its sulfur, nitrogen and particle emissions with the aid of good environmental protection technology. With a view to reducing greenhouse gas emissions, Pohjolan Voima continues to increase the efficiency of its production structure and utilizes renewable and emission-free energy sources as much as possible. In terms of emissions, the completion of a new nuclear power plant unit towards the end of the current decade is of utmost importance.

The utilization of by-products from the thermal power plants for earth works is hampered by the obligation to obtain a permit. The Ministry of the Environment has long been preparing a decree that would release power plant ash, under certain conditions, from this obligation. The delay in issuing this decree threatens to substantially increase the disposal of ash in dumps.

### NUCLEAR POWER

The environmental effects of nuclear power production were small. The amounts of radioactive water released into the sea continued to be reduced, and represented only 0.25% of the amount permitted by the authorities. Radioactive releases into the air were also reduced. They accounted only for 0.0002% of the amounts allowed by the permits.

The radiation doses received by the people working at the plant units were extremely small, 1.09 mSv on average, which is a low figure even by international standards. The official limit is 50.0 mSv. Despite the small doses, Teollisuuden Voima Oy is carrying out a project with a view to further reducing the doses.

Teollisuuden Voima has long-term contracts for the supply of uranium with an Australian and a Canadian supplier. Inspections carried out by expert groups have shown that the suppliers comply with both the international regulations and those imposed by legislation in the country concerned. Measurements have shown that the radiation doses received by the workers are small.

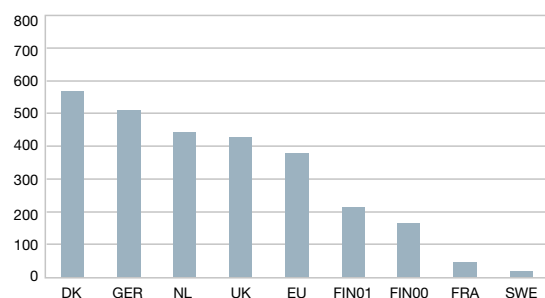
### HYDROPOWER

Owing to the exceptionally low rainfall levels, the ecological regulation instructions drawn up on regulating the lakes at the upper course of the Iijoki River could not be followed. The binding permit regulations were complied with.

The landscaping programme of the drained riverbeds in the Iijoki River reached the phase of finishing work. The programme includes 26 landscaping weirs, including the landscaping work. The

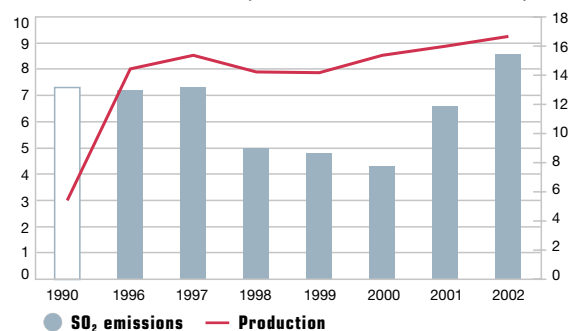
### SPECIFIC EMISSIONS OF CARBON DIOXIDE

g/kWh (electricity)



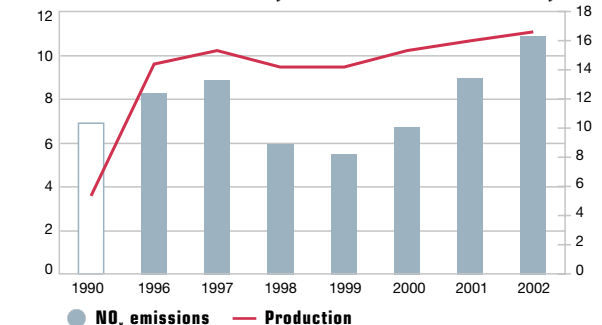
### POHJOLAN VOIMA'S SULFUR DIOXIDE EMISSIONS

Thousand tonnes of SO<sub>2</sub> (electricity and heat)      TWh (electricity)



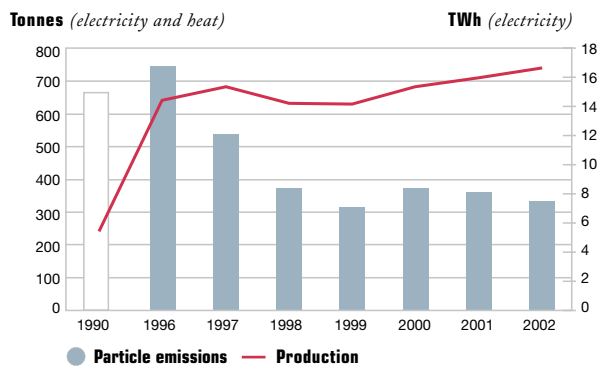
### POHJOLAN VOIMA'S NITROGEN OXIDE EMISSIONS

Thousand tonnes of NO<sub>x</sub> (electricity and heat)      TWh (electricity)

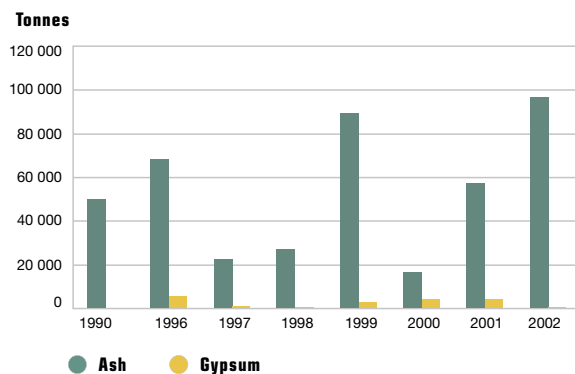




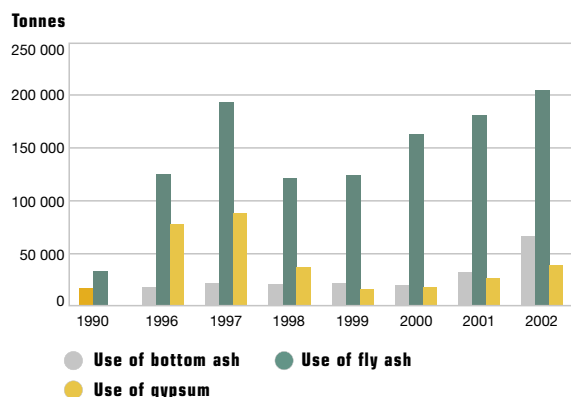
## POHJOLAN VOIMA'S PARTICLE EMISSIONS



## DISPOSAL OF BY-PRODUCTS



## USE OF BY-PRODUCTS



programme was launched in 1991, and it has been carried out jointly with the North Ostrobothnia Regional Environment Centre and the municipality of Yli-Ii. The EU has granted financing for this work, which is completely voluntary. In addition, five landscaping weirs have been constructed in the regulated lakes located in the upper reaches of the Iijoki River in the 1990s.

Various measures relating to the clearing of shores, the restoration of drainage systems and landscaping were implemented in about 200 locations. Most of these measures concerned the protection of shores against erosion. The long restoration stage of environmental management was mostly brought to a conclusion in 2002. The dam safety inspections and the audits required by the environmental management system were carried out. The responsibility for the chemical storage and logistics was shifted to an outside expert company.

PVO-Vesivoima was involved in the design and implementation of the environmental management programme for the Iijoki River co-ordinated by the North Ostrobothnia Regional Environment Centre. The programme rests on financing from the EU.

Voimalohi stocked a total of 2.7 million fry in the Kemijoki and Iijoki water systems and in the sea area. PVO-Vesivoima covered the cost of the stocking. The age of the stocked salmon and sea trout fry was at least two years, while the whitefish, grayling and pikeperch fry were of the age of one summer. In addition, about 23 tonnes of rainbow trout of catchable size and large-sized trout were stocked in the river and lake areas. Some 108 000 lamprey were transferred over dams. Voimalohi reared about 80% of the salmonoid and about 72% of the one-summer-old fish to be stocked in the fish farms and the natural food ponds located in the areas of the Kemijoki and Iijoki Rivers.

Voimalohi implemented the stocking required by the authorities according to plan. The farming of grayling did not succeed, probably owing to the warm summer with low precipitation. The Company did not succeed in making up the deficit in the transfer of lamprey over dams on the Iijoki River shown in the previous year. However, the stocking balances of almost all other species showed a surplus.

A complaint was lodged with the Oulu County Administrative Board against Voimalohi about its whitefish farming. According to the complaint, whitefish fry are starving in the natural food ponds. The Oulu County Administrative Board stated that Voimalohi's operations did not violate legislation on the protection of animals.

Pohjolan Voima reports on the social responsibility and the environment on its home pages [www.pohjolanvoima.fi](http://www.pohjolanvoima.fi).



*On the Iijoki River, new riverbeds were built for hydropower plants, and as a result some sections of the old riverbed were drained.*

*Landscaping weirs built in the old riverbed have helped restore the aquatic landscape.*



## BOARD OF DIRECTORS

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*Chairman*  
Executive Vice President  
UPM-Kymmene Corporation

#### PEKKA LAAKSONEN

*Deputy Chairman*  
Senior Executive  
Vice President  
Stora Enso Oyj

#### PETRI HEINONEN

CEO  
Etelä-Pohjanmaan Voima Oy

#### ESA TIRKKONEN

Executive Vice  
President and CFO  
Kemira Oyj

#### ERKKI VARIS

CEO  
Oy Metsä-Botnia Ab

#### TAPANI SOINTU

Vice President,  
Corporate Structure  
UPM-Kymmene Corporation

#### JUHANI PAANANEN

Director  
Kokkolan Energia

#### EVAN EDWARDS

Managing Director  
TXU Nordic Energy Oy

### DEPUTY MEMBERS

#### JUHA NIEMELÄ

President and CEO  
UPM-Kymmene Corporation

#### TIMO KOIVUNIEMI

Senior Vice President  
Stora Enso Oyj

#### HANNU LINNA

CEO  
Vaasan Sähkö Oy

#### TAUNO PIHLAVA

CEO  
Kemira Oyj

#### AARRE METSÄVIRTA

Executive Vice President  
M-real Corporation

#### PERTTI SIMOLA

Vice President, Energy  
UPM-Kymmene Corporation

#### STEFAN STORHOLM

CEO  
Oy Katternö Ab

#### RAMI VUOLA

Asset Development Manager  
TXU Nordic Energy Oy

### AUDITORS

PricewaterhouseCoopers Oy  
Authorized Public  
Accountants



*Heikki Sara*



*Pekka Laaksonen*



*Petri Heinonen*



*Esa Tirkkonen*



*Erkki Varis*



*Tapani Sointu*



*Juhani Paananen*



*Evan Edwards*

## EXECUTIVE OFFICERS

### MEMBERS

**TIMO RAJALA**

President and CEO  
Pohjolan Voima Oy

**MATTI KAISJOKI**

Executive Vice President  
Power Procurement, Thermal  
Power Production

**MINNA KORKEAOJA**

Executive Vice President  
Group Controller

**ARTO PIELA**

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

**JUKKA KIVILUOTO**

President  
PVO-Vesivoima Oy

**MAUNO PAAVOLA**

President and CEO  
Teollisuuden Voima Oy



*Timo Rajala*



*Matti Kaisjoki*



*Minna Korkeaaja*



*Arto Piela*



*Jukka Kiviluoto*



*Mauno Paavola*

### DEPUTY MEMBERS

**RISTO MÄKINEN**

Senior Vice President  
Russia and the Baltic  
Region

**PAAVO ONKALO**

Senior Vice President  
Corporate Planning

**RISTO VESALA**

Senior Vice President  
Transmission, IT Systems,  
Technology

**TIMO VÄISÄNEN**

Senior Vice President  
Group Treasurer



## REVIEW BY THE BOARD OF DIRECTORS

### OPERATING ENVIRONMENT

In 2002, electricity consumption in Finland totalled 83.9 TWh, an increase of 3.3% on the previous year. Industry and construction accounted for 44.1 TWh, or 52.5% of the total electricity consumption. Industrial electricity consumption increased by 1.9%.

The amount of electricity generated in Finland increased by 1% on the previous year. Net imports of electricity increased by 19.7%, accounting for 14.2% (12.2%) of the total consumption. The regional price in Finland quoted on the Nord Pool electricity exchange, which indicates the market price, was EUR 27.28 per megawatt-hour, compared with EUR 22.83 in 2001.

During the year under review, the electricity supply of the Pohjolan Voima Group amounted to 27.9 TWh (26.4 TWh). Of this amount, Pohjolan Voima Oy supplied 21.4 TWh (19.9 TWh) of electricity to its shareholders, and the subsidiaries supplied 6.5 TWh (6.5 TWh) to their other owners.

### CHANGES IN BUSINESS OPERATIONS AND GROUP STRUCTURE

A new production subsidiary, Wisapower Oy, was established in the beginning of the year. The company aims to generate electricity and heat for UPM-Kymmene Corporation's Pietarsaari mills.

PVO-Pool Oy has been responsible for the optimization of Pohjolan Voima's electricity supply since 2000, acquiring the necessary services from Länsi-Suomen Yhteiskäyttö Oy. In September, 20 people transferred from the operating centre and electricity invoicing service organizations of Länsi-Suomen Yhteiskäyttö to PVO-Pool.

Towards the end of the year, Pohjolan Voima's subsidiary Powest Oy and Fortum Corporation took a decision to establish a new company, which purchased the shares of Fortum Engineering Oy and Empower Engineering Oy. The new company, named Enprima Oy, began operations in the beginning of January 2003.

### PRODUCTION AND TURNOVER

The production of hydropower was more than 20% smaller than in the previous year, and was considerably below the production in a year of average precipitation. Condensing power production that uses coal, natural gas and oil as fuels increased by about 10%. Combined heat and power production increased over 40%, as three new power plants – Jämsänkoski, Ristiina and Kuusankoski – were completed during the year under review. The amount of electricity acquired from the markets in order to optimize production was 0.7 TWh higher than in 2001.

Production of the Olkiluoto nuclear power plant was 14.1 TWh (14.2 TWh). At unit 1, the maintenance outage was longer than in 2001, lasting for 13 days (eight days). The maintenance and refuelling outage of unit 2 was shorter than in 2001, lasting for seven days (15 days). The total length of the annual outages was three days shorter than in the previous year.

Group turnover totalled EUR 670.0 million (EUR 569.7 million). The turnover from sales of electricity and heat increased by more than 19% and the amount of energy supplied to the shareholders by more than 7%.

### PERSONNEL

The average number of employees working for the Group was 803 (784) and for the parent company 66 (71). At the end of the year, the Group personnel numbered 746 (728).

### INVESTMENTS

Investments of the Pohjolan Voima Group totalled EUR 197.0 million (EUR 181.6 million). Investments in the biomass-fired power plants totalled EUR 151.3 million (EUR 128.2 million). Teollisuuden Voima purchased the spare generators, which it had previously leased, for EUR 23.9 million, and invested EUR 14.1 million (EUR 17.4 million) in plant modifications and improvements as part of the annual outages. The Group invested EUR 3.4 million in wind power. The remaining investments were mainly in repairs and renovations. The sales of fixed assets totalled EUR 3.0 million (EUR 13.5 million).

Jämsänkosken Voima Oy's Jämsänkoski power plant, Kymin Voima Oy's Kuusankoski power plant and Järvi-Suomen Voima Oy's Ristiina power plant were completed during the financial period.

In January, Järvi-Suomen Voima took a decision to invest in the bio-fuel-fired power plant to be built in Savonlinna. The power plant is scheduled for completion in autumn 2003. As part of the extension to UPM-Kymmene Corporation's Pietarsaari mills, Wisapower Oy took a decision in summer to implement a 140 MW recovery boiler and turbine plant, which is scheduled for completion in the spring of 2004.

### GROUP R&D PROJECTS

In addition to the construction of biofuel-fired power plants, a number of research projects linked with biofuels are underway in the Pohjolan Voima Group. The cultivation project of reed canary grass was launched in 2002. The targets set for the project are to achieve a cultivated area of 4 000 hectares and to replace the use of coal and peat to such an extent that the carbon dioxide emissions could be reduced by 40 000 tonnes.

Pohjolan Voima's research into the feasibility of offshore wind power on an industrial scale progressed to the phase of an environmental impact assessment procedure. In addition to the high production costs of wind power, the construction would seem to be hampered by the complicated and slow planning and licensing procedures. The harmful effects of wind power production on the environment were also brought to light during the EIA procedure.

Gasification and combustion tests of refuse-derived fuel produced from municipal waste and development of the related equipment continued jointly with Vapo Oy Biotech and the Technical Research Centre of Finland VTT. Preparations for the implementation of a gasification plant planned at the Martinlaakso power plant of Vantaa Energy Ltd progressed. The authority issued a favourable statement on the environmental impact assessment procedure of the gasification plant, and an environmental permit was granted for the plant.

Teollisuuden Voima's R&D operations centred on nuclear waste management. In addition, the company carried out research and development work linked with the additional construction of nuclear power, reactor safety and technical upgrading of the plant units.

During the year under review, the Pohjolan Voima Group spent EUR 12.8 million (EUR 13.3 million) on R&D operations.

## ENVIRONMENT

Since operation of the Group's thermal power plants increased, the emissions of carbon dioxide, nitrogen oxides and sulfur dioxide also increased. Particle emissions were reduced, however, in spite of the increased production.

All power plants in the Pohjolan Voima Group have valid environmental permits. Regulatory compliance is dealt with as part of the certified environmental management systems.

Parliament ratified the decision in principle by the Council of State concerning construction of the fifth nuclear power plant unit in Finland and, at the same time, took a decision to dispose of the spent nuclear fuel from the new unit at Olkiluoto. Teollisuuden Voima's subsidiary Posiva Oy has centred the R&D operations linked with construction of the final disposal facility at Olkiluoto. The aim is to launch the construction of a characterization tunnel during the next two years.

Pohjolan Voima does not publish a separate report on its social responsibility and the environment, but it forms part of the annual report. Environmental information is available on Pohjolan Voima's home pages, [www.pohjolanvoima.fi](http://www.pohjolanvoima.fi). Teollisuuden Voima draws up its own report on its social responsibility concerning nuclear power generation.

Pohjolan Voima and its subsidiaries and associated companies are not aware of any environmental liabilities that have not been covered. In 2002, no environmental accidents occurred and there were no serious deviations from regulatory compliance.

## FINANCE

Group liquidity remained good. Net interest-bearing liabilities totalled EUR 773.5 million (EUR 779.5 million) at the end of the year. There were no liabilities in foreign currencies.

*The Group has been given the following credit ratings:*

	Long-term	Short-term
Pohjolan Voima Oy		
Japan Credit Rating Agency	AA	
Teollisuuden Voima Oy		
Japan Credit Rating Agency	AA	
Standard & Poor's	BBB+	
Moody's	A3	P2

For liquidity management, the Group was able to rely on domestic CP programmes of EUR 234 million (EUR 234 million) and on an international CP programme of EUR 95 million (EUR 113 million). At the end of the year, the revolving credit facilities amounted to EUR 328 million (EUR 366 million), of which EUR 255 million (EUR 235 million) was available.

At the end of the year, the Group had an equity-to-assets ratio of 47.7% (48.7%). The deferred tax liability is not included in the figure, as it is not expected to be realized.

## SHAREHOLDERS' EQUITY AND SHARE ISSUES

The shareholders' meeting authorized the Board of Directors to take a decision on an increase of the share capital through a new share issue contrary to the shareholders' subscription privilege as follows:

- in the D2 series, a maximum of EUR 600 000 and a maximum of 357 142 shares
- in the D7 series, a maximum of EUR 200 000 and a maximum of 119 047 shares
- in the G2 series, a maximum of EUR 250 000 and a maximum of 148 809 shares
- in the G3 series, a maximum of EUR 200 000 and a maximum of 119 047 shares
- in the I series, a maximum of EUR 100 000 and a maximum of 59 524 shares
- in the K2 series, a maximum of EUR 10 000 and a maximum of 5 953 shares.

*The following issues were subscribed during the year under review:*

- An increase of 180 000 in the D2 series capital stock on 14 June 2002. The issue, directed at UPM-Kymmene Corporation, had a subscription price of EUR 10.000 million.
- An increase of 31 519 in the D7 series capital stock on 6 November 2002. The issue, directed at UPM-Kymmene Corporation, had a subscription price of EUR 9.968 million.
- An increase of 50 216 in the G2 series capital stock on 6 November 2002. The issue, directed at UPM-Kymmene Corporation, had a subscription price of EUR 2.812 million.
- An increase of 25 985 in the G3 series capital stock on 6 November 2002. The issue, directed at UPM-Kymmene Corporation, had a subscription price of EUR 1.455 million.
- An increase of 178 in the K2 series capital stock on 6 November 2002. The issue, directed at Perhonjoki Oy, had a subscription price of EUR 9 968.00.
- An increase of 8 863 in the I series capital stock on 15 November 2002. The issue, directed at Kemira Oyj, City of Kokkola, M-real Corporation, Myllykoski Corporation, City of Oulu, City of Pori, Stora Enso Oyj, TXU Nordic Energy Oy, UPM-Kymmene Corporation and Vantaa Energy Ltd, had a subscription price of EUR 0.492 million.

The extraordinary meeting of shareholders held on 19 December 2002 took a decision to redeem the D4 and D6 series shares and invalidate them, and consequently to reduce the share capital. All the 532 000 D4 and D6 series shares were redeemed from Stora Enso Oyj at a redemption price of EUR 26.5 million. The redemption price was paid by transferring Veitsiluodon Voima Oy's and Oulun Voima Oy's entire capital stocks to Stora Enso Oyj.

	Holding %	Holding %
Shareholder	31 Dec. 2001	31 Dec. 2002
Etelä-Pohjanmaan Voima Oy	4.265	4,242
City of Helsinki	1.432	1.425
Ilmarinen Mutual Pension Insurance Company	4.353	4.330
Kemira Oyj + Eläkesäätiö Neliapila	4.454	4.432
City of Kokkola	2.147	2.146
Kotkan Energia Oy	1.347	1.339
Kymppivoima Tuotanto Oy	2.099	2.087
Kyro Corporation	0.185	0.184
Oy Metsä-Botnia Ab	1.523	1.515
M-real Corporation	2.464	2.451
Myllykoski Corporation	1.493	1.486
City of Oulu	0.112	0.113
Perhonjoki Oy	1.955	2.075
City of Pori	1.150	1.145
Päijät-Hämeen Voima Oy	1.288	1.287
Stora Enso Oyj	16.011	14.391
TXU Nordic Energy Oy	14.519	14.444
UPM-Kymmene Corporation	38.670	40.374
Vantaa Energy Ltd	0.531	0.534

The extraordinary meeting of shareholders also took a decision to convert 1 046 823 C series shares into new V series shares and 160 040 C series shares into new N series shares in proportion to the shareholding of the C series, and as a result 7 107 592 C series shares remain. Likewise, a decision was taken to convert all the current 3 705 610 E series shares into 229 741 E1 series shares and into 3 475 869 E2 series shares. The conversions were entered into the trade register on 27 January 2003.

#### COMPANY MANAGEMENT

The Annual General Meeting elected the following members to the Board of Directors: Petri Heinonen, CEO, of Etelä-Pohjanmaan Voima Oy; Evan Edwards, Managing Director, of TXU Nordic Energy Oy; Juhani Paananen, Director, of Kokkolan Energia; Pekka Laaksonen, Senior Executive Vice President, of Stora Enso Oy; Heikki Sara, Executive Vice President, of UPM-Kymmene Corporation; Tapani Sointu, Vice President, Corporate Structure, of UPM-Kymmene Corporation; Esa Tirkkonen, Executive Vice President and CFO, of Kemira Oy; and Erkki Varis, CEO, of Oy Metsä-Botnia Ab. Heikki Sara was elected Chairman and Pekka Laaksonen Deputy Chairman in the organization meeting of the Board of Directors.

#### LEGAL ACTIONS PENDING

The Helsinki District Court rejected the action for damages filed by PVO-Vesivoima Oy against the Finnish Government, which claimed compensation for the lost economic benefit owing to protection of the Iijoki River. PVO-Vesivoima appealed against the court's judgement to the Helsinki Court of Appeal.

#### PROVISION FOR FINANCIAL STATEMENTS IN ACCORDANCE WITH THE IAS

Pohjolan Voima has not yet taken a decision about when to begin preparing the Group's financial statements in accordance with the International Ac-

counting Standards (IAS). The most significant differences between the present accounting practice and the IAS would concern the handling of leasing arrangements, financial instruments, revaluations and property valuation methods, interest during construction, and R&D expenses.

#### SHORT-TERM OUTLOOK

The instability of the world economy makes it difficult to assess the electricity demand of the export industry. The electricity demand of industry as a whole is expected to increase by 3%, which is slightly more than the long-term annual growth.

Emissions trading within the EU was confirmed, when the EU Council of the Ministers of the Environment reached a political understanding about the matter. Emissions trading is anticipated to affect the competitive position in the energy sector and to raise the price of electricity. Carbon dioxide emissions trading is scheduled to begin in 2005 at the earliest.

The two 1 MW wind power plants of PVO-Innopower Oy in Kokkola were brought into operation in March 2003. Construction of the wind power plants in Oulunsalo and Kristiinankaupunki is scheduled to begin in spring 2003. The Ministry of Trade and Industry has granted an investment subsidy of 35% for all these projects.

The project aimed to combine the Estonian and Finnish grids continued. The applications for a Water Court's permit and a land expropriation permit were submitted in spring 2002. The Western Finland Environmental Permit Authority granted the Water Court's permit in February 2003. The Ministry of Trade and Industry is currently considering the land expropriation permit. The licensing processes and the energy policy situation in Estonia have delayed the decision on the implementation. The objective is to put the transmission connection into use in 2005. The project has been accepted into the TEN (Trans-European Networks) financial aid programme of the European Commission.

In May 2002, Parliament ratified the decision in principle by the Council of State concerning the construction of a new nuclear power plant unit at either Loviisa or Olkiluoto. The reactor type and the plant supplier, as well as the plant location will be selected on the basis of competitive bidding by the end of 2003. The aim is to be able to launch the construction work in the middle of the decade and to bring the new unit into operation towards the end of the decade.

Parliament added four statements to the decision in principle. Of these, the most significant one from Pohjolan Voima's point of view is the controlled reduction in the use of coal.

In autumn, the Finnish Government submitted two proposals to Parliament to amend the Electricity Market Act. The first proposal pertained to changes in the maintenance of slow reserve capacity and in conditions for the systems responsibility, and to specified rules for the unbundling of electricity business operations. The second proposal included regulations concerning the change of electricity retailer, compensation for interruptions to the power supply and the obligation to develop systems responsibility. The first proposal was rejected in the Parliament reading, and the conditions for slow reserve capacity and systems responsibility, which are important from Pohjolan Voima's viewpoint, were returned for re-preparation. The second proposal was accepted.

## CONSOLIDATED PROFIT AND LOSS ACCOUNT

		<b>1 Jan. - 31 Dec. 2002</b>	1 Jan.-31 Dec. 2001
		EUR 1 000	EUR 1 000
<b>TURNOVER</b>	( 1 )	<b>670 014</b>	569 695
Production for own use		166	382
Other operating income	( 2 )	10 220	19 570
Raw materials and services	( 3 )	-351 257	-283 700
Personnel expenses	( 4 )	-44 120	-42 359
Depreciation and value adjustments	( 5 )	-92 232	-85 457
Other costs and expenses	( 6 )	-154 546	-145 260
<b>OPERATING PROFIT</b>		<b>38 245</b>	32 871
Financial income and expenses	( 7 )	-32 823	-32 681
<b>PROFIT BEFORE TAXES AND MINORITY INTEREST</b>		<b>5 422</b>	190
Income taxes	( 8 )	-1 455	-613
Minority interest		-1 502	-875
<b>PROFIT FOR THE FINANCIAL YEAR</b>		<b>2 465</b>	-1 298

## CONSOLIDATED BALANCE SHEET

		31 Dec. 2002 EUR 1 000	31 Dec. 2001 EUR 1 000
<b>ASSETS</b>			
<b>FIXED ASSETS</b>			
Intangible assets	( 9 )	33 587	39 818
Tangible assets	( 10 )	1 543 045	1 536 738
Investments	( 11 )	352 639	335 413
		<b>1 929 271</b>	<b>1 911 969</b>
<b>CURRENT ASSETS</b>			
Inventories	( 12 )	194 115	233 412
Non-current receivables	( 13 )	46 545	46 728
Current receivables	( 14 )	169 755	113 268
Cash in hand and at banks	( 15 )	17 260	4 555
		<b>427 675</b>	<b>397 963</b>
		<b>2 356 946</b>	<b>2 309 932</b>
<b>EQUITY AND LIABILITIES</b>			
<b>SHAREHOLDERS' EQUITY</b>			
	( 16 )		
Share capital		58 269	57 955
Share issue		10	23 221
Share premium reserve		340 160	327 249
Revaluation reserve		218 644	218 644
Retained earnings		165 231	166 528
Profit for the financial year		2 465	-1 298
		<b>784 779</b>	<b>792 299</b>
<b>MINORITY INTEREST</b>			
		<b>177 584</b>	<b>172 058</b>
<b>LIABILITIES</b>			
Deferred tax liability	( 17 )	160 844	159 803
Non-current liabilities	( 18 )	991 571	923 908
Current liabilities	( 19 )	242 168	261 864
		<b>1 394 583</b>	<b>1 345 575</b>
		<b>2 356 946</b>	<b>2 309 932</b>

## CONSOLIDATED CASH FLOW STATEMENT

	2002 EUR 1 000	2001 EUR 1 000
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		
Operating profit	38 245	32 871
Adjustments to operating profit <sup>1)</sup>	85 105	69 178
Change in net working capital <sup>2)</sup>	9 041	-7 413
Interest paid	-43 467	-46 982
Interest received	11 252	11 440
Dividends received	2 762	1 803
Other financial income and expenses	-376	428
Direct taxes paid	-490	-78
Net cash from operating activities	<b>102 071</b>	61 247
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
Acquisition of associated companies	-186	-14 771
Investment in other shares	-72	-12
Purchases of tangible and intangible assets	-197 039	-166 792
Proceeds from sale of Group companies	-9	2 562
Proceeds from sales of other shares	35	374
Proceeds from sales of tangible and intangible assets	2 662	11 125
Increase in non-current receivables	-12 242	-17 009
Net cash spent on investing activities	<b>-206 851</b>	-184 523
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>		
Increase in long-term liabilities	256 296	198 772
Decrease in long-term liabilities	-134 600	-98 359
Increase (-) or decrease (+) in interest-bearing receivables	-11 306	-15 465
Increase (+) or decrease (-) in current interest-bearing liabilities	-13 470	-7 283
Share issue	16 534	38 191
Change in minority interest	4 031	2 995
Net cash spent on financing activities	<b>117 485</b>	118 851
Net increase (+) or decrease (-) in cash and cash equivalents	12 705	-4 425
Cash and cash equivalents, 1 Jan.	4 555	8 980
Cash and cash equivalents, 31 Dec.	<b>17 260</b>	4 555
<b>1) Adjustments to operating profit</b>		
Depreciation and value adjustments	92 233	85 458
Gains (-) or losses (+) on sale of fixed assets	-468	-10 356
Share of associated companies' results	-6 660	-5 924
	<b>85 105</b>	69 178
<b>2) Change in working capital</b>		
Increase (-) or decrease (+) in inventories	39 297	-22 554
Increase (-) or decrease (+) in non-interest-bearing receivables	-52 974	-10 693
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	22 718	25 834
	<b>9 041</b>	-7 413

## PROFIT AND LOSS ACCOUNT OF PARENT COMPANY

		<b>1 Jan. - 31 Dec. 2002</b>	1 Jan. - 31 Dec. 2001
		EUR 1 000	EUR 1 000
<b>TURNOVER</b>	( 1 )	<b>502 561</b>	412 776
Other operating income	( 2 )	2 778	4 545
Raw materials and services	( 3 )	-254 499	-190 867
Personnel expenses	( 4 )	-4 319	-4 282
Depreciation and value adjustments	( 5 )	-1 476	-1 457
Other costs and expenses	( 6 )	-237 212	-219 987
<b>OPERATING PROFIT</b>		<b>7 833</b>	728
Financial income and expenses	( 7 )	-6 285	1 541
<b>PROFIT BEFORE APPROPRIATIONS AND TAXES</b>		<b>1 548</b>	2 269
Appropriations			
Decrease (+) in accumulated depreciation difference		456	756
Income taxes	( 8 )	-745	-981
<b>PROFIT FOR THE FINANCIAL YEAR</b>		<b>1 259</b>	2 044

## PARENT COMPANY BALANCE SHEET

		2002 EUR 1 000	2001 EUR 1 000
<b>ASSETS</b>			
<b>NON-CURRENT ASSETS</b>			
Intangible assets	( 9 )	1 104	1 246
Tangible assets	( 10 )	9 206	9 659
Investments	( 11 )		
Holdings in Group companies		830 995	837 587
Other investments		209 543	233 108
		<b>1 050 848</b>	<b>1 081 600</b>
<b>CURRENT ASSETS</b>			
Non-current receivables	( 13 )	44 038	45 168
Current receivables	( 14 )	81 720	42 977
Cash in hand and at banks		4 857	6 968
		<b>130 615</b>	<b>95 113</b>
		<b>1 181 463</b>	<b>1 176 713</b>
<b>EQUITY AND LIABILITIES</b>			
<b>SHAREHOLDERS' EQUITY</b>			
	( 16 )		
Share capital		58 269	57 955
Share issue		10	23 221
Share premium reserve		336 691	323 779
Revaluation reserve		218 644	218 644
Retained earnings		40 126	38 083
Profit for the financial year		1 259	2 044
		<b>654 999</b>	<b>663 726</b>
<b>APPROPRIATIONS</b>			
Accumulated depreciation difference		3 145	3 601
<b>LIABILITIES</b>			
Non-current liabilities	( 18 )	405 931	412 042
Current liabilities	( 19 )	117 388	97 344
		<b>523 319</b>	<b>509 386</b>
		<b>1 181 463</b>	<b>1 176 713</b>



## PARENT COMPANY CASH FLOW STATEMENT

	2002 EUR 1 000	2001 EUR 1 000
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		
Operating profit	7 833	728
Adjustments to operating profit <sup>1)</sup>	837	-750
Change in net working capital <sup>2)</sup>	-1 095	6 656
Interest paid	-19 126	-13 784
Interest received	10 100	14 696
Dividends received	2 567	2 565
Other financial income and expenses	-70	-150
Direct taxes paid	-979	-754
Net cash from operating activities	<b>67</b>	9 207
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
Investment in shares	-20 375	-202 068
Purchases of tangible and intangible assets	-469	-2 239
Proceeds from sale of shares	30	2 042
Proceeds from sales of tangible and intangible assets	708	98
Loans granted	-	-5 600
Repayments of loan receivables	23 500	40 580
Net cash spent on investing activities	<b>3 394</b>	-167 187
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>		
Increase in long-term liabilities	34 103	133 790
Decrease in long-term liabilities	-52 194	-16 743
Increase (-) or decrease (+) in interest-bearing receivables	-5 369	4 613
Increase (+) or decrease (-) in current interest-bearing liabilities	1 354	5 346
Share issue	16 534	31 874
Net cash spent on financing activities	<b>-5 572</b>	158 880
Net increase (+) or decrease (-) in cash and cash equivalents	-2 111	900
Cash and cash equivalents, 1 Jan.	6 968	6 068
Cash and cash equivalents, 31 Dec.	<b>4 857</b>	6 968
1) Adjustments to operating profit		
Depreciation and value adjustments	1 476	1 457
Merger profit	-	-80
Gains (-) on sales of fixed assets	-639	-2 127
	<b>837</b>	-750
2) Change in working capital		
Increase (-) in non-interest-bearing receivables	-32 369	-5 371
Increase (+) in short-term non-interest-bearing receivables	31 274	12 027
	<b>-1 095</b>	6 656

## ACCOUNTING POLICIES

### CONSOLIDATION PRINCIPLES

The consolidated financial statements include, beside the Parent Company, the companies in which the Parent Company holds more than half of the voting rights, either directly or indirectly, or companies over which it otherwise exercises a dominant influence as prescribed in Chapter 1, Section 3 of the Companies Act.

The Powest Group (former Empower) is an exception to the above. It has not been included in the consolidated financial statements, since Pohjolan Voima owns only K series shares, which have no right to dividend, in its Parent Company.

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

### ACCOUNTING PRINCIPLES IN THE CONSOLIDATED FINANCIAL STATEMENTS

#### *Mutual shareholdings*

The consolidated financial statements have been compiled in accordance with the purchase method. The price paid for the energy-generating subsidiaries in excess of equity has been capitalized in full. This consolidation difference is depreciated according to the depreciation plan of the fixed asset item in question.

#### *Inter-company transactions and margins*

All internal transactions, internal receivables and liabilities, margins of internal services and internal profit distribution within the Group have been eliminated.

#### *Minority interests*

Minority interests have been excluded from the results for the financial year and the change in the depreciation difference, the consolidated shareholders' equity and the accumulated depreciation difference, and are shown as a separate item in the profit and loss account and the balance sheet.

#### *Voluntary provisions*

Voluntary provisions 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 results for the year and the change in deferred tax liability.

#### *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 the change in the depreciation difference of the associated companies from which the tax liability has been deducted. The value of shares shown in the balance sheet is the proportion of the shareholders' equity and accumulated depreciation difference from which tax liability has been deducted.

The result of the associated companies is shown in other cost and expenses.

### ITEMS IN FOREIGN CURRENCIES

The value of debts and receivables, and contingent liabilities in foreign currencies have been adjusted to the exchange rate quoted by the Bank of Finland, or contract rate on the closing date. Exchange rate gains and 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 the original acquisition cost from which depreciation according to plan has been deducted. Revaluation of hydropower construction and dams are included in the balance sheet values.

Depreciation according to plan has been calculated according to the expected useful life. Useful life has been defined as follows:

• hydropower plants	40 – 80 years
• nuclear power plants	10 – 41 years
• condensing power plants	25 years
• co-generation power plants	4 – 33 years
• power grids	30 years
• other fixed assets	3 – 20 years

The depreciation plan also takes account of the annual utilization of each plant.

Interests amounting to EUR 0.5 million relating to the construction period of Järvi-Suomen Voima Oy's power plant investments have been capitalized during the financial year. The capitalization is included in the acquisition costs of fixed assets.

### INVENTORIES

Current assets have been valued at the original acquisition cost according to the FIFO principle. If the probable acquisition cost is lower than the original acquisition cost on the closing date, the difference is not entered as an expense, due to the at-cost principle.

### TURNOVER

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

### PENSION ARRANGEMENTS

The pension schemes of the Group companies are run by a Finnish insurance company.

### INCOME TAX

The estimated taxes corresponding to the results of Group companies for the financial year, the taxes determined on the basis of dividend distribution, adjustments to taxes in previous financial years, and the change in deferred tax liability are all entered as taxes. Deferred tax liability is calculated using the tax base set on the closing date.

## NOTES TO THE ACCOUNTS

	Group		Parent Company	
	2002 EUR 1 000	2001 EUR 1 000	2002 EUR 1 000	2001 EUR 1 000
<b>(1) TURNOVER</b>				
Sales of electricity	503 953	459 908	408 958	365 374
Sales of heat	102 250	53 433	87 535	40 261
Other sales	63 811	56 354	6 068	7 141
	<b>670 014</b>	<b>569 695</b>	<b>502 561</b>	<b>412 776</b>
<b>(2) OTHER OPERATING INCOME</b>				
Gains on sales of fixed assets	468	10 356	688	2 127
Rental income	3 002	2 698	1 723	1 624
Other income and expenditure	6 750	6 516	367	794
	<b>10 220</b>	<b>19 570</b>	<b>2 778</b>	<b>4 545</b>
<b>(3) RAW MATERIALS AND SERVICES</b>				
Fuel	173 914	198 897	-	-
Other materials, consumables and goods	109 828	84 475	250 161	190 621
Purchases during the period	283 742	283 372	250 161	190 621
Change in inventories	39 305	-23 540	-	-
External services	28 210	23 868	4 338	246
	<b>351 257</b>	<b>283 700</b>	<b>254 499</b>	<b>190 867</b>
<b>(4) PERSONNEL EXPENSES</b>				
Salaries and fees				
Salaries of the Boards of Directors and Managing Directors	992	781	429	399
Other salaries	34 629	33 046	3 179	3 168
	<b>35 621</b>	<b>33 827</b>	<b>3 608</b>	<b>3 567</b>
Pension expenses	5 556	5 473	464	432
Other indirect employee costs	2 943	3 059	247	283
	<b>8 499</b>	<b>8 532</b>	<b>711</b>	<b>715</b>
Total personnel expenses	<b>44 120</b>	<b>42 359</b>	<b>4 319</b>	<b>4 282</b>
Personnel (average)				
Salaried employees	540	585	61	66
Wage-earners	263	199	5	5
Total	<b>803</b>	<b>784</b>	<b>66</b>	<b>71</b>
Managing Directors of Group companies and some other staff members normally retire at the age of 63-65.				
<b>(5) DEPRECIATION</b>				
Depreciation according to plan				
Formation expenses	6 133	6 137	-	-
Intangible assets	57	27	-	-
Other capitalized expenditure	2 586	2 599	268	260
Buildings and constructions	10 049	9 264	123	114
Machinery and equipment	72 271	65 943	638	636
Other tangible assets	1 113	1 480	-	-
Goodwill	23	7	-	-
Investments	-	-	447	447
	<b>92 232</b>	<b>85 457</b>	<b>1 476</b>	<b>1 457</b>

	Group		Parent Company	
	2002	2001	2002	2001
	EUR 1 000	EUR 1 000	EUR 1 000	EUR 1 000
<b>(6) OTHER COSTS AND EXPENSES</b>				
Energy purchases	47 780	39 797	229 222	210 667
Share of associated companies' profits	-6 660	-5 925	-	-
Repair and maintenance services	20 516	30 009	301	169
Rents and leases	11 133	14 740	1 817	1 795
Real estate taxes	6 197	6 070	64	63
Other expenses	75 580	60 569	5 808	7 293
	<b>154 546</b>	<b>145 260</b>	<b>237 212</b>	<b>219 987</b>
<b>(7) FINANCIAL INCOME AND EXPENSES</b>				
Dividend income				
From associated companies	-	-	2 564	2 564
From others	941	1 803	3	1
	<b>941</b>	<b>1 803</b>	<b>2 567</b>	<b>2 565</b>
Interest income from long-term investments				
From Group companies	-	-	6 871	10 312
From associated companies	1 420	1 859	1 420	1 859
From others	9 230	9 883	320	705
	<b>10 650</b>	<b>11 742</b>	<b>8 611</b>	<b>12 876</b>
Other interest and financial income				
From Group companies	-	-	280	755
From associated companies	50	54	50	54
From others	1 622	1 603	1 031	561
	<b>1 672</b>	<b>1 657</b>	<b>1 361</b>	<b>1 370</b>
<b>Total interest income</b>	<b>12 322</b>	<b>13 399</b>	<b>9 972</b>	<b>14 246</b>
Interest and financial expenses				
To Group companies	-	-	-14 931	-12 537
To associated companies	-92	-53	-92	-53
To others	-45 994	-47 830	-3 801	-2 680
	<b>-46 086</b>	<b>-47 883</b>	<b>-18 824</b>	<b>-15 270</b>
<b>Total financial income and expenses</b>	<b>-32 823</b>	<b>-32 681</b>	<b>-6 285</b>	<b>1 541</b>
Interest and financial income includes net exchange rate differences	44	1	52	-1
<b>(8) INCOME TAXES</b>				
Taxes for the financial year	251	699	748	981
Taxes for the previous periods	-3	-	-3	-
Change in deferred tax liability	1 207	-86	-	-
	<b>1 455</b>	<b>613</b>	<b>745</b>	<b>981</b>

## NOTES TO THE ACCOUNTS

### (9) INTANGIBLE ASSETS

EUR 1 000	Formation expenses	Intangible rights	Other capitalized expenditure	Advance payments	Goodwill	Total
<b>GROUP</b>						
Acquisition cost, 1 Jan.	58 116	312	54 081	230	34	112 773
Increases	-	436	1 737	223	500	2 896
Decreases	-	-	-109	-326	-	-435
Acquisition cost, 31 Dec.	58 116	748	55 709	127	534	115 234
Accumulated depreciation, 1 Jan.	-45 856	-67	-27 026	-	-7	-72 956
Accumulated depreciation on decreases	-	-	108	-	-	108
Depreciation for the period	-6 133	-57	-2 586	-	-23	-8 799
Accumulated depreciation, 31 Dec.	-51 989	-124	-29 504	-	-30	-81 647
<b>Book value, 31 Dec. 2002</b>	<b>6 127</b>	<b>624</b>	<b>26 205</b>	<b>127</b>	<b>504</b>	<b>33 587</b>
Book value, 31 Dec. 2001	12 262	244	27 055	230	27	39 818
<b>PARENT COMPANY</b>						
Acquisition cost, 1 Jan.	-	11	2 543	-	-	2 554
Increases	-	-	125	-	-	125
Acquisition cost, 31 Dec.	-	11	2 668	-	-	2 679
Accumulated depreciation, 1 Jan.	-	-	-1 307	-	-	-1 307
Depreciation for the period	-	-	-268	-	-	-268
Accumulated depreciation, 31 Dec.	-	-	-1 575	-	-	-1 575
<b>Book value, 31 Dec. 2002</b>	<b>-</b>	<b>11</b>	<b>1 093</b>	<b>-</b>	<b>-</b>	<b>1 104</b>
Book value, 31 Dec. 2001	-	11	1 235	-	-	1 246

### (10) TANGIBLE ASSETS

EUR 1 000	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
<b>GROUP</b>						
Acquisition cost, 1 Jan.	42 643	364 243	1 743 459	256 735	127 102	2 534 182
Increases	38	36 599	206 145	5 040	78 953	326 775
Decreases	-128	-28 044	-155 319	-1 728	-129 082	-314 301
Acquisition cost, 31 Dec.	42 553	372 798	1 794 285	260 047	76 973	2 546 656
Accumulated depreciation, 1 Jan.	-	-142 902	-835 345	-19 260	-	-997 507
Accumulated depreciation on decreases	-	11 056	66 090	183	-	77 329
Depreciation for the period	-	-10 049	-72 271	-1 113	-	-83 433
Accumulated depreciation, 31 Dec.	-	-141 895	-841 526	-20 190	-	-1 003 611
<b>Book value, 31 Dec. 2002</b>	<b>42 553</b>	<b>230 903</b>	<b>952 759</b>	<b>239 857</b>	<b>76 973</b>	<b>1 543 045</b>
Book value, 31 Dec. 2001	42 643	221 343	908 168	237 482	127 102	1 536 738
Revaluations included in acquisition cost, 31 Dec.		66 296		198 849		
Production machinery and equipment, 31 Dec.			768 316			
Subsidies received reducing acquisition cost						4 453

**CAPITALIZED INTERESTS RELATING TO CONSTRUCTION PERIOD**

	Formation expenses	Other capitalized expenditure	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
<b>GROUP</b>							
Acquisition cost, 1 Jan.	11 601	3 530	31 235	113 315	2 640	289	162 610
Increases	-	-	116	413	-	-	529
Decreases	-	-	-	-	-31	-40	-71
Acquisition cost, 31 Dec.	11 601	3 530	31 351	113 728	2 609	249	163 068
Accumulated depreciation, 1 Jan.	-9 054	-1 383	-15 836	-56 749	-1 355	0	-84 377
Depreciation for the period	-1 274	-123	-841	-3 103	-67	0	-5 408
Accumulated depreciation, 31 Dec.	-10 328	-1 506	-16 677	-59 852	-1 422	0	-89 785
<b>Book value, 31 Dec. 2002</b>	<b>1 273</b>	<b>2 024</b>	<b>14 674</b>	<b>53 876</b>	<b>1 187</b>	<b>249</b>	<b>73 283</b>
Book value, 31 Dec. 2001	2 547	2 147	15 399	56 567	1 285	289	78 234

**(10) TANGIBLE ASSETS**

EUR 1 000	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
<b>PARENT COMPANY</b>						
Acquisition cost, 1 Jan.	198	3 703	9 294	-	55	13 250
Increases	-	15	198	-	130	343
Decreases	-	-27	-8	-	-	-35
Acquisition cost, 31 Dec.	198	3 691	9 484	-	185	13 558
Accumulated depreciation, 1 Jan.	-	-734	-2 857	-	-	-3 591
Depreciation for the period	-	-123	-638	-	-	-761
Accumulated depreciation, 31 Dec.	-	-857	-3 495	-	-	-4 352
<b>Book value, 31 Dec. 2002</b>	<b>198</b>	<b>2 834</b>	<b>5 989</b>	<b>-</b>	<b>185</b>	<b>9 206</b>
Book value, 31 Dec. 2001	198	2 969	6 437	-	55	9 659
Production machinery and equipment, 31 Dec.			5 425			

## NOTES TO THE ACCOUNTS

### (11) INVESTMENTS

EUR 1 000	Shares in associated companies	Other shares and holdings	Other receivables	Total
<b>GROUP</b>				
Acquisition cost, 1 Jan.	77 632	38 539	219 241	335 412
Increases	5 024	113	12 242	17 379
Decreases	-153	0	0	-153
Acquisition cost, 31 Dec.	82 503	38 652	231 483	352 638
<b>Book value, 31 Dec. 2002</b>	<b>82 503</b>	<b>38 652</b>	<b>231 483</b>	<b>352 638</b>
Book value, 31 Dec. 2001	77 632	38 539	219 241	335 412

	Shares in Group companies	Receivables from Group companies	Shares in associated companies	Other shares and holdings	Total
<b>PARENT COMPANY</b>					
Acquisition cost, 1 Jan.	837 587	182 959	48 108	2 041	1 070 695
Increases	20 375	-	-	-	20 375
Transfers between categories	-	-	-65	66	1
Decreases	-26 967	-23 500	-66	-	-50 533
Acquisition cost, 31 Dec.	830 995	159 459	47 977	2 107	1 040 538
<b>Book value, 31 Dec. 2002</b>	<b>830 995</b>	<b>159 459</b>	<b>47 977</b>	<b>2 107</b>	<b>1 040 538</b>
Book value, 31 Dec. 2001	837 587	182 959	48 108	2 041	1 070 695
Revaluations included in acquisition cost, 31 Dec.	218 644				

	Group		Parent Company	
	2002	2001	2002	2001
	EUR 1 000	EUR 1 000	EUR 1 000	EUR 1 000

### (12) INVENTORIES

Materials and supplies	2 920	2 993
Fuel	191 195	230 419
	<b>194 115</b>	<b>233 412</b>
Fuel (coal and unrefined uranium)		
Replacement price	60 459	89 985
Book value	-62 351	-97 933
Difference	<b>-1 892</b>	<b>-7 948</b>

### (13) NON-CURRENT RECEIVABLES

Loan receivables	12 907	13 090	10 400	11 530
Capital loan receivables	33 638	33 638	33 638	33 638
	<b>46 545</b>	<b>46 728</b>	<b>44 038</b>	<b>45 168</b>
Receivables from Group companies				
Capital loan receivables			1	1
Receivables from associated companies				
Loan receivables	2 572	2 765	2 572	2 765
Capital loan receivables	33 638	33 638	33 638	33 638
	<b>36 210</b>	<b>36 403</b>	<b>36 210</b>	<b>36 403</b>

	Group		Parent Company	
	2002 EUR 1 000	2001 EUR 1 000	2002 EUR 1 000	2001 EUR 1 000
<b>(14) CURRENT RECEIVABLES</b>				
Accounts receivable	114 859	73 911	74 584	41 699
Loan receivables	7 677	1 177	6 500	-
Deferred assets	17 615	16 180	611	1 178
Other receivables *)	29 604	22 000	25	100
	<b>169 755</b>	<b>113 268</b>	<b>81 720</b>	<b>42 977</b>
Receivables from Group companies				
Accounts receivable			490	679
Deferred assets			-	212
Other receivables			39	20
			<b>529</b>	<b>911</b>
Receivables from associated companies				
Accounts receivable	503	376	14	43
Other receivables	277	1 453	-	-
	<b>780</b>	<b>1 829</b>	<b>14</b>	<b>43</b>
Main items included in current deferred assets				
Personnel expenses	533	585	-	-
Interest income	9 652	9 178	297	424
Interest expenses	552	-	-	-
Income taxes	7	-	7	7
Indirect taxes	-	71	-	-
Others	6 871	6 346	307	747
	<b>17 615</b>	<b>16 180</b>	<b>611</b>	<b>1 178</b>
*) Other receivables include cash				
pool receivables of the service				
companies separated from the Group	18 039	15 154		
Interest-bearing receivables				
Non-current assets	231 483	219 241	159 459	182 959
Current assets	89 409	63 629	55 395	52 136
	<b>320 892</b>	<b>282 870</b>	<b>214 854</b>	<b>235 095</b>
<b>(15) CURRENT FINANCIAL ASSETS</b>				
Replacement price	298	-		
Book value	298	-		
	<b>0</b>	<b>-</b>		



## NOTES TO THE ACCOUNTS

	Group		Parent Company	
	2002 EUR 1 000	2001 EUR 1 000	2002 EUR 1 000	2001 EUR 1 000
<b>(16) SHAREHOLDERS' EQUITY</b>				
Share capital, 1 Jan.	57 955	57 580	57 955	57 580
Invalidation of series of shares	-895	-168	-895	-168
Transfer from share issues	1 209	543	1 209	543
Share capital, 31 Dec.	<b>58 269</b>	57 955	<b>58 269</b>	57 955
Share issue, 1 Jan.	23 221	9 469	23 221	9 469
Transfer to share capital	-1 209	-543	-1 209	-543
Transfer to share premium reserve	-38 536	-17 579	-38 536	-17 579
Share issues during the period	16 534	31 874	16 534	31 874
Share issue, 31 Dec.	<b>10</b>	23 221	<b>10</b>	23 221
Share premium reserve, 1 Jan.	327 249	312 343	323 779	307 714
Change in Group structure *)	-	-1 160	-	-
Invalidation of series of shares	-25 625	-1 514	-25 625	-1 514
Share issue premium	38 536	17 580	38 536	17 579
Share premium reserve, 31 Dec.	<b>340 160</b>	327 249	<b>336 691</b>	323 779
Revaluation reserve, 1 Jan.	218 644	218 644	218 644	218 644
Revaluation reserve, 31 Dec.	<b>218 644</b>	218 644	<b>218 644</b>	218 644
Retained earnings, 1 Jan.	165 231	165 368	40 126	38 083
Change in Group structure *)	-	1 160	-	-
Retained earnings, 31 Dec.	<b>165 231</b>	166 528	<b>40 126</b>	38 083
Profit for the financial year	<b>2 465</b>	-1 298	<b>1 259</b>	2 044
<b>Total shareholders' equity</b>	<b>784 779</b>	792 299	<b>654 999</b>	663 726
*) Effect of the Service Group separated from the Group in 2001.				
Distributable funds, 31 Dec.				
Retained earnings	165 231	166 528	40 126	38 083
Profit for the financial year	2 465	-1 298	1 259	2 044
- Capitalized formation expenses	-6 127	-12 262	-	-
- Portion of accumulated depreciation difference transferred to shareholders' equity	-161 376	-160 358	-	-
	<b>193</b>	-7 390	<b>41 385</b>	40 127
Share issue authorization 21 March 2002:	Series	Number	Used	Remaining
Authorization is valid for one year.	Series D2	357 142	180 000	177 142
Authorization includes the right to disregard the shareholders' subscription privilege.	Series D7	119 047	31 519	87 528
	Series G2	148 809	50 216	98 593
	Series G3	119 047	25 985	93 062
	Series I	59 524	8 863	50 661
	Series K2	5 953	178	5 775
		809 522	296 761	512 761

	Number	€ FIM	EUR 1 000
<b>SHARE CAPITAL BY SHARE CATEGORY</b>			
Series A - entitling to electricity generated or acquired by PVO-Vesivoima Oy	13 350 077	10,00	22 453
Series B - entitling to 56.8% of electricity generated or acquired by Teollisuuden Voima Oy	7 483 705	10,00	12 586
Series C - entitling to electricity generated or acquired by PVO-Lämpövoima Oy	8 314 455	10,00	13 984
Series D2 - entitling to electricity and heat generated by Wisapower Oy	180 000	10,00	303
Series D4 - shares redeemed from Stora Enso Oyj for invalidation, registered on 27 Jan. 2003	0	10,00	0
Series D6 - shares redeemed from Stora Enso Oyj for invalidation, registered on 27 Jan. 2003	0	10,00	0
Series D7 - entitling to electricity and heat generated by Jämsänkosken Voima Oy	273 519	10,00	460
Series E - entitling to electricity and heat generated by Mussalon Kaukolämpö Oy and Mussalon Höyryvoima Oy	3 705 610	10,00	6 232
Series G - entitling to 49.9 % of electricity and heat generated by Oy Alholmens Kraft Ab	354 290	10,00	596
Series G2 - entitling to 76% of electricity and heat generated by Kymin Voima Oy	238 216	10,00	401
Series G3 - entitling to 50.8% of electricity and heat generated by Järvi-Suomen Voima Oy	76 705	10,00	129
Series H - entitling to electricity and heat generated by PVO-Huippuvoima Oy	500 000	10,00	841
Series I - entitling to 64.6% of electricity and heat generated by PVO-Innopower Oy	13 559	10,00	23
Series K1 - entitling to electricity and heat generated or acquired by Kokkolan Voima Oy	130 000	10,00	219
Series K2 - entitling to electricity and heat generated or acquired by Vieskan Voima Oy	25 000	10,00	42
	34 645 136		58 269

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

## NOTES TO THE ACCOUNTS

	Group		Parent Company	
	2002	2001	2002	2001
	EUR 1 000	EUR 1 000	EUR 1 000	EUR 1 000
<b>(17) DEFERRED TAX LIABILITY</b>				
Deferred tax liability				
From appropriations	<b>160 844</b>	159 803		
<b>(18) NON-CURRENT LIABILITIES</b>				
Bond loans	11 773	93 307	-	-
Loans from financial institutions	381 474	324 675	43 867	65 738
Pension fund loans	3 271	4 906	-	-
Other non-current liabilities	595 053	501 020	362 064	346 304
	<b>991 571</b>	923 908	<b>405 931</b>	412 042
Liabilities to Group companies				
Other non-current liabilities			<b>362 064</b>	346 304
Repayment schedules for long-term loans, from 2008 (from 2007)				
Loans from financial institutions	119 304	117 777	2 979	4 843
Other non-current liabilities	120	3 177	-	-
	<b>119 424</b>	120 954	<b>2 979</b>	4 843
Bond loans	Currency	%		
1993-2003	JPY	5.300	80 392	86 708
Repayments			-80 392	
1997-2004	FIM	5.800	11 773	11 773
			<b>11 773</b>	98 481
Adjustment of swap loans and receivables			-	-5 174
			<b>11 773</b>	93 307

	Group		Parent Company	
	2002 EUR 1 000	2001 EUR 1 000	2002 EUR 1 000	2001 EUR 1 000
<b>(19) CURRENT LIABILITIES</b>				
Bonds	81 534	90 470	-	-
Loans from financial institutions	12 664	25 892	5 269	17 249
Pension fund loans	1 635	1 635	-	-
Advances received	177	27	-	-
Accounts payable	69 589	60 170	75 802	48 470
Deferred liabilities	54 506	50 677	17 299	16 247
Other short-term liabilities	22 063	32 993	19 018	15 378
	<b>242 168</b>	<b>261 864</b>	<b>117 388</b>	<b>97 344</b>
To Group companies				
Accounts payable			68 756	36 762
Deferred liabilities			11 708	11 721
Other short-term liabilities			6 500	726
			<b>86 964</b>	<b>49 209</b>
To associated companies				
Accounts payable	6 299	3 804	4 747	2 673
Deferred liabilities	60	-	-	-
Others	1	2	-	-
	<b>6 360</b>	<b>3 806</b>	<b>4 747</b>	<b>2 673</b>
Main items included in current deferred liabilities				
Personnel expenses	7 365	7 203	597	563
Interest income	169	-	-	-
Interest expenses	24 364	22 335	12 001	12 373
Income taxes	3	237	3	237
Indirect taxes	202	261	17	-
Others	22 403	20 641	4 681	3 074
	<b>54 506</b>	<b>50 677</b>	<b>17 299</b>	<b>16 247</b>
Interest-free and interest-bearing liabilities				
Non-current				
Interest-bearing	991 571	923 908	405 931	412 042
	<b>991 571</b>	<b>923 908</b>	<b>405 931</b>	<b>412 042</b>
Current				
Interest-free	139 300	123 362	89 713	60 455
Interest-bearing	102 868	138 502	27 675	36 889
	<b>242 168</b>	<b>261 864</b>	<b>117 388</b>	<b>97 344</b>

## NOTES TO THE ACCOUNTS

	Group		Parent Company	
	2002 EUR 1 000	2001 EUR 1 000	2002 EUR 1 000	2001 EUR 1 000
<b>(20) CONTINGENT LIABILITIES</b>				
Mortgages				
As security against own debt	<b>23 578</b>	26 103		
Guarantees				
Loan guarantees				
For associated companies	109 305	171 158	109 305	171 158
For others	699	669	699	699
Other guarantees				
For own commitments	12 870	11 092	7 839	7 617
For Group companies	-	-	36 239	37 592
For associated companies	1 247	1 251	1 200	1 200
For others	1 103	1 517	1 103	1 517
	<b>125 224</b>	185 687	<b>156 385</b>	219 783
Leasing commitments				
Payments for 2003 / 2002	7 180	10 322		
Payments for the following years	103 941	126 114		
	<b>111 121</b>	136 436		
Other commitments	<b>346</b>	555	<b>336</b>	336
Nuclear waste management liabilities				
Nuclear waste management liability	732 200	693 200	-	-
Funds in the Nuclear Waste Management Fund (2 April)	732 200	693 200	-	-
Guarantee required under Section 44 of the Nuclear Energy Act	74 380	77 280	42 246	43 893
Nuclear waste management receivables pledged to the State Nuclear Waste Management Fund	224 335	212 345	-	-
<b>(21) DERIVATIVE CONTRACTS</b>				
Capital values of derivative contracts providing a hedge against exchange rate and interest risks were as follows:				
Interest rate derivatives				
Option contracts				
Purchased	110 000	60 000	-	-
Written	60 000	60 000	-	-
Forward rate agreements				
Purchased	200 000	-	-	-
Swap agreements	179 201	154 384	112 047	88 866
Currency derivatives				
Forward contracts	497	-	-	-
Currency options				
Purchased	5 721	-	-	-
Written	5 721	-	-	-
Swap agreements				
Receivables	80 392	86 708	-	-
Debts	-81 534	-81 534	-	-

## INFORMATION REQUIRED BY THE ELECTRICITY MARKET ACT

### GRID OPERATIONS

Grid business comprises Pohjolan Voima Oy's regional grid operations.

#### ALLOCATION OF JOINT ITEMS

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

#### VALUATION OF FIXED ASSETS

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

#### RETURN ON INVESTMENT

Return on investment was 11.1% (12.8%).

$$\text{ROI}\% = 100 \times \frac{\text{profit before extraordinary items} + \text{financial income and expenses}}{\text{capital invested (average for the year)}}$$

#### PERSONNEL

Grid operations employed an average of one person. The necessary maintenance services and a number of administrative services were purchased from outside.

### BALANCE SHEET

	31 Dec. 2002 EUR 1 000	31 Dec. 2001 EUR 1 000
<b>ASSETS</b>		
<b>NON-CURRENT ASSETS</b>		
Intangible assets		
Capitalized expenditure	425	584
Tangible assets		
Grid	5 220	5 585
<b>CURRENT ASSETS</b>		
Current receivables		
Accounts receivable	456	384
Cash in hand and at banks	8 373	6 885
	8 829	7 269
	<b>14 474</b>	<b>13 438</b>

### PROFIT AND LOSS ACCOUNT

	1 Jan. - 31 Dec. 2002 EUR 1 000	1 Jan. - 31 Dec. 2001 EUR 1 000
<b>TURNOVER</b>	<b>3 614</b>	3 398
Other operating income	148	
Raw materials and services	-1 431	-1 200
Personnel expenses	-120	-105
Depreciation and value adjustments	-523	-477
Other costs and expenses	-335	-212
<b>OPERATING PROFIT</b>	<b>1 353</b>	1 404
Financial income and expenses	312	332
Profit before appropriations and taxes	<b>1 665</b>	1 736
Appropriations		
Decrease in accumulated depreciation difference	297	318
Income taxes	-569	-597
<b>PROFIT FOR THE FINANCIAL YEAR</b>	<b>1 393</b>	1 457

#### EQUITY AND LIABILITIES

Calculated equity	2 838	2 838
Retained earnings	6 601	5 143
Profit for the financial year	1 393	1 457
	<b>10 831</b>	9 437

#### APPROPRIATIONS

Accumulated depreciation difference	<b>2 762</b>	3 060
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#### LIABILITIES

<b>Current</b>		
Accounts payable	170	204
Deferred liabilities	709	737
	<b>880</b>	941

	<b>14 474</b>	<b>13 438</b>
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## SHARES AND HOLDINGS

	Domicile	Group holding %	Parent Company holding %
<b>GROUP COMPANIES</b>			
Jämsänkosken Voima Oy	Helsinki	100.000	100.000
Järvi-Suomen Voima Oy	Helsinki	50.803	50.803
Kaukaan Voima Oy	Helsinki	100.000	100.000
Kokkolan Voima Oy	Helsinki	100.000	100.000
Kymin Voima Oy	Helsinki	76.000	76.000
*) Mussalon Höyryvoima Oy	Helsinki	100.000	100.000
*) Mussalon Kaukolämpö Oy	Helsinki	100.000	100.000
*) Mussalon Kiinteistöt Oy	Helsinki	100.000	100.000
Nokian Lämpövoima Oy	Helsinki	80.100	
Olkiluodon Vesi Oy	Helsinki	100.000	
Perusvoima Oy	Helsinki	100.000	
Posiva Oy	Helsinki	60.000	
Posivia Oy	Helsinki	100.000	
PVO-Huippuvoima Oy	Helsinki	100.000	100.000
PVO-Innopower Oy	Helsinki	64.554	64.554
PVO-Kiinteistöt Oy	Helsinki	100.000	100.000
PVO-Lämpövoima Oy	Helsinki	100.000	100.000
PVO-Pool Oy	Helsinki	100.000	100.000
PVO-Vesivoima Oy	Helsinki	100.000	100.000
Raahen Voima Oy	Helsinki	100.000	100.000
Rauman Voima Oy	Helsinki	100.000	100.000
Rouhialan Voimansiirto Oy	Helsinki	100.000	100.000
Teollisuuden Voima Oy	Helsinki	56.800	56.800
TVO Nuclear Services Oy	Eurajoki	100.000	
Vieskan Voima Oy	Helsinki	100.000	100.000
Wisapower Oy	Helsinki	100.000	100.000
Kiint. Oy Voimalinja	Kristiinank.	100.000	

\*) Mussalon Voima Oy was divided into three new companies on 1 July 2002.

	Domicile	Group holding %	Parent Company holding %	Shareholders' equity	Profit for the financial year
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### ASSOCIATED AND PARTICIPATING INTEREST COMPANIES

Oy Alholmens Kraft Ab	Pietarsaari	49.900	49.900		
Fingrid Oyj	Helsinki	25.080	25.080		
Polartest Oy	Helsinki	24.100		1 135	594
Radtek Oy	Helsinki	30.000		608	181
Tornionlaakson Voima Oy	Ylitornio	50.000			
Vaskiluodon Voima Oy	Vaasa	50.000			
Voimalohi Oy	Kemi	50.000			

### OTHER HOLDINGS

**) Powest Oy	Helsinki		77.013	8 312	-4 954
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\*\*) Powest Oy is not included in the Pohjolan Voima Group (see Accounting policies, entitlement to dividend).

## AUDITORS' REPORT

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

The Group's distributable assets amount to EUR 192 846.46.

The profit and loss account of the Parent Company Pohjolan Voima shows a profit of EUR 1 258 711.52. The distributable equity totals EUR 41 385 209.18.

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

Helsinki, 27 February 2003

Heikki Sara Chairman	Pekka Laaksonen Deputy Chairman	Evan Edwards
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Petri Heinonen	Juhani Paananen	Tapani Sointu
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Esa Tirkkonen	Erkki Varis
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Timo Rajala  
President and CEO

### AUDITORS' REPORT

To the shareholders of Pohjolan Voima Oy

We have audited the accounts, the accounting records and the administration of Pohjolan Voima Oy for the financial year from 1 January to 31 December 2002. The accounts prepared by the Board of Directors and the Managing Director include, for both the Group and the Parent Company, a report on 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 have conducted our audit in accordance with generally accepted auditing standards. We have audited the accounting records, 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 have been prepared in accordance with the regulations of the Accounting Act and other legislation and regulations relevant to the preparation of the accounts, and give a true and fair view of the Group's and Parent Company's results from operations and financial position in accordance with such legislation and regulations. The accounts, including the consolidated accounts, may be approved and the members of the Board of Directors of the Parent Company and the Managing Director be discharged from liability for the financial year. The Board proposal concerning the disposal of the distributable funds is in accordance with the Companies Act.

We have examined the separate profit and loss account and the balance sheet on grid operations, and the related additional information presented in the notes to the financial statements. In our opinion they have been drawn up in accordance with the Electricity Market Act, and legislation and regulations based on it.

Helsinki, 28 February 2003

PricewaterhouseCoopers Oy  
Authorized Public Accountants

Eero Suomela  
Authorized Public Accountant

## POWER PLANT-SPECIFIC DATA, 1 JANUARY 2003

Plant	Energy source	Location	Power plant's electrical output (MW)	Pohjolan Voima's share (MW)
<b>HYDROPOWER</b>				
Isohaara	water	Kemijoki	106	106
Jumisko	water	Kemijoki	30	30
Raasakka	water	Iijoki	58	58
Maalismaa	water	Iijoki	33	33
Kierikki	water	Iijoki	32	32
Pahkakoski	water	Iijoki	34	34
Haapakoski	water	Iijoki	28	28
Melo	water	Kokemäenjoki	67	67
Harjavalta	water	Kokemäenjoki	70	14
Portimokoski, Kaaranneskoski, Jolmankoski	water	Tengeliönjoki	14	7
<b>Total</b>			<b>472</b>	<b>409</b>
<b>WIND POWER</b>				
Kokkola	wind	Kokkola	2	1
<b>Total</b>			<b>2</b>	<b>1</b>
<b>NUCLEAR POWER</b>				
Olkiluoto	uranium	Eurajoki	1680	954
<b>Total</b>			<b>1680</b>	<b>954</b>
<b>THERMAL POWER</b>				
Alholmens Kraft 1	wood, peat	Pietarsaari	25	12
Alholmens Kraft 2	wood, peat, coal	Pietarsaari	240	120
Kokkola	wood, peat	Kokkola	20	20
Jämsänkoski	wood	Jämsänkoski	46	46
Kuusankoski	wood, peat	Kuusankoski	76	58
Ristiina	wood	Ristiina	10	0
Ylivieska	peat, wood	Ylivieska	6	6
Seinäjäjoki	peat, wood	Seinäjäjoki	125	63
Kristiina 2	coal	Kristiinankaupunki	242	242
Tahkoluoto	coal	Pori	225	225
Vaskiluoto 2	coal	Vaasa	230	115
Meri-Pori	coal	Pori	565	146
Mussalo 1	coal, natural gas	Kotka	75	75
Mussalo 2, combined cycle	natural gas	Kotka	238	238
Nokia	natural gas	Nokia	70	70
Kristiina 1	oil	Kristiinankaupunki	210	210
Vaskiluoto 3	oil	Vaasa	160	160
Savonlinna, scheduled for completion in 2003	wood			
Pietarsaari, scheduled for completion in 2004	wood			
<b>Total</b>			<b>2563</b>	<b>1806</b>
<b>Capacity, total</b>			<b>4717</b>	<b>3170</b>

## CONTACT PERSONS

### **POHJOLAN VOIMA**

#### *President and CEO*

Timo Rajala

Liisa Sirola, Secretary

#### *Executive Vice President*

Matti Kaisjoki

Kirsi Holmberg, Secretary

#### *Group Controller*

Minna Korkeaaja

Ritva Keski-Nirva, Secretary

#### *Corporate Strategy, Legal and Environmental Affairs, Communications, Corporate Relations and Procurement*

Arto Piela

Seija Johansson, Secretary

#### *Power Procurement and*

#### *Production Planning*

Arto Tuominen

#### *Development and Power*

#### *Plant Projects*

Jari Niemelä

Pentti Arhippainen

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Minna Korkeaaja

#### *Technology and Development*

#### *Projects, Wind Power*

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### **PVO-POOL OY**

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Orvo Laurila

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#### *President and CEO*

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