





Pohjolan Voima produces energy for Finnish industry, towns and built-up areas.

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## **ACCOUNTS FOR 2001**

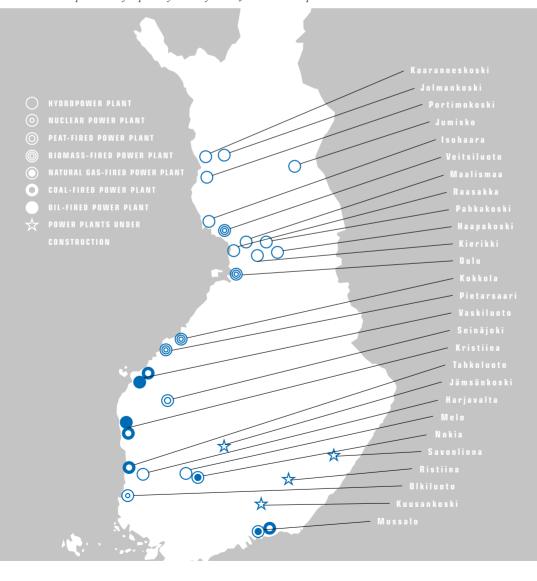
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Annual General Meeting The Annual General Meeting of Pohjolan Voima Oy was held on Thursday, 21 March 2002 at 1 pm at Töölönkatu 4, 00100 Helsinki.

# **KEY FIGURES**

		2001	2000	1999	1998	1997
Turnover	€ million	570	508	519	568	583
Operating profit	€ million	33	26	66	90	77
Net interest-bearing liabilities	€ million	780	705	758	874	943
As percentage of turnover	%	137	139	146	154	162
Equity-to-assets ratio	%	49	51	49	46	42
Total assets	€ million	2 310	2 160	2 220	2 301	2 346
Investments	€ million	182	55	37	75	234
Personnel		784				
Personnel, service companies		1 545				
Personnel, total		2 329	1 855	1 454	1 421	1 419

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





# HIGHLIGHTS IN 2001

Supply record

Pohjolan Voima's electricity supply totalled nearly 20 TWh, and on 5 February 2001 the peak output was 3 500 MW.

Power plants in Pietarsaari and Kokkola completed

Oy Alholmens Kraft Ab's biomass-fired power plant completed in Pietarsaari is the largest plant of its kind in the world. The power plant is capable of generating electricity of a power of 240 MW and heat of a power of 160 MW. The electrical output of Kokkolan Voima Oy's power plant is 20 MW and the district heat output 50 MW.

Powest became the owner of Empower In May, the name of the Service Group's parent company, Empower Oy, was changed to Powest Oy. At the same time, a new company named Empower Oy was established, to which Powest transferred some of its holdings in the

Service Group companies while remaining, however, the majority shareholder in Länsi-Suomen Yhteiskäyttö Oy and Power-OM Oy, and the minority shareholder in Power-IT Oy.

Final disposal of spent nuclear fuel resolved

On 18 May 2001, the Finnish Parliament ratified the decision in principle concerning the construction of a final disposal facility for spent nuclear fuel at Olkiluoto in Eurajoki.

Imports of electricity from Russia increased

Pohjolan Voima increased the power of electricity imported from Russia from 100 MW to 400 MW from the beginning of 2001.

An honourable mention for energy conservation

On 4 October 2001, Motiva Oy awarded Pohjolan Voima Oy an honourable mention of the power plant sector for energy conservation. The Tahkoluoto power plant has acted as a pilot plant in developing energy analysis methods for the power plant sector.

Transmission line from Jumisko to Pirttikoski completed

Pohjolan Voima's 110 kV transmission line from Jumisko to Pirttikoski was completed in spring 2001. The line is 40 kilometres long.

EIA procedure for wind power established On 15 January 2001, the Ministry of the Environment decided that an environmental impact assessment (EIA) procedure should be established concerning Pohjolan Voima's offshore wind power project. On completion, this will be the first EIA procedure for wind power implemented in Finland.

# POHJOLAN VOIMA GROUP

Business idea

Pohjolan Voima is a privately owned group
of companies in the energy sector, which
produces and supplies electricity and heat for
its shareholders. The Group also offers services
in its sector to European customers, primarily
in Finland and neighbouring areas.

# POHJOLAN VOIMA OY

PVO-VESIVOIMA OY	PVO-POOL OY		
TORNIONLAAKSON VOIMA OY	FINGRID OYJ		
LÄNSI-SUOMEN VOIMA OY			
VOIMALOHI OY			
TEOLLISUUDEN VOIMA OY			
POSIVA OY			
TVO NUCLEAR SERVICES DY			
PVO-LÄMPÖVOIMA OY			
NOKIAN LÄMPÖVOIMA OY			
VASKILUODON VOIMA OY			
VEITSILUODON VOIMA OY		POWEST OY	
OULUN VOIMA OY			THE POWER OV
JÄMSÄNKOSKEN VOIMA OY		TXU NORDIC ENERGY OY WINWIND OY	EMPOWER OY
MUSSALON VOIMA OY		POWER-DERIVA DY	RAMSE CONSULTING OY  PVO-ENGINEERING OY
OY ALHOLMENS KRAFT AB		POWER-DERIVA OT	POWER-IT OY
KYMIN VOIMA OY		POWER-OM DY	FOWLA-11 OI
JÄRVI-SUOMEN VOIMA OY		LÄNSI-SUOMEN	
PVO-HUIPPUVOIMA OY		YHTEISKÄYTTÖ OY	
PVO-INNOPOWER OY			SUOMEN VOIMATEKNIIKKA DY
KOKKOLAN VOIMA OY			
VIESKAN VOIMA OY			EESTI ELEKTRIVÕRKUDE Ehituse as



#### 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 further pursues long-range operations in the deregulated electricity markets as well. The Group aims to reliably supply its shareholders with competitively priced energy that has been generated by environmentally acceptable means.

Uninterrupted energy supply is necessary to maintain the basic functions of society. The issue of energy supply continues to arouse interest in society. The debate has shifted from the availability of energy to climate change and environmental issues linked with energy generation. Pohjolan Voima has set the target to integrate the increasing electricity requirement with a reduction in greenhouse gas emissions.

In the deregulated electricity market the price varies in accordance with supply and demand. An insufficiency in supply, or even an expectation of this, raises the price of electricity substantially. Pohjolan Voima seeks to safeguard a steady energy price for its share-

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. This operation model has also functioned well in the deregulated electricity markets. 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 easily regulated, and with the electricity import contract form an effective part of the Nordic electricity markets.



The Ministry of Trade and Industry and the Finnish Energy Industries Federation FINERGY have assessed that, despite conservation measures, the annual electricity demand in Finland will rise to some 90 TWh by 2010. In recent years, the imports of electricity have been considerable. When rainfall levels are normal in Sweden and Norway, there is not enough electricity to export, and imports from Russia cannot be increased without compromising the principles of risk management. Pohjolan Voima aims to safeguard the versatile supply structure in the future as well by building new power plants.

#### ECONOMIC WELFARE OVER A WIDE AREA

Pohjolan Voima and its subgroups have power plants in 21 locations in Finland and, furthermore, they pursue other business operations in several locations. In 2001, the Group employed 2 329 people with employees residing in a total of 184 municipalities. The real estate taxes paid amounted to EUR 6 million.

The indirect economic effects that are linked with the domestic energy sources – hydropower, wood and peat – are particularly important to the Finnish economy.

The power plants of the Pohjolan Voima Group's subsidiaries and associated companies supplied district heat to the towns of Kokkola, Kotka, Nokia, Pietarsaari, Seinäjoki, Vaasa and Ylivieska. On completion of the power plants that are under construction, heat deliveries will also begin for the towns of Jämsänkoski, Kouvola and Kuusankoski.

# RESPONSIBLE OPERATIONS THROUGHOUT THE CHAIN

Pohjolan Voima's shareholders have committed themselves to sustainable development programmes, energy conservation and good environmental practice. Pohjolan Voima has committed itself to good management of environmental issues and continuous improvement of its operations.

"Uninterrupted energy supply is necessary to maintain the basic functions of society. The issue of energy supply continues to arouse interest in society."

"Society's serious attitude towards the prevention of climate change has been detectable for years now, although no binding legislation exists so far. Pohjolan Voima has taken this issue into account in its investments and R&D operations."

Nuclear power is an essential element in Pohjolan Voima's electricity supply. In the Group's view, nuclear power is in harmony with the operating principles that emphasize carefulness and responsibility. The risk of accidents has been minimized by multiple safety systems. Permanent systems have been built for the final disposal of nuclear waste and decommissioning of the power plants, and money is being collected all the time in the price of nuclear electricity for the implementation of nuclear waste management.

Owing to the obligations imposed by the Kyoto Protocol, Pohjolan Voima considers it impossible to generate the amount of electricity equivalent to nuclear power by new power plants that use fossil fuels. Besides nuclear power, full-scale utilization of biomass and investment in other renewable energy sources are necessary.

#### STAKEHOLDERS AFFECT THE OPERATIONS

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 years now, although no binding legislation exists so far. Pohjolan Voima has taken this issue into account in its investments and R&D operations. The planned investments – particularly the nuclear power and biomass-fired power plants – are a natural continuation in this development.

With regard to enhancement of the production operations, the local stakeholder groups of power plants are important. Co-operation with stakeholders has formed a significant part of the Group's operations for a long time, and interaction with the different stakeholder groups continues to increase. The Finnish Energy Industries Federation FINERGY has published a manual concerning social responsibility; Pohjolan Voima was also involved in preparing the manual.

In accordance with its operating principles, Pohjolan Voima values competent personnel, to whom it offers challenging jobs and creates the scope for development. The personnel have been involved in developing new operation models that increase adaptability of the organizations and profitability of the operations.





## REVIEW BY THE PRESIDENT

In the energy sector, 2001 was a period of setting the sights on the future, at both the international and national levels. Awareness of the approaching commitment period specified in the Kyoto Protocol stimulated efforts to build strategies for energy policy and climate policy, and to integrate them. A number of issues emerged that may have a far-reaching effect on the operating environment in which also Pohjolan Voima has to operate in the future.

In the industrialized countries, there were growing efforts in the past decade aimed at liberalizing competition in the energy sector. The degrees of implementation vary. The electricity markets have been in the vanguard of this trend, and deregulation of the gas market has come next. At the EU level, the process has continued to progress, although behind the targets set. In the Nordic countries, the electricity markets have been completely deregulated. This is the operating environment in which Pohjolan Voima operates.

In the electricity market, power plants compete with each other. For the greater part of the year, the electricity production capacity exceeds the electricity demand. For energy companies, reserve and peak-load power have become a cost that decreases competitiveness, and as a result some of this capacity has been taken out of use. The construction of new power plants has not been attractive and, indeed, energy companies have preferred to invest in company acquisitions. The implemented investments in power plants have mainly concerned small plants that require little capital but operate at high fuel costs, such as natural gas-fired power plants. Under these conditions, the construction of base-load power has been small.

This trend threatens to lead to situations in which the safe and uninterrupted availability of electricity is no longer secured. The difficulties encountered in California and Brazil have been a foretaste of what may come. A halt in economic growth and the surprisingly

favourable weather saved the United States from getting into more situations of similar gravity. Even in the Nordic countries, corresponding factors hid the growing problem.

However, the difficulties experienced have already been sufficient warnings to the industrialized countries, which consequently require consideration being given to safeguarding a reliable supply by official control and steering methods. On the other hand, such trends may bring a risk of drifting into a situation in which the market is deregulated at one end whilst simultaneously becoming centrally controlled by the government at the other. The obligations imposed with a view to combating climate change may bring an additional turn to these circumstances. In accordance with the EU's proposal for a directive concerning carbon dioxide emissions trading, the result may be centrally confirmed emission quotas, and the cost of exceeding these quotas would be heavy. The functioning of a market economy would be disturbed in a questionable manner, if in

this way society defined the limits of company-specific operations and growth. By its own measures, the EU would increase the competitive edge that the United States seeks to gain by refusing to fulfil the obligations imposed by the Kyoto Protocol.

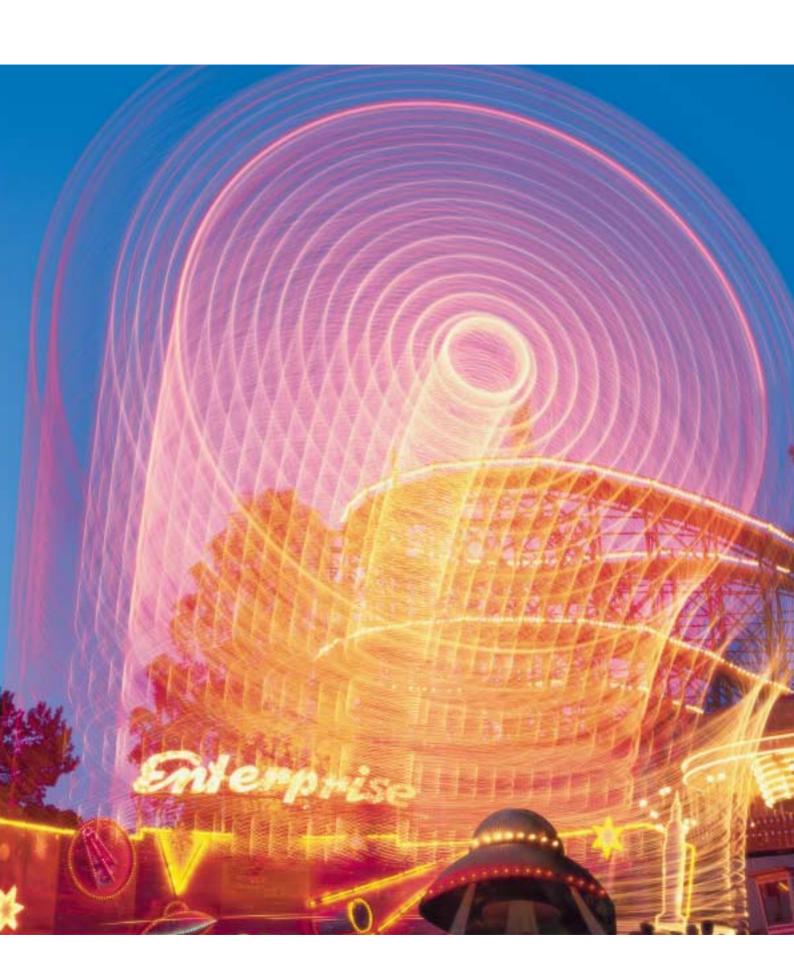
Owing to its function and structure, Pohjolan Voima has good opportunities to serve its shareholders and therefore Finnish society as a whole. The shareholders have been able to satisfy their electricity and heat requirements in a competitive manner through Pohjolan Voima. For more than ten years, the Group has continued to be the largest investor in additional capacity in the Nordic countries. A new investment in nuclear power would form part of our established operations. It has appeared that even companies outside the present partners have shown keen interest in participation. The construction programme of six new biomass-fired power plants is a continuation of the implementation of Pohjolan Voima's operation model. At the same time, the Group continues to utilize all the available options for building new capacity.

The Green Paper on the security of energy supply published by the EU provoked a lively pan-European debate. The dependence on imports of natural gas and oil is foreseen to gradually become alarmingly high, which makes it necessary to invest in all available forms of energy production, particularly carbon-dioxide-free renewable energy sources and nuclear power. When dealing with the Paper, the European Parliament has also stated these facts, and this is exactly the way in which Pohjolan Voima operates. It is implementing the largest construction programme for biomassfired power plants in the Nordic countries. The approval of a new nuclear power plant has been submitted for political consideration fixed by law.

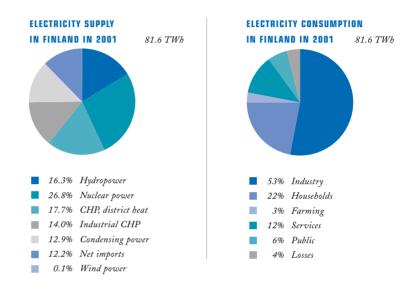
When discussing the climate strategy, the Finnish Government and Parliament wanted to include an alternative to nuclear power, proposing that the use of natural gas could be increased substantially. It is to be hoped that we will not have to pay an exorbitant price for this political choice. In-depth examination of the market outlook for natural gas and the ever-fiercer price trend that is inevitably within view prove that natural gas is not a real alternative in separate electricity generation.

In spring 2002, Parliament will take an important decision on its strategy for energy policy when it decides whether to opt for additional nuclear power. Pohjolan Voima expects a responsible decision and, as a company in the energy sector, it is ready to contribute to meeting future challenges. I would like to thank the personnel, shareholders and co-operation partners for sharing the responsibility.

Timo Rajala President and CEO



"In 2001, electricity consumption in Finland amounted to 81.6 TWh. This is 3.1%, or 2.4 TWh, higher than in the previous year."



# ELECTRICITY MARKET AND OPERATING ENVIRONMENT IN 2001

In the Nord Pool electricity exchange, the regional price in Finland rose by a good 50% in 2001. Sweden was capable of slightly increasing its hydropower production, whereas in Norway the imports of electricity were higher than electricity exports. Imports of electricity from Sweden and Norway to Finland totalled 4.1 TWh, and 7.7 TWh of electricity was imported from Russia.

The largest power plant completed in the Nordic countries in 2001 was Alholmens Kraft's biomass-fired power plant with an electrical output of 240 MW.

In 2001, electricity consumption in Finland amounted to 81.6 TWh. This is 3.1%, or 2.4 TWh, higher than in the previous year. The consumption of electricity in households and farming increased by 9%. On the other hand, electricity consumption in industry and construction was reduced by a good 1%.

#### FROM KYOTO TO MARRAKECH

The Conference of the Parties to the Climate Convention held in Marrakech agreed on the implementation principles of the Kyoto Protocol. Measures to ratify the Protocol have been launched in the different countries involved, but the United States has announced not to ratify the Protocol.

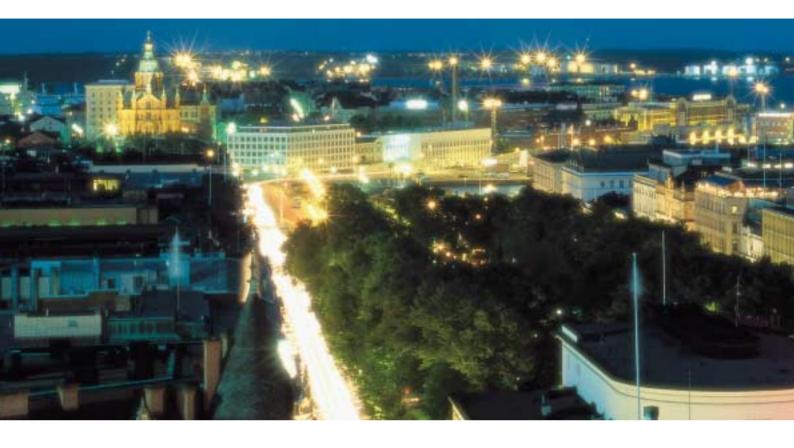
The prepared directives concerning the prevention of climate change have been gathered in the EU's Climate Change Programme. The directives that are being prepared pertain, for instance, to the emissions trading of greenhouse gases, the promotion of renewable energy sources, and combined heat and power production. On the basis of the Emissions Trading Directive, emission quotas would be fixed for industrial and energy production plants. Exceeding the quota would require a plant to buy emission allowances and, correspondingly, remaining below the quota would enable the plant to sell them. At worst, emissions trading would cause additional costs for efficient companies, whereas other companies could sell their emission allowances saved by minor investments in increased efficiency.

Parliament discussed Finland's climate strategy in spring 2001. The strategy scenarios con-

sidered the effects of energy conservation, increased use of renewable energy sources, and increased use of nuclear power and natural gas on carbon dioxide emissions. Integration of the EU's Emissions Trading Directive and the national climate strategy continues to be obviously difficult.

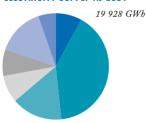
The Large Combustion Plants Directive, which had been prepared for several years, was approved in 2001. In the final preparation stages, the most difficult problem to arise was the reduction of nitrogen oxide emissions from the plants that are currently being operated.

The debate about social responsibility became livelier. An Ethical Forum was established in Finland to promote discussion between civic organizations, the authorities and businesses. The Confederation of Finnish Industry and Employers drew up a manual that clarified social responsibility for companies, and the Finnish Energy Industries Federation FINERGY published a manual aimed at energy companies. The European Commission published the Green Paper on this issue, and numerous other international measures are being planned.



# POHJOLAN VOIMA'S FORMS OF ENERGY SUPPLY





- 8.0% Hydropower
- 40.3% Nuclear power
- 15.5% Condensing power
- 8.3% CHP, district heat
- 8.1% Industrial CHP
- 14.5% Imports
  - 5.3% Market electricity

Pohjolan Voima's electricity supply structure is versatile. In the Group's production machinery, 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 the production in each load situation and thus achieve the most economical combination of electricity supply.

## 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.

#### Combined heat and power production

In the co-generation of electricity and heat, the energy contained in fuels is converted into electricity and heat at a high efficiency. 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.

## Hydropower

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



## Condensing power

At condensing power plants, as high a proportion of the fuel as possible is converted into electricity. The generated heat cannot usually be utilized owing to the lack of heat demand. 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, 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 variable costs are high, and they are used in disturbance and peak-load situations.

#### Electricity imports

The imports of electricity are based on a longterm contract with a Russian supplier.

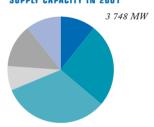
# $Market\ electricity$

The electricity markets are utilized effectively to optimize operation of the power plants as a whole. The Group can operate its power plants at the best possible efficiency by trading in the electricity markets.

## Electricity transmission

Fingrid Oyj, in which Pohjolan Voima is a shareholder, is in charge of the electricity transmission in the Finnish grid. Pohjolan Voima owns about 126 kilometres of transmission lines, along which electricity is transmitted from the power plants to the grid.

#### POHJOLAN VOIMA'S ELECTRICITY SUPPLY CAPACITY IN 2001



- 10.7% Hydropower
  - 25.5% Nuclear power
- 32.6% Condensing power
- 7.4% CHP, district heat
- 13.2% Industrial CHP
- 10.7% Imports



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

In 2001, Pohjolan Voima generated a total of 15 985 GWh of electricity, which accounted for 22% of the electricity produced in Finland. Pohjolan Voima's electricity supply totalled 19 928 GWh. The supply was 14% higher than in the previous year and represented about 25% of the entire consumption in Finland.

In early 2001, the rainfall levels were normal on the Kemijoki and Iijoki Rivers, but the end of the year was drier than usual. On the Kokemäenjoki River, water was abundant except in the summer. The production of hydropower, 1 604 GWh, was slightly below the average and as much as 20% below the production in 2000.

2001 was a very good year for Teollisuuden Voima. The company generated 14 152 GWh of electricity at the Olkiluoto nuclear power plants. This amount made up 20% of the electricity generated in Finland. In accordance with its shareholding, Pohjolan Voima obtained 8 028 GWh of the electricity generated at the Olkiluoto power plant units. The combined load factor of the plant units, 96.3%, continued to be among the top figures in the world.

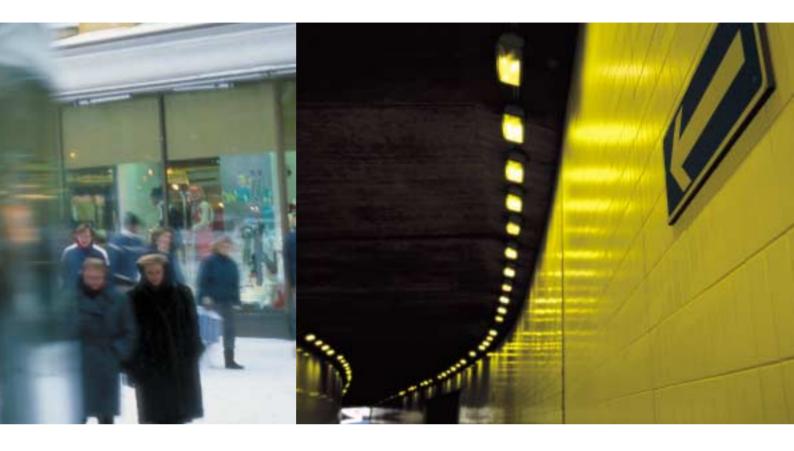
Thermal power generation amounted to 6 353 GWh, of which condensing power accounted for 3 086 GWh. The production of thermal power increased by 24%.

In 2001, electricity was imported from Russia at a capacity of 400 MW, while the previous import capacity was 100 MW. The Group purchased a total of 2 887 GWh of electricity from Russia, making Pohjolan Voima the largest importer of Russian electricity in the EU. Purchases from the Nordic electricity markets amounted to 1 057 GWh.

At the end of 2001, Pohjolan Voima's electricity supply capacity was 3 748 MW. The increase in capacity was due to the quadrupled imports from Russia and the completed power plants.

#### **ELECTRICITY TRANSMISSION**

Pohjolan Voima owns 25.1% of the Finnish grid company, Fingrid Oyj. Fingrid continued to keep its tariffs at the 2000 level. The amount



of electricity transmitted in Pohjolan Voima's regional grid was 2 040 GWh. The turnover of regional grid operations was EUR 3.4 million. At the end of the year, the size of the grid was 126 kilometres. The 110 kV transmission line, stretching about 160 kilometres from Jumisko to Taivalkoski, was replaced by a new line to Pirttikoski. The length of the line is 40 kilometres, some 30 kilometres of which was constructed along the old transmission line route and 10 kilometres beside another transmission line. The total value of the investment, including connections, is EUR 4 million.

#### FUEL ACQUISITIONS INCREASED

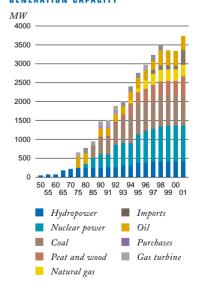
The demand for coal was greater than expected. Indeed, all spring and early summer, the Group had to repeatedly raise its estimated amounts required and quantities delivered. The acquisitions totalled some 1.6 million tonnes. The supply sources were, in order of magnitude, Russia, Poland, the island of Spitsbergen (Norway), Indonesia, China and Kazakhstan.

In 2001, the use of peat totalled 3.1 TWh and the use of wood 1.6 TWh. Bark was the most important wood-based fuel. Logging residue and other wood fuels available in the neighbourhood were also used at the Kokkola, Pietarsaari and Seinäjoki power plants. In 2002, the new power plants will increase the use of biomass to 7 TWh.

## SYSTEMATIC MAINTENANCE

Pohjolan Voima aims to achieve good availability of the power plants. To this end, the power plants are maintained and repaired according to systematic long-term programmes. In addition to normal annual outages, more extensive repair work included replacing and repairing the main transformers of PVO-Vesivoima Oy's power plants, which was completed in May, and renovating the 2nd machinery of the Raasakka hydropower plant. Periodic maintenance of the steam turbine of the Kristiina coal-fired power plant was on the repair programme of the thermal power plants in 2001.

# POHJOLAN VOIMA'S ELECTRICITY





# POHJOLAN VOIMA'S INVESTMENT PROGRAMME

In the past decade, Pohjolan Voima was the largest investor in energy production in the Nordic countries. In 2000-2001, the Group took decisions to invest in five biomass-fired power plants to be built for the subsidiaries and associated companies, and launched an extensive research and development programme. The value of the power plant investments totals EUR 420 million. The Ministry of Trade and Industry has granted Pohjolan Voima's subsidiaries and associated companies an investment subsidy for the Pietarsaari, Jämsänkoski, Kuusankoski, Ristiina and Savonlinna biomass-fired power plants and for the two wind power plants planned for construction in Kokkola.

## **NEW POWER PLANTS COMPLETED IN** PIETARSAARI AND KOKKOLA

Alholmens Kraft's power plant in Pietarsaari was completed in the autumn of 2001. The power plant's electrical output is 240 MW. The plant, which has a total thermal output of 160 MW, generates steam for UPM-Kymmene Corporation's Pietarsaari mills and district heat for the town of Pietarsaari. A target has been set to cover at least half the fuel requirement of the plant by wood energy. Peat will be used as the secondary fuel, and coal as an additional fuel. The plant is owned by Oy Alholmens Kraft Ab, of which Pohjolan Voima's share ownership is 49.9%. Pohjolan Voima carried out the construction project of the power plant.

The new power plant of Pohjolan Voima Oy's subsidiary, Kokkolan Voima Oy, was commissioned in autumn 2001. The power plant generates an output of 20 MW of electricity and 50 MW of district heat for the town of Kokkola. The plant uses wood and peat as fuels.

# THE JÄMSÄNKOSKI, KUUSANKOSKI AND RISTIINA POWER PLANTS NEARING COMPLETION

A power plant with an electrical output of 76 MW is being built in Kuusankoski. The plant will also generate an output of 180 MW of heat. The heat will be supplied in the form of steam and industrial district heat to the paper mill of Kymi Paper Oy, which is part of the UPM-Kymmene Group, and in the form of district heat to the towns of Kouvola and Kuusankoski. The plant's primary energy sources will be wood fuels, mainly bark, sawdust and logging residue produced by the forest industry in the area. Peat and natural gas will be used as additional fuels. The plant is owned by Kymin Voima Oy, of which Pohjolan Voima's share ownership is 76%. The other shareholder is Kouvolan Seudun Sähkö Oy. The plant will be completed in the summer of 2002.



The new power plant in Jämsänkoski will be built as part of UPM-Kymmene's Jämsänkoski mills. The plant will generate an output of 46 MW of electricity and 130 MW of steam for the paper mill. The power plant will also supply district heat to the town of Jämsänkoski. Wood-based fuels and peat will be used as fuels. The plant is owned by Jämsänkosken Voima Oy, which is a wholly owned subsidiary of Pohjolan Voima. The plant will be completed in spring 2002.

A new power plant will be built in Ristiina as part of the mills of Schauman Wood Oy, which is part of the UPM-Kymmene Group. The plant will generate an output of 10 MW of electricity and 65 MW of process steam for the plywood mill. The plant's primary fuels will be wood-based by-products from the mills. The power plant is owned by Järvi-Suomen Voima Oy, of which Pohjolan Voima's share ownership is 69%. The other shareholder is Suur-Savon Sähkö Oy. The plant will be completed in the spring of 2002.

Järvi-Suomen Voima will begin construction of the Savonlinna power plant in 2002. The power plant will be built as part of Schauman Wood Oy's mills. It will generate an output of 17 MW of electricity, 33 MW of district heat, and 20 MW of process steam. The plant's primary fuels will be by-products from the wood-processing industry. The plant is scheduled for completion in the autumn of 2003.

In autumn 2001, Vieskan Voima Oy, a wholly owned subsidiary of Pohjolan Voima, purchased the Ylivieska power plant, whose electrical output is 6 MW and district heat output 17 MW. The power plant's primary fuels are wood and peat.

## WIND POWER PLANTS TO BE BUILT IN THE AREA OF THE KOKKOLA DEEP-WATER HARBOUR

The Group's wind power company, PVO-Innopower Oy, is planning to build two wind power plants in the area of the Kokkola deepwater harbour. The objective is that the Kokkola wind power plants will begin generating electricity towards the end of 2002. Besides Kokkola, PVO-Innopower Oy aims to build wind power plants in the Kristiinan-kaupunki power plant area and at Riutunkari in Oulunsalo.

"The R&D projects are primarily based on the Kvoto Protocol, which has a particular effect on the use of fossil fuels for condensing power production."

# POHJOLAN VOIMA'S RESEARCH AND DEVELOPMENT PROJECTS

The objective of Pohjolan Voima's technology programme is to increase scope for its energy production. The R&D projects are primarily based on the Kyoto Protocol, which has a particular effect on the use of fossil fuels for condensing power production. We aim, for instance, to investigate feasible technical systems with a view to controlling carbon dioxide emissions from energy generation in order to maintain the current production level and to increase production in the future.

#### GASIFICATION OF REFUSE-DERIVED FUEL

Studies were conducted into the production of clean power plant fuel from refuse-derived fuel through gasification. The results of the tests commissioned from the Technical Research Centre of Finland VTT encouraged us to build a 1 MW pilot gasifier, on which the first series of tests was carried out in 2001. The tests will continue in 2002. The next step is to begin the design of a production-scale installation. The clean gas can replace the use of coal in energy generation and cut methane emissions that originate from waste.

The environmental impact assessment procedure of a gasification plant was established at the Martinlaakso power plant of Vantaa Energy Ltd in 2001.

#### WIND POWER

Opportunities of using wind power on an industrial scale have been studied in the sea area off the town of Kokkola. The studies have provided insight into the technical, economic, environmental and administrative preconditions for a large wind farm. On the basis of the investigations, the Ministry of the Environment set up a working group to look into the licensing issues in particular.

## THE RESIDUE BALE TECHNIQUE BEING APPLIED IN PRODUCTION

Under the biofuel programme, studies concerned the collection of biomass and its refining for use as biofuel, and the transport of fuel from forest to power plant.

The acquisition method of logging residue for the Pietarsaari power plant is based on what is called the 'residue bale technique'. The method was under joint development for two years by UPM-Kymmene Forest, Pohjolan Voima and the machine manufacturer, Timberjack. Towards the end of 2001, the largest site crusher in the Nordic countries was completed at the power plant. The equipment is specifically designed to crush oblong residue bales. The experience gained at the Pietarsaari plant is of primary importance in increasing the use of logging residue at other power plants as well. A large site crusher has been ordered for the Jämsänkoski power plant.

## **REED CANARY GRASS**

Pohjolan Voima investigated the opportunities to grow reed canary grass (Phalaris arundinacea) in the neighbourhood of the towns of Seinäjoki, Pietarsaari and Kokkola. The target set for 2002 is to begin the cultivation of reed canary grass, and we aim to achieve a cultivated area of 4 000 hectares by 2005.

#### **GAS STUDY**

The Mid-Nordic Gas Pipeline Study concerned the technical feasibility of a natural gas pipeline from Norway to the western coast of Finland. The purpose of the study was to look for gas consumption points and to assess consumption volumes. The study will be completed in spring 2002. It has received financing from the TEN (Trans-European Networks) financial aid programme of the European Union.

#### **ESTLINK**

Preparations aimed to build a direct-current connection between Estonia and Finland continued throughout 2001. Studies of the land and sea cable routes have been completed, and technical readiness for implementation of the investment exists. This Estlink project would be implemented as a high-voltage direct-current connection between the Finnish and Estonian grids. The application for a permit for a cross-border line required by the Electricity Market Act was submitted to the Ministry of Trade and Industry in August 2001. The permit for a cross-border line was granted in February 2002. The application for a Water Court's permit was submitted in early 2002.

#### GREEN CERTIFICATES TRADING LEARNT

Pohjolan Voima has been involved in a development project initiated by the European RECS (Renewable Energy Certificate System) group. The aim of the project is to find a market-based mechanism for promoting the competitiveness of renewable energy sources.





# CO-OPERATION WITH STAKEHOLDERS

Energy issues are being widely discussed in Finland. The players in the energy sector and their principal external stakeholder groups - civic organizations, authorities and political decision-makers - are well aware of each other's views. Pohjolan Voima considers it important that the stakeholders are well-informed about the necessity for the various forms of production.

The operating life of power plants is several decades. Experience shows that the values of society may greatly change over these years, and the social acceptability of the different forms of electricity generation may vary. The versatility of Pohjolan Voima's production structure reflects the changes in the values of society over the decades.

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 co-operation with the local fishery associations, research institutes and the fishing 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.

At the thermal power plants, the Group has informed the public of its operations by holding press conferences and arranging open house events for residents in the vicinity. The power plants have co-operated with municipalities and, for instance, with the Finnish Road Enterprise particularly in the utilization of fly ash.

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 electricity industry, and the Confederation of Finnish Industry and Employers (TT).

Pohjolan Voima informs its stakeholder groups of its operations and communicates regularly with them. With regard to communications, special emphasis has been placed on the development of network communications. The objective is that the stakeholders can easily obtain information on the Group's operations. The Group publishes several bulletins for stakeholders.



## LONG-TERM PERSONNEL POLICY

In the midst of structural changes brought about at Pohjolan Voima, relations with the personnel are of vital importance. Co-operation has enabled the changes in personnel to be made in a controlled manner, and the personnel have been able to rely on the long-term planning of the personnel policy.

In the beginning of 2001, more than 400 people working in operation and maintenance transferred from PVO-Lämpövoima Oy to Power-OM Oy. The joint working groups of management and personnel created a basis for the smooth restructuring. As part of the reorganization of Empower Oy's ownership, 250 people transferred from Vattenfall to Suomen Voimatekniikka Oy. In addition, some 40 people transferred to other subsidiaries of Empower Oy. The reorganizations were implemented rapidly and with a fairly good understanding.

Activities aimed to promote the fitness for work organized by the labour protection committees boast a long tradition. In 1997, the working capacity promotion programme was chosen as one of the priorities in the Group strategy. In the next few years, attention will be focused on issues connected with workload management and the maintenance of working energy. In 2001, instructions for the monitoring of working hours were specified. Groups were set up in several locations across the subsidiary borders to discuss employees' welfare at work, as well as occupational health and safety.

The range of the training and development activities has been wide. Besides actual professional training, training has also been given in management skills, steering of development discussions, occupational health and safety, and environmental issues. In the Empower Group, training linked with marketing was a fairly important subject. Language training will be further continued. The training and its results will be monitored systematically. In

the future, efforts will centre on the analysis of knowledge and the improvement of internal training activities.

#### CO-OPERATION

At the Group level, a Group meeting consisting of 20 members provides a forum for discussion and information exchange between the Group's top management and the representatives of the different personnel groups. Co-operation committees function at the local level. In accordance with the Act on Co-operation within Undertakings, the personnel have their representatives in the management groups of most Group companies. In almost all Group companies, the scope of the system used is much wider than required by law.

Up-to-date information is transmitted to the personnel electronically through the Group's intranet. In addition, the Group publishes personnel bulletins.



## ENVIRONMENTAL MANAGEMENT

Pohjolan Voima's environmental policy is based on the operating principles, which emphasize environmental issues as a part of the personnel's work. Since 1999, the Group's entire production has been covered by the certified environmental management systems. The certificates of thermal power production were renewed in 2001. The Finnish Environment Institute entered Teollisuuden Voima Oy into the EMAS register. The registration was the 39th in Finland and the first in the electricity production sector.

Self-motivated development of the environmental programmes is in agreement with Pohjolan Voima's environmental policy and vital to the commitment of the organizations. The implementation of the environmental programmes is ensured with the aid of audits at different levels.

In 2001, there were no serious deviations from regulatory compliance of the production plants. In Seinäjoki, the authority filed a complaint about the dust nuisance caused by the utilization of fly ash. At Tahkoluoto in Pori, there was a defective oil delivery, and on Lake

Pyhäjärvi of the Kokemäenjoki River, the permissible water level was exceeded owing to a storm. These incidents caused no damage.

Many licensing issues were pending, of which the following were the most important:

- The West Finland Regional Environment Centre granted Alholmens Kraft a permit to build a disposal area for power plant ash in Pietarsaari. The company had to appeal against the decision, since in the company's opinion the requirements set in the permit for protective structures exceeded the level required by law.
- A permit was applied for to build an ash disposal area in Kristiinankaupunki as well.
- The South Savo Regional Environment Centre granted an environmental permit to build the Ristiina power plant of Järvi-Suomen Voima Oy.
- An environmental permit has been applied for for the Savonlinna power plant.
- The application submitted by Powest Oy and Vapo Oy for the construction of a gasification plant of refusederived fuel in Vantaa is under consideration by the Western Finland Environmental Permit Authority.

- 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 is under consideration by the Western Finland Environmental Permit Authority.
- The application for a permit in accordance with the Electricity Market Act for a cross-border line was under consideration in the Ministry of Trade and Industry.
- The whitefish stocking obligation concerning Lake Kostonjärvi, located in the upper reaches of the Iijoki River, was changed to a payment obligation by decision of the Northern Finland Environmental Permit Authority.
- The environmental impact assessment (EIA) procedure concerning the studies into offshore wind power in Kokkola is underway.
- The EIA procedure, in which Pohjolan Voima is the co-operation partner of Vantaa Energy Ltd, concerning the gasification of refuse-derived fuel will be completed in the early part of 2002.



## 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. A system for identifying and collecting the environmental costs of thermal power production was drawn up in 2000. PVO-Lämpövoima Oy introduced the system towards the end of 2001. Teollisuuden Voima uses its own environmental accounting system.

The environmental costs of hydropower production were slightly lower than in the previous year, amounting to EUR 3 million. The costs were EUR 1.85 per megawatt-hour generated. 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 3.35 million in all for this work since 1992. In 2001, their contribution was EUR 50 000.

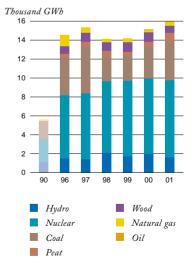
No coverable environmental damage was caused at the thermal power plants. Environmental income came from the sale of byproducts, but the amount of income was small in comparison with the costs.

At Mussalo in Kotka, EUR 0.4 million was invested in the promotion of the use of ash. An ash disposal area will be constructed in Kristiinankaupunki in 2002. The cost of the first investment phase totals about EUR 4 million. In the next few years, it will also be necessary to construct an ash disposal site in Seinäjoki.

Flocculation and oxidation basins of seepage water were built at the Olkiluoto municipal waste dump. Teollisuuden Voima Oy paid EUR 9.7 million to the State Nuclear Waste Management Fund.

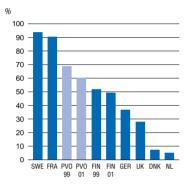
No such obligations have been imposed on the Group owing to which it would have been necessary to set aside reserves in the accounting.

#### **ELECTRICITY GENERATION**



#### FIFCTRICITY GENERATION STRUCTURE

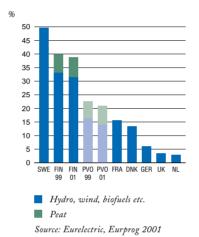
Emission-free (hydro, nuclear, wind etc.)



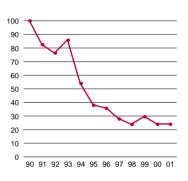
Source: Eurelectric, Eurprog 2001

#### **ELECTRICITY GENERATION STRUCTURE**

Renewables and peat



#### **ENVIRONMENTAL INDEX OF THERMAL** POWER 1990 - 2001



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.

## ENVIRONMENTAL EFFECTS OF PRODUCTION

Pohjolan Voima defines the environmental parameters of the electricity generated for its shareholders 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 growth in thermal power production increased total emissions. However, the environmental index that describes the environmental burden per production unit remained at the previous year's level.

#### Greenhouse gases

Pohjolan Voima's greenhouse gas emissions totalled 4.9 million tonnes, and they accounted for 6% of the total greenhouse gas emissions in Finland. The emissions grew by a third over

the previous year. However, emissions calculated per production unit have continued to be reduced since 1997 owing to the increased overall efficiency. The improvement in the production structure, which began in the latter part of last decade, corresponds to an annual reduction of 1.5 million tonnes in emissions. The investments that are underway and being planned further continue this trend.

No legislation concerning greenhouse gas emissions yet exists. Pohjolan Voima is involved in preparation of the implementation of the Kyoto Protocol to the UN Framework Convention on Climate Change at both the national and international levels, and is making provision for the future situation. Pohjolan Voima considers it important that the necessary measures are taken cost-effectively from the point of view of society as a whole and that the steps taken by the Group are taken into account when imposing obligations.

#### Acidifying emissions

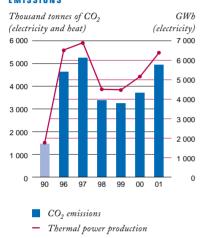
The increased use of fuels increased both sulfur and nitrogen oxide emissions. The sulfur emissions were 40% below the amounts allowed by the environmental permits. The nitrogen oxide emissions were 17% below the emissions allowed by the environmental permits. Pohjolan Voima accounted for a good 7% of the sulfur emissions in Finland and for not quite 4% of the nitrogen oxide emissions in Finland.

The choice of fuel, combustion technology and desulfurization plants contribute to cutting sulfur emissions. The emissions of nitrogen oxides are mainly reduced by combustion technology, since the bulk of the nitrogen originates from combustion air. In terms of the Finnish soil, Pohjolan Voima's acidifying emissions are of little importance.

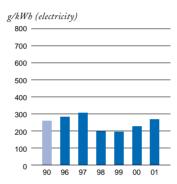
#### Health effects

Pohjolan Voima's particle emissions continued to be small, and despite the increased generation they remained at the previous year's level. The

# POHJOLAN VOIMA'S CARBON DIOXIDE



# POHJOLAN VOIMA'S SPECIFIC EMISSIONS OF CARBON DIOXIDE



emissions during the year under review were about 80% below 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. Pohjolan Voima monitors research into this subject and is involved in the joint studies carried out in this field.

A number of studies have been conducted at Pohjolan Voima's plants concerning the material flows of heavy metals. Measurements show that ash absorbs nearly all of the metals originating from fuels. The emissions into the air and water are therefore small.

# By-products

The power plants produced a total of 350 000 tonnes of fly ash, bottom ash and desulfurization gypsum. Of this amount, 70% 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.

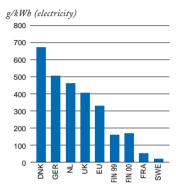
The utilization of by-products for earth works is hampered by the obligation to obtain a permit. The Ministry of the Environment was in fact preparing a decree that would release power plant ash, under certain conditions, from this obligation. The decree is very important with a view to promoting the utilization of ash.

#### **NUCLEAR POWER**

The environmental effects of nuclear power production are small. The amounts of radio-active water released into the sea continued to be reduced, and represented only 0.29% of the amount permitted by the authorities. Radio-active releases into the air were also reduced. They accounted only for 0.0003% of the amounts allowed by the permits.

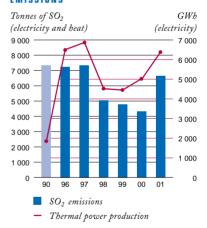
Even by international standards, the radiation doses received by the people working at the plant units were extremely low, 1.24 mSv on average. The official limit is 50.0 mSv. Despite the small doses, Teollisuuden Voima Oy launched a new project in 2001 with a view to further reducing the doses.

# SPECIFIC EMISSIONS OF CARBON DIOXIDE

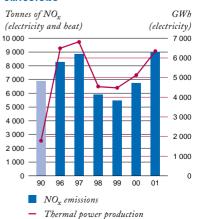


Source: Eurelectric, Eurprog 2001

# POHJOLAN VOIMA'S SULFUR DIOXIDE EMISSIONS

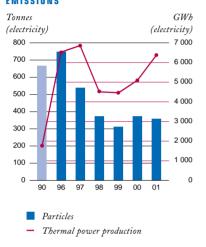


# POHJOLAN VOIMA'S NITROGEN OXIDE EMISSIONS

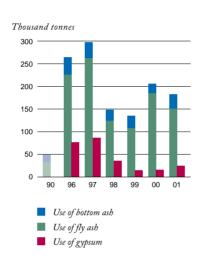


"Pohjolan Voima is involved in preparation of the implementation of the Kvoto Protocol to the UN Framework Convention on Climate Change at both the national and international levels."

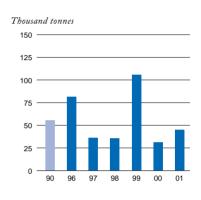
#### POHJOLAN VOIMA'S PARTICLE **EMISSIONS**



#### USE OF BY-PRODUCTS



#### DISPOSAL OF BY-PRODUCTS



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

The restoration and management of water systems continued in accordance with the currently in-force environmental management policy adopted in the 1980s. Two landscaping weirs, including the landscaping work, were completed in the drained riverbeds in the lower reaches of the Iijoki River. Up to now, 24 landscaping weirs have been completed in accordance with the programme launched in 1991. In addition, five landscaping weirs have been constructed in the regulated lakes located in the upper reaches of the Iijoki River in the 1990s. The last two landscaping weirs will be built in 2002. The programme is being 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.

Various measures relating to the clearing of shores, the building of boat-moving ramps, drainage arrangements, water supply management and landscaping were implemented in about 200 locations. Most of these measures concerned the protection of shores against erosion. We aim to bring the long restoration stage of environmental management to a conclusion in 2002.

PVO-Vesivoima Oy was also 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.

#### A good year for fish farming

Voimalohi Oy stocked a total of 3.4 million fry in the Kemijoki and Iijoki water systems and in the sea area. PVO-Vesivoima Oy 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 22 tonnes of rainbow trout of catchable size and large-sized trout were stocked in the river areas. Some 103 600 lamprey were transferred over dams. Voimalohi Oy reared about 80% of the salmonoid and about 75% 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 Oy implemented the stocking required by the authorities according to plan, except for the transfer of lamprey over dams on the Iijoki River, which remained 30% behind the target. Indeed, the stocking balances of almost all species showed a surplus. The farming of grayling succeeded extremely well. In 2001, it was thus possible to make up the deficits in the stocking balance shown in previous years.

Pohjolan Voima reports on the social responsibility and the environment on its home pages www.pohjolanvoima.fi.



# **BOARD OF DIRECTORS**



From the left: Tapani Sointu, Juhani Paananen, Arto Piela (Secretary of the Board of Directors), Mikko Kuumola, Juhani Pohjolainen, Esa Tirkkonen, Petri Heinonen, Heikki Sara and Timo Rajala (President).

#### MEMBERS

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Chairman
Executive Vice President
UPM-Kymmene Corporation

#### JUHANI POHJOLAINEN

Deputy Chairman M. Sc. (Eng.) 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

## AUDITORS

PricewaterhouseCoopers Oy Authorized Public Accountants

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President and CEO UPM-Kymmene Corporation

#### TIMO KOIVUNIEMI

Senior Vice President, Energy Stora Enso Oyj

## SEPPO PAJUKOSKI

Division Manager Vaasan Sähkö Oy

#### TAUNO PIHLAVA

CEO Kemira Oyj

## AARRE METSÄVIRTA

Executive Vice President M-real Corporation

#### PERTTI SIMOLA

Vice President UPM-Kymmene Corporation

#### STEFAN STORHOLM

CEO Oy Katternö Ab

#### MIKKO KUUMOLA

Financial Controller TXU Nordic Energy Oy

# **EXECUTIVE OFFICERS 1 JANUARY 2002**

## 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



From the left: Matti Kaisjoki,
Timo Rajala, Jukka Kiviluoto,
Arto Piela, Mauno Paavola,
Minna Korkeaoja and Jussi Kivimäki
(Secretary of the Executive Team).

# **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

#### **OPERATING ENVIRONMENT**

In 2001, the amount of electricity generated in Finland increased by 6.5% on the previous year. Net imports of electricity were reduced by 16.2%, accounting for 12.2% of the total consumption. In the Nord Pool, the regional price of electricity in Finland was EUR 22.83 per megawatt-hour, compared with EUR 14.88 in 2000.

In 2001, electricity consumption in Finland totalled 81.6 TWh, an increase of 3.1% on the previous year. Industry and construction accounted for 43.2 TWh, or 53.0% of the total electricity consumption. Industrial electricity consumption fell by 1.2%.

During the year under review, the electricity supply of the Pohjolan Voima Group amounted to 26.4 TWh. Pohjolan Voima Oy supplied 19.9 TWh of electricity to its shareholders, and Teollisuuden Voima Oy supplied 6.5 TWh to its shareholders, excluding Pohjolan Voima. In 2000, the Group's electricity supply totalled 24.0 TWh, and a total of 17.5 TWh was supplied to its shareholders.

#### CHANGES IN BUSINESS OPERATIONS AND GROUP STRUCTURE

In May, the name of the Service Group's parent company, Empower Oy, was changed to Powest Oy. At the same time, a new company named Empower Oy was established, to which Powest transferred some of its holdings in the Service Group companies while remaining, however, the majority shareholder in Länsi-Suomen Yhteiskäyttö Oy and Power-OM Oy, and the minority shareholder in Power-IT Oy. The reorganizations formed part of the merger of Empower's and Vattenfall Oy's service businesses. Powest sold a 35.3% share of Empower to Vattenfall Oy. The Empower Group companies purchased business operations from Vattenfall to the total value of EUR 9.9 million.

Powest has two series of shares: voting shares of Series K and shares of Series E entitled to dividend. Pohjolan Voima owns all the K series shares, but no E series shares. For this reason, a decision was taken to change the Group's accounting practice in such a manner that the Powest Group, including its subsidiaries, is not included in Pohjolan Voima's consolidated financial statements but it is treated as other investment.

In November, Pohjolan Voima formed the production company Vieskan Voima Oy, which purchased the biomass-fired power plant located in the town of Ylivieska.

#### PRODUCTION AND TURNOVER

The production of hydropower was 20% smaller than in the previous year, and was slightly below the production in a year of average precipitation. On the other hand, both imports from Russia and condensing power production based on coal and peat increased.

Production of the Olkiluoto nuclear power plant was higher

than in 2000. At unit 1, the short refuelling and maintenance outage lasted eight days. The annual outage of unit 2 was longer, lasting for 15 days. The total length of the annual outages was five days shorter than in the previous year.

Group turnover totalled EUR 569.7 million, which was EUR 61.6 million higher than in 2000. The turnover from sales of electricity and heat increased by more than 19% and the amount of energy supplied to the shareholders by not quite 14%.

#### **PERSONNEL**

The average number of employees working for the Group was 784 (1 855) and for the parent company 71 (78). At the end of the year, the Group personnel numbered 728.

#### INVESTMENTS

Investments of the Pohjolan Voima Group totalled EUR 181.6 million. Investments in the biomass-fired power plants that are under construction totalled EUR 128.2 million. Teollisuuden Voima invested EUR 17.4 million in plant modifications and improvements as part of the annual outages. PVO-Vesivoima purchased some of the Isohaara power plant stock from the financing company to the value of EUR 15.7 million. Pohjolan Voima's regional grid operations invested EUR 1.8 million. The Group invested EUR 14.8 million in shares of the associated company Oy Alholmens Kraft Ab. The remaining investments were mainly in repairs and renovations. The sales of fixed assets totalled EUR 13.5 million.

Kokkolan Voima Oy's heating power plant and the 110 kV transmission line from Jumisko to Pirttikoski were completed during the financial period.

The biomass-fired power plant with an electrical output of 240 MW owned by the associated company Oy Alholmens Kraft Ab was completed in Pietarsaari in the autumn.

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

In addition to the construction of biomass-fired power plants, a number of research projects linked with biofuels is underway in the Pohjolan Voima Group. These projects pertain to logistics, combustion technology, the use of ash as a fertilizer and opportunities for the use of new fuels. The EU, the Ministry of Trade and Industry and Tekes, the National Technology Agency of Finland have provided financing for the projects.

Pohjolan Voima continued research into the feasibility of offshore wind power on an industrial scale and established an environmental impact assessment procedure. A licensing procedure in accordance with the valid legislation would not seem to be suitable for industrial-scale wind farms. The planning procedures in particular are more problematic than in the case of other power

plant construction of a similar scale in terms of energy generation.

Development of gasification technology with a view to producing clean gas from refuse-derived fuels continued jointly with Vapo Oy Biotech and VTT Energy. An 80 MW gasification plant is being planned at the Martinlaakso power plant of Vantaa Energy Ltd. The new plant's need for refuse-derived fuel would amount to some 120 000 tonnes per year. The environmental impact assessment procedure of the project was established in the summer.

Teollisuuden Voima's R&D operations centred on nuclear waste management. Posiva Oy continued studies into the final disposal of spent nuclear fuel. Teollisuuden Voima was involved in Finnish and international joint projects that dealt with the safety of nuclear power.

During the year under review, the Pohjolan Voima Group spent 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 remained at the previous year's level 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. During the year under review, Teollisuuden Voima was registered in the environmental management and auditing system known as the EMAS system.

In May, Parliament ratified the decision in principle by the Council of State concerning the construction of a final disposal facility for spent nuclear fuel by Posiva Oy, a subsidiary of Teollisuuden Voima. The final disposal facility will be built at Olkiluoto in Eurajoki.

Pohjolan Voima does not publish a separate report on its social responsibility and the environment, but it forms part of the annual report. In the future, environmental information is available on Pohjolan Voima's home pages, www.pohjolanvoima.fi. Teollisuuden Voima draws up its own environmental report 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 2001, no environmental accidents occurred and there were no serious deviations from regulatory compliance.

#### FINANCE

Group liquidity remained good. Owing to investments, net interest-bearing liabilities increased by EUR 74.2 million and totalled EUR 779.5 million at the end of the year. There were no liabilities in foreign currencies.

Japan Credit Rating Agency (JCR) gave Pohjolan Voima's long-term foreign currency loans a Double A rating, the second highest on a scale of ten.

For liquidity management, the Group was able to rely on domestic CP programmes of EUR 234 million. At the end of the year, the revolving credit facility amounted to EUR 366 million, of which EUR 235 million was available.

At the end of the year, the Group had an equity-to-assets ratio of 48.7% (50.7%). The deferred tax liability is not included in the figure, as it is not expected to be realized.

#### SHAREHOLDERS' EQUITY AND SHARE ISSUES

The following issues were subscribed during the year under review:
• An increase of a minimum of 4 000 and a maximum of 10 000 in the I series capital stock on 22 November 2000, in proportion to the overall ownership of Pohjolan Voima at a subscription price of FIM 330 per share. The subscription period expired on 15 February 2001. The subscribed shares numbered 4 696.

- An increase of 149 700 in the G series capital stock on 20 April 2001. The issue, directed at UPM-Kymmene Corporation, Perhonjoki Oy, City of Kokkola and Päijät-Hämeen Voima Oy, had a subscription price of FIM 49.9 million (EUR 8.4 million).
- An increase of 54 890 in the G series capital stock on 18 October 2001. The issue, directed at UPM-Kymmene Corporation, Perhonjoki Oy, City of Kokkola and Päijät-Hämeen Voima Oy, had a subscription price of FIM 18.0 million (EUR 3.0 million).
- An increase of 128 000 in the G2 series capital stock on 18 October 2001. The issue, directed at UPM-Kymmene Corporation, had a subscription price of FIM 41.8 million (EUR 7.0 million).
- An increase of 32 000 in the G3 series capital stock on 18 October 2001. The issue, directed at UPM-Kymmene Corporation, had a subscription price of FIM 10.4 million (EUR 1.7 million).
- An increase of 182 000 in the D7 series capital stock on 18 October 2001. The issue, directed at UPM-Kymmene Corporation, had a subscription price of FIM 59.5 million (EUR 10.0 million).
- An increase of 25 000 in the K2 series capital stock on 18 October 2001. The issue, directed at Perhonjoki Oy, had a subscription price of FIM 8.4 million (EUR 1.4 million).

The extraordinary meeting of shareholders held on 18 October 2001 took a decision to redeem the D5 series shares and invalidate them, and consequently to reduce the share capital. All the 100 000 D5 series shares were redeemed from Stora Enso Oyj at a redemption price of FIM 10.0 million. The redemption price was paid by transferring Kemijärven Voima Oy's entire capital stock to Stora Enso Oyj.

Shareholder	Holding % Dec 31, 2000	Holding % Dec 31, 2001
Etelä-Pohjanmaan Voima Oy	4.292	4.265
City of Helsinki	1.442	1.432
llmarinen Mutual Pension		
Insurance Company	4.381	4.353
Kemira Oyj + Eläkesäätiö Neliapila	4.482	4.454
City of Kokkola	2.048	2.147
Kotkan Energia Oy	1.355	1.347
Kymppivoima Oy	2.112	2.099
Kyro Corporation	0.186	0.185
Oy Metsä-Botnia Ab	1.533	1.523
M-real Corporation	2.479	2.464
Myllykoski Corporation	1.502	1.493
City of Oulu	0.112	0.112
Perhonjoki Oy	1.743	1.955
City of Pori	1.157	1.150
Päijät-Hämeen Voima Oy	1.273	1.288
Stora Enso Oyj	16.406	16.011
TXU Nordic Energy Oy	14.613	14.519
UPM-Kymmene Corporation	38.349	38.670
Vantaa Energy Ltd	0.533	0.531

The extraordinary meeting of shareholders held on 18 October 2001 took a decision to convert 949 133 E series shares into B series shares in proportion to the shareholding of the E series, and as a result 3 705 610 E series shares remain. The conversion was entered into the trade register on 2 January 2002.

#### COMPANY MANAGEMENT

The Annual General Meeting elected the following members to the Board of Directors: Petri Heinonen, CEO, of Etelä-Pohjanmaan Voima Oy; Richard Mair, Managing Director, of TXU Nordic Energy Oy; Juhani Paananen, Director, of Kokkolan Energia; Juhani Pohjolainen, M. Sc. (Eng.); 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 Oyj; and Erkki Varis, CEO, of Oy Metsä-Botnia Ab. Heikki Sara was elected Chairman and Juhani Pohjolainen Deputy Chairman in the organization meeting of the Board of Directors.

The Managing Director of TXU Nordic Energy Oy changed, and the extraordinary meeting of shareholders elected Evan Edwards to take the place of Richard Mair.

#### **LEGAL ACTIONS PENDING**

In January 2002, the Helsinki District Court rejected the action for damages filed by PVO-Vesivoima Oy against the Finnish Government. The action claimed compensation for the lost economic benefit owing to protection of the Iijoki River. PVO-Vesivoima has registered its intent

to appeal against the court's judgement. The time for appeal to the Helsinki Court of Appeal will expire on 6 May 2002.

#### SHORT-TERM OUTLOOK

Capacity utilization rates of the forest industry are expected to take an upturn towards the end of the year at the earliest. A rise in the forest industry capacity will also increase the consumption of electricity. Owing to the low capacity utilization rates of the early 2002, however, the electricity demand of industry is not likely to rise by the long-time average of 2%.

The Ministry of Trade and Industry and the National Emergency Supply Agency have jointly planned with the power companies an arrangement by means of which some of the electricity production reserve capacity would be shifted to the use of the National Emergency Supply Agency. With regard to Pohjolan Voima, such capacity would mainly be the oil-fired condensing power plants in Kristiinankaupunki and Vaasa.

In recent years, Pohjolan Voima has been the largest investor in electricity generation. The completed power plants and those that are being built are in line with the principle of sustainable development and the efforts to combat climate change.

In January 2002, Järvi-Suomen Voima Oy took a decision to build a power plant at the industrial site of Schauman Wood Oy in Savonlinna. The new co-generation power plant will produce 17 MW of electricity, 33 MW of district heat for Suur-Savon Sähkö Oy and 20 MW of process steam for Pohjolan Voima, which will further supply it to UPM-Kymmene Corporation. The power plant is scheduled for completion in autumn 2003.

In January 2002, PVO-Innopower Oy took a decision to build two 1 MW wind power plants in the Kokkola port area. The licensing procedure of the project and negotiations for equipment deliveries are underway. The Ministry of Trade and Industry granted an investment subsidy of 35% for the wind power plants.

The Estlink project aimed to combine the Estonian and Finnish grids through a direct-current connection continued. The Ministry of Trade and Industry granted the permit required by the Electricity Market Act for a cross-border line in February 2002. A decision on the implementation has further been delayed owing to the energy policy situation in Estonia. In addition to Pohjolan Voima, the project involves Eesti Energia, Helsinki Energy and Graninge AB, and Latvenergo, Statkraft SF and TXU Nordic Energy Oy, which joined the project in 2001. The project has been accepted into the TEN (Trans-European Networks) financial aid programme of the European Commission.

In January 2002, the Council of State decided that the construction of a new nuclear power plant unit at either Loviisa or Olkiluoto, planned by Teollisuuden Voima, is in the overall interest of society. In accordance with the Nuclear Energy Act, the decision in principle went to readings in Parliament in February. Parliament is expected to take a decision during this spring.

# CONSOLIDATED PROFIT AND LOSS ACCOUNT

		Jan 1 - Dec 31, 2001	Jan 1 – Dec 31, 2000
		EUR 1 000	EUR 1 000
TURNOVER	(1)	569 695	508 079
Change in inventories of finished and			
unfinished goods +/-		0	-1 828
Production for own use		382	387
Other operating income	(2)	19 570	23 334
Raw materials and services	(3)	-283 700	-227 305
Personnel expenses	(4)	-42 359	-73 257
Depreciation and value adjustments	(5)	-85 457	-93 277
Other costs and expenses	(6)	-145 260	-110 029
OPERATING PROFIT		32 871	26 104
Financial income and expenses	(7)	-32 681	-33 947
PROFIT (LOSS) BEFORE			
APPROPRIATIONS AND TAXES		190	-7 843
Income taxes	(8)	-613	1 407
Minority interest		-875	-4 340
LOSS FOR THE FINANCIAL YEAR		-1 298	-10 776

# CONSOLIDATED BALANCE SHEET

		<b>Dec 31, 2001</b> EUR 1 000	Dec 31, 2000 EUR 1 000
TS			
FIXED ASSETS			
Intangible assets	(9)	39 818	53 85
Tangible assets	(10)	1 536 738	1 455 49
Investments	(11)	335 413	299 99
		1 911 969	1 809 34
CURRENT ASSETS			
Inventories	(12)	233 412	210 85
Non-current receivables	(13)	46 728	38 86
Current receivables	(14)	113 268	91 95
Cash in hand and at bank	(15)	4 555	8 98
		397 963	350 65
		2 309 932	2 159 99
TY AND LIABILITIES			
TY AND LIABILITIES  SHAREHOLDERS' EQUITY	(16)		
	(16)	57 955	57 58
SHAREHOLDERS' EQUITY	(16)	57 955 23 221	
SHAREHOLDERS' EQUITY Share capital	(16)		9 46
SHAREHOLDERS' EQUITY  Share capital  Share issue	(16)	23 221	9 46 312 34
SHAREHOLDERS' EQUITY  Share capital  Share issue  Share premium reserve	(16)	23 221 327 249	9 46 312 34 218 64
Share capital Share issue Share premium reserve Revaluation reserve	(16)	23 221 327 249 218 644	9 46 312 34 218 64 176 14
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings	(16)	23 221 327 249 218 644 166 528	9 46 312 34 218 64 176 14 -10 77
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings	(16)	23 221 327 249 218 644 166 528 -1 298	9 46 312 34 218 64 176 14 -10 77 763 40
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings Loss for the financial year	(16)	23 221 327 249 218 644 166 528 -1 298 <b>792 299</b>	9 46 312 34 218 64 176 14 -10 77 763 40
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings Loss for the financial year	(16)	23 221 327 249 218 644 166 528 -1 298 <b>792 299</b>	9 46 312 34 218 64 176 14 -10 77 763 40 170 33
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings Loss for the financial year  MINORITY INTEREST  LIABILITIES		23 221 327 249 218 644 166 528 -1 298 792 299	9 46 312 34 218 64 176 14 -10 77 763 40 170 33
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings Loss for the financial year  MINORITY INTEREST  LIABILITIES Deferred tax liability	(17)	23 221 327 249 218 644  166 528 -1 298  792 299  172 058	9 46 312 34 218 64 176 14 -10 77 763 40 170 33 160 04 849 41
SHAREHOLDERS' EQUITY  Share capital Share issue Share premium reserve Revaluation reserve  Retained earnings Loss for the financial year  MINORITY INTEREST  LIABILITIES Deferred tax liability Non-current liabilities	(17) (18)	23 221 327 249 218 644  166 528 -1 298  792 299  172 058  159 803 923 908	57 58 9 46 312 34 218 64 176 14 -10 77 763 40 170 33 160 04 849 41 216 79 1 226 25

# CONSOLIDATED CASH FLOW STATEMENT

	2001	2000
	EUR 1 000	EUR 1 000
ASH FLOW FROM OPERATING ACTIVITIES		
Operating profit	32 871	26 104
Adjustments to operating profit 1)	69 178	84 447
Change in net working capital <sup>2)</sup>	-7 413	5 731
Interest	-35 542	-36 96
Dividends received	1 803	1 163
Other financial income and expenses	428	5′
Direct taxes paid	-78	-565
Net cash from operating activities	61 247	79 976
ASH FLOW FROM INVESTING ACTIVITIES		
Acquisition of Group companies	_	-850
Acquisition of associated companies	-14 771	-3 357
Investment in other shares	-12	-424
Purchases of tangible and intangible assets	-166 792	-51 68:
Proceeds from sale of Group companies	2 562	-
Proceeds from sales of other shares	374	102
Proceeds from sales of tangible and intangible assets	11 125	34 624
Increase in non-current receivables	-17 009	-12 21
Net cash spent on investing activities	-184 523	-33 79
ASH FLOW FROM FINANCING ACTIVITIES		
Increase in long-term liabilities	198 772	34 38'
Decrease in long-term liabilities	-98 359	-97 642
Increase (-) or decrease (+) in interest-bearing receivables	-15 465	-89
Increase (+) or decrease (+) in urrent	-13 +03	-0).
interest-bearing liabilities	-7 283	75
Share issue	38 191	2 850
	2 995	2 030
Change in minority interest  Net cash spent on financing activities	118 851	-60 533
Net increase (+) or decrease(-) in cash and cash equivalents	-4 425	-14 354
Cash and cash equivalents, Jan 1	8 980	23 334
Cash and cash equivalents, Jan 1	4 5 5 5	8 980
Cash and Cash equivalents, Dec 31	4333	0 700
1) Adjustments to operating profit		
Depreciation and value adjustments	85 458	93 27
Gains (-) or losses (+) on sale of fixed assets	-10 356	-3 13
Share of associated companies' results	-5 924	-5 69.
<sup>2)</sup> Change in working capital	69 178	84 44
Increase (-) or decrease (+) in inventories	-22 554	-3 49
Increase (-) or decrease (+) in non-interest-bearing receivables	-10 693	8 19:
Increase (+) or decrease (-) in short-term		
non-interest-bearing liabilities	25 834	1 027
	-7 413	5 731

## PROFIT AND LOSS ACCOUNT OF PARENT COMPANY

		Jan 1 – Dec 31, 2001	Jan 1 – Dec 31, 2000
		EUR 1 000	EUR 1 000
TURNOVER	(1)	412 776	328 542
Other operating income	(2)	4 545	1 685
Raw materials and services	(3)	-190 868	-144 585
Personnel expenses	(4)	-4 282	-4 225
Depreciation and value adjustments	(5)	-1 457	-1 445
Other costs and expenses	(6)	-219 987	-180 777
OPERATING PROFIT (LOSS)		727	-80
Financial income and expenses	(7)	1 541	2 66
PROFIT BEFORE APPROPRIATIONS			
AND TAXES		2 268	1 864
Appropriations			
Decrease (+) in accumulated			
depreciation difference		757	542
Income taxes	(8)	-981	-825
PROFIT FOR THE FINANCIAL YEAR		2 044	1 581

## PARENT COMPANY BALANCE SHEET

		2001	2000
		EUR 1 000	EUR 1 000
SSETS			
NON-CURRENT ASSETS			
Intangible assets	(9)	1 246	1 396
Tangible assets	(10)	9 659	8 030
Investments	(11)		
Holdings in Group companies		837 587	654 301
Other investments		233 108	264 592
		1 081 600	928 319
CURRENT ASSETS			
Non-current receivables	(13)	45 168	36 807
Current receivables	(14)	42 977	38 057
Cash in hand and at banks		6 968	6 070
		95 113	80 934
		1 176 713	1 009 253
EQUITY AND LIABILITIES SHAREHOLDERS' EQUITY	(16)		
Share capital	(32)	57 955	57 580
Share issue		23 221	9 469
Share premium reserve		323 779	307 714
Revaluation reserve		218 644	218 644
Retained earnings		38 083	36 502
Profit for the financial year		2 044	1 581
		663 726	631 490
APPROPRIATIONS			
Accumulated depreciation difference		3 601	4 357
LIABILITIES			
Non-current liabilities	(17)	412 042	299 343
Current liabilities	(18)	97 344	74 063
		509 386	373 406
		1 176 713	1 009 253

## PARENT COMPANY CASH FLOW STATEMENT

	2001	2000
	EUR 1 000	EUR 1 00
SH FLOW FROM OPERATING ACTIVITIES		
Operating profit	728	-80
Adjustments to operating profit 1)	-750	1 40
Change in net working capital <sup>2)</sup>	6 656	-1 08
Interest paid	-13 784	-15 02
Interest received	13 327	12 98
Dividends received	2 565	2 52
Other financial income and expenses	1 219	65
Direct taxes paid	-754	-69
Net cash from operating activities	9 207	-3
SH FLOW FROM INVESTING ACTIVITIES		
Investment in shares	-202 068	-10 88
Purchases of tangible and intangible assets	-2 239	-1 50
Proceeds from sale of shares	2 042	
Proceeds from sales of tangible and intangible assets	98	8
Loans granted	-5 600	-6 00
Repayments of loan receivables	40 580	32 57
Net cash spent on investing activities	-167 187	14 27
SH FLOW FROM FINANCING ACTIVITIES		
Increase in long-term liabilities	133 790	17 67
Decrease in long-term liabilities	-16 743	-51 46
Increase (-) or decrease (+) in interest-bearing receivables	4 613	-2 10
Increase (+) or decrease (-) in current	. 010	210
interest-bearing liabilities	5 346	1 18
Share issue	31 874	9 17
Net cash spent on financing activities	158 880	-25 53
Net increase (+) or decrease (-) in cash and cash equivalents	900	-11 29
Cash and cash equivalents, Jan 1	6 069	17 36
Cash and cash equivalents, Dec 31	6 969	6 06
1) Adjustments to operating profit		
Depreciation and value adjustments	1 457	1 44
Merger profit	-80	
Gains (-) or losses (+) on sales of fixed assets	-2 127	-4
	-750	1 40
<sup>2)</sup> Change in working capital		
Increase (-) or decrease (+) in non-interest-bearing receivables	-5 371	10 14
Increase (-) or decrease (+) in short-term		
non-interest-bearing receivables	12 027	-11 23
	6 656	-1 08

### 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 entitlement to dividend, in its Parent Company. The effect of this change on the results for the financial year was EUR 0.9 million. Information on the reference year has not been changed.

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 values 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 as been defined as follows:

<ul> <li>hydropower plants</li> </ul>	40 - 50 years
• nuclear power plants	10 - 40 years
• condensing power plants	25 years
• co-generation power plants	4 – 40 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 1.0 million relating to the construction period of Kokkolan Voima Oy's and 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.

	•		rent Company	
	<b>2001</b> EUR 1 000	2000 EUR 1 000	<b>2001</b> EUR 1 000	2000 EUR 1 000
1) TURNOVER	450.000	2/2 = 12	0.7051	
Sales of electricity	459 908	368 743	365 374	272 213
Sales of heat	53 433	61 532	40 261	50 246
Other sales	56 354	77 804	7 141	6 083
	569 695	508 079	412 776	328 542
(2) OTHER OPERATING INCOME				
Gains on sales of fixed assets	10 356	3 134	2 127	46
Rental income	2 698	984	1 624	1 147
Other income and expenditure	6 516	19 216	794	492
	19 570	23 334	4 545	1 685
(3) RAW MATERIALS AND SERVICES				
Fuel	198 897	160 182	_	_
Other materials, consumables and goods	84 475	48 272	190 621	143 476
Purchases during the period	283 372	208 454	190 621	143 476
Change in inventories	-23 540	-3 792	-	143 470
External services	23 868	22 643	247	1 109
External services	283 700	227 305	190 868	144 585
Salaries and fees Salaries of the Boards of Directors and Managing Directors Other salaries	781 33 046	1 246 57 557	399 3 168	321 3 267
Other sataries	33 827	58 803	3 567	3 588
Pension expenses	5 473	8 951	432	
Other indirect employee costs	3 059	5 503		314
e their manuscr employee costs	8 532		283	
	0.3.12		283 715	314 323 637
Total personnel expenses	42 359	14 454 73 257	283 715 <b>4 282</b>	
Personnel (average)	42 359	14 454 73 257	715 <b>4 282</b>	323 637 4 225
Personnel (average) Salaried employees	<b>42 359</b> 585	14 454 73 257 1 342	715 <b>4 282</b> 66	323 637 4 225 71
Personnel (average) Salaried employees Wage-earners	<b>42 359</b> 585 199	14 454 73 257 1 342 513	715 <b>4282</b> 66 5	323 637 4 225 71 7
Personnel (average) Salaried employees	42 359 585 199 784	14 454 73 257 1 342 513 1 855	715 <b>4282</b> 66 5 <b>71</b>	323 637 4 225 71 7 78
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and	42 359 585 199 784	14 454 73 257 1 342 513 1 855	715 <b>4282</b> 66 5 <b>71</b>	323 637 4 225 71 7 78
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and	42 359 585 199 784	14 454 73 257 1 342 513 1 855	715 <b>4282</b> 66 5 <b>71</b>	323 637 4 225 71 7 78
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  (5) DEPRECIATION Depreciation according to plan	42 359  585 199 784 d some other staff i	14 454 73 257 1 342 513 1 855 members normally ret	715 <b>4282</b> 66 5 <b>71</b>	323 637 4 225 71 7 78
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  5) DEPRECIATION Depreciation according to plan Formation expenses	42 359  585 199 784 d some other staff of 137	14 454 73 257 1 342 513 1 855 members normally ret	715 <b>4282</b> 66 5 <b>71</b>	323 637 4 225 71 7 78
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  5) DEPRECIATION Depreciation according to plan Formation expenses Intangible assets	42 359  585 199 784 d some other staff of 137 27	14 454 73 257 1 342 513 1 855 members normally ret	715 4 282  66 5 71  There at the age of $60 - 6$	323 637 4 225 71 7 78 5.
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  (5) DEPRECIATION Depreciation according to plan Formation expenses Intangible assets Other capitalized expenditure	42 359  585 199 784 d some other staff r  6 137 27 2 599	14 454 73 257  1 342 513 1 855 members normally ret 6 137 11 4 105	715 4282  66 5 71  There at the age of 60 – 6	323 637 4 225 71 7 78 5.
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and Depreciation Formation according to plan Formation expenses Intangible assets Other capitalized expenditure Buildings and constructions	42 359  585 199 784 If some other staff of the staff of t	14 454 73 257  1 342 513 1 855 members normally ret  6 137 11 4 105 9 223	715 4282  66 5 71  iire at the age of 60 – 6  - 260 114	323 637 4 225 71 7 78 5.
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  (5) DEPRECIATION Depreciation according to plan Formation expenses Intangible assets Other capitalized expenditure Buildings and constructions Machinery and equipment	42 359  585 199 784 d some other staff of the staff of th	14 454 73 257  1 342 513 1 855 members normally ret  6 137 11 4 105 9 223 71 353	715 4282  66 5 71  There at the age of 60 – 6	323 637 4 225 71 7 78 5.
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  (5) DEPRECIATION Depreciation according to plan Formation expenses Intangible assets Other capitalized expenditure Buildings and constructions Machinery and equipment Other tangible assets	42 359  585 199 784 d some other staff of the staff of th	14 454 73 257  1 342 513 1 855 members normally ret 6 137 11 4 105 9 223 71 353 2 428	715 4282  66 5 71  iire at the age of 60 – 6  - 260 114	323 637 4 225 71 7 78
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  (5) DEPRECIATION Depreciation according to plan Formation expenses Intangible assets Other capitalized expenditure Buildings and constructions Machinery and equipment Other tangible assets Goodwill	42 359  585 199 784 d some other staff of the staff of th	14 454 73 257  1 342 513 1 855 members normally ret  6 137 11 4 105 9 223 71 353	715 4282  66 5 71  irre at the age of 60 – 6	323 637 4 225 71 7 78 5.
Personnel (average) Salaried employees Wage-earners Total Managing Directors of Group companies and  (5) DEPRECIATION Depreciation according to plan Formation expenses Intangible assets Other capitalized expenditure Buildings and constructions Machinery and equipment Other tangible assets	42 359  585 199 784 d some other staff of the staff of th	14 454 73 257  1 342 513 1 855 members normally ret 6 137 11 4 105 9 223 71 353 2 428	715 4282  66 5 71  iire at the age of 60 – 6  - 260 114	323 637 4 225 71 7 78 5.

		Group		t Company
	<b>2001</b> EUR 1 000	2000 EUR 1 000	<b>2001</b> EUR 1 000	2000 EUR 1 000
	EUR 1 000	EUR 1 000	EUR 1 000	EUR 1 000
(6) OTHER COSTS AND EXPENSES				
Energy purchases	39 797	21 336	210 667	172 828
Share of associated companies' profits	-5 925	-5 693	_	-
Repair and maintenance services	30 009	22 654	_	_
Rents and leases	14 740	12 880	1 795	1 729
Real estate taxes	6 070	5 206	63	31
Other expenses	60 569	53 646	7 462	6 189
	145 260	110 029	219 987	180 777
(7) FINANCIAL INCOME AND EXPENSES				
Dividend income				
From associated companies	_	_	2 564	2 528
From others	1 803	1 163	1	1
Tion ones	1 803	1 163	2 565	2 529
Interest income from long-term investment	ts			
From Group companies	_	_	10 312	11 933
From others	11 742	9 442	2 564	1 676
	11 742	9 442	12 876	13 609
Other interest and financial income				
From Group companies	_	_	755	591
From associated companies	_	_	, 55 54	371 _
From others	1 657	1 082	561	216
110m onicis	1 657	1 082	1 370	807
Total interest income	13 399	10 524	14 246	14 416
Interest and financial expenses				
To Group companies	_	_	-12 537	-11 052
To associated companies	-	-	-53	_
To others	-47 883	-45 634	-2 680	-3 224
	-47 883	-45 634	-15 270	-14 276
Total financial income and expenses	-32 681	-33 947	1 541	2 669
Interest and financial income includes				
net exchange rate differences	1	-128	-1	-134
(8) INCOME TAXES				
Taxes for the financial year	699	703	981	850
Taxes from previous periods	0	-23	0	-25
Change in deferred tax liability	-86	-2 087	_	
change in deterior tax natinty	613	-1 407	981	825
	013	1 707	/01	023

## NOTES TO THE ACCOUNTS

	EUR 1 000	Formation expences	Intangible rights	Other capitalized expenditure	Advance payments	Goodwill	Total
GRO	UP						
	Acquisition cost, Jan 1	58 116	112	62 542	429	2 327	123 526
	Increases	_	238	1 045	0	34	1 317
	Decreases	_	-38	-9 506	-199	-2 327	-12 070
	Acquisition cost, Dec 31	58 116	312	54 081	230	34	112 773
	Accumulated depreciation, Jan 1 Accumulated depreciation	-39 717	-80	-29 602	_	466	-68 933
	on decreases	-	39	5 175	_	-466	4 748
	Depreciation for the period	-6 137	-27	-2 599	_	-7	-8 770
	Accumulated depreciation,						
	Dec 31	-45 854	-68	-27 026	_	-7	-72 955
	Book value, Dec 31, 2001	12 262	244	27 055	230	27	39 818
	Book value, Dec 31, 2000	18 400	62	33 103	429	1 861	53 855
PARI	ENT COMPANY						
	Acquisition cost, Jan 1	_	6	2 438	_	_	2 444
	Increases	_	5	111	_	_	116
	Decreases	_	_	-7	_	_	-7
	Acquisition cost, Dec 31	-	11	2 542	-	-	2 553
	Accumulated depreciation, Jan 1	_	_	-1 047	_	_	-1 047
	Depreciation for the period	_	_	-260	_	_	-260
	Accumulated depreciation, Dec 3:	L –	_	-1 307	_	_	-1 307
	Book value, Dec 31, 2001	_	11	1 235	_	_	1 246
	Book value, Dec 31, 2000	-	6	1 390	-	_	1 396
(10) TANI	GIBLE ASSETS EUR 1 000	T 1 1	D.:11:	M - 1: 1	Oals + 11-1-	Advance	
	EUR 1 000	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible payments	payments	Total
GRO	UP						
	Acquisition cost, Jan 1	41 511	358 193	1 713 349	254 849	29 207	2 397 111
	Increases	1 302	7 974	61 007	2 175	134 775	207 232
	Decreases	-170	-1 924	-27 720	-289	-36 880	-66 984
	Acquisition cost, Dec 31	42 643	364 243	1 746 636	256 735	127 102	2 537 359
					45.040		0.42.40
	Accumulated depreciation, Jan 1 Accumulated depreciation	-	-133 620	-790 661	-17 913	_	-942 194
	Accumulated depreciation, Jan 1 Accumulated depreciation on decreases	-	-133 620 -16		-17 913 140	_	
	Accumulated depreciation on decreases	- - -	-16	18 136	140	- -	18 260
	Accumulated depreciation on decreases  Depreciation for the period	- - -	-16 -9 264	18 136 -65 943	140 -1 480	- - -	18 260 -76 687
	Accumulated depreciation on decreases  Depreciation for the period  Accumulated depreciation, Dec 3:		-16 -9 264 -142 900	18 136 -65 943 -838 468	140 -1 480 -19 253		18 260 -76 687 -1 000 621
	Accumulated depreciation on decreases  Depreciation for the period	- - - - 42 643 41 511	-16 -9 264	18 136 -65 943	140 -1 480	- - - 127 102 29 207	-942 194  18 260 -76 687 -1 000 621  1 536 738 1 455 494
	Accumulated depreciation on decreases  Depreciation for the period  Accumulated depreciation, Dec 3:  Book value, Dec 31, 2001	42 643	-16 -9 264 -142 900 <b>221 343</b>	18 136 -65 943 -838 468 <b>908 168</b>	140 -1 480 -19 253 <b>237 482</b>	127 102	18 260 -76 687 -1 000 621 <b>1 536 738</b>
	Accumulated depreciation on decreases  Depreciation for the period  Accumulated depreciation, Dec 3:  Book value, Dec 31, 2001  Book value, Dec 31, 2000  Revaluations included in	42 643	-16 -9 264 -142 900 <b>221 343</b>	18 136 -65 943 -838 468 <b>908 168</b>	140 -1 480 -19 253 <b>237 482</b> 236 936	127 102	18 260 -76 687 -1 000 621 <b>1 536 738</b>
	Accumulated depreciation on decreases  Depreciation for the period  Accumulated depreciation, Dec 3:  Book value, Dec 31, 2001  Book value, Dec 31, 2000	42 643	-16 -9 264 -142 900 <b>221 343</b> 224 119	18 136 -65 943 -838 468 <b>908 168</b>	140 -1 480 -19 253 <b>237 482</b>	127 102	18 260 -76 687 -1 000 621 <b>1 536 738</b>

## CAPITALIZED INTERESTS RELATING TO CONSTRUCTION PERIOD

:		Other capitalized	U	Machinery and	U	Advance	_
	expences	expenditure	onstructions	equipment	assets	payments	Tota
GROUP							
Acquisition cost, Jan 1	11 601	3 530	31 133	112 781	2 609	5	161 65
Increases			102	534	31	284	95
Acquisition cost, Dec 31	11 601	3 530	31 235	113 315	2 640	289	162 61
Accumulated depreciation,							
Jan 1	-7 780	-1 260	-15 014	-53 726	-1 288	0	-79 06
Depreciation for the period	-1 274	-123	-822	-3 022	-67	0	-5 30
Accumulated depreciation,							
Dec 31	-9 054	-1 383	-15 836	-56 748	-1 355	0	-84 37
Book value, Dec 31, 2001	2 547	2 147	15 399	56 567	1 285	289	78 23
Book value, Dec 31, 2000	3 821	2 271	16 118	59 054	1 321	5	82 59
O) TANGIBLE ASSETS EUR 1 000	Land a water ar	0		ry and Other	tangible assets	Advance payments	Tot
PARENT COMPANY							
Acquisition cost, Jan 1	_	71 33		6 603	-	746	10 87
Increases	-	27 3	52 2	2 740	-	1 846	4 96
Decreases		_		-49	_	-2 537	-2 58
Acquisition cost, Dec 31	1	98 3 7	03 9	9 294	_	55	13 25
Accumulated depreciation, Jan	1	6	20 -2	2 222	-	-	-2 84
		1	14	-636	-	_	-75
Depreciation for the period						_	-3 59
Depreciation for the period Accumulated depreciation, De	ec 31	7	34 -2	2 858	_	_	-33,
Accumulated depreciation, De <b>Book value, Dec 31, 2001</b>		7 98 <b>29</b>		2 858 <b>6 436</b>	_	55	9 65
Accumulated depreciation, De	1		69 (		- - -		9 65
Accumulated depreciation, De <b>Book value, Dec 31, 2001</b>	1	98 29	69 (	6 436	- - -	55	

## NOTES TO THE ACCOUNTS

(11) INVESTMENTS EUR 1 000	Sha	ares in associated	Other shares	Other	
		companies	and holdings	receivables	Tota
GROUP					
Acquisition cost, Jan 1		60 257	37 506	202 232	299 995
Increases		19 162	1 701	17 009	37 872
Decreases		-1 787	-668	0	-2 455
Acquisition cost, Dec 31		77 632	38 539	219 241	335 412
Book value, Dec 31, 2001		77 632	38 539	219 241	335 412
Book value, Dec 31, 2000		60 257	37 506	202 232	299 995
	Shares in	Receivables	Shares in	Other	
	Group companies	from Group companies	associated companies	shares and holdings	Tota
PARENT COMPANY					
Acquisition cost, Jan 1	654 301	230 914	33 337	341	918 893
Increases	187 296	_	14 771	19	202 086
Transfers between categories	-1 699	_	_	1 699	(
Decreases	-2 311	-47 955	-	-18	-50 284
Acquisition cost, Dec 31	837 587	182 959	48 108	2 041	1 070 695
Book value, Dec 31, 2001	837 587	182 959	48 108	2 041	1 070 695
Book value, Dec 31, 2000	654 301	230 914	33 337	341	918 893
Revaluations included in					
acquisition cost, Dec 31	218 644				
	2001	Group 2000		Parent C 2001	ompany 2000
	EUR 1 000	EUR 1 000		EUR 1 000	EUR 1 000
(12) INVENTORIES					
(12) INVENTORIES  Materials and supplies	2 993	3 705			
Materials and supplies	2 993 230 419				
Materials and supplies Fuel	2 993 230 419	3 705 206 589 564			
Materials and supplies		206 589			
Materials and supplies Fuel	230 419	206 589 564			
Materials and supplies Fuel Work in progress	230 419	206 589 564			
Materials and supplies Fuel Work in progress Fuel (coal and unrefined uranium)	230 419 - 233 412	206 589 564 210 858			
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price	230 419 - 233 412 89 985	206 589 564 210 858 73 765			
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference	230 419 - 233 412 89 985 -97 933	206 589 564 210 858 73 765 -65 072			
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference	230 419 - 233 412 89 985 -97 933 -7 948	206 589 564 210 858 73 765 -65 072 8 693		11 530	3 166
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference  (13) NON-CURRENT RECEIVABLES Loan receivables	230 419 - 233 412 89 985 -97 933 -7 948	206 589 564 210 858 73 765 -65 072 8 693		11 530 33 638	
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference	230 419 - 233 412 89 985 -97 933 -7 948 13 090 33 638	206 589 564 210 858 73 765 -65 072 8 693 5 054 33 806		33 638	33 638
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference  (13) NON-CURRENT RECEIVABLES Loan receivables Capital loan receivables	230 419 - 233 412 89 985 -97 933 -7 948	206 589 564 210 858 73 765 -65 072 8 693			33 638
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference  (13) NON-CURRENT RECEIVABLES Loan receivables	230 419 - 233 412 89 985 -97 933 -7 948 13 090 33 638	206 589 564 210 858 73 765 -65 072 8 693 5 054 33 806		33 638	33 638 36 807
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference  (13) NON-CURRENT RECEIVABLES Loan receivables Capital loan receivables  Receivables from Group companies Capital loan receivables  Receivables from associated companies	230 419 - 233 412 89 985 -97 933 -7 948 13 090 33 638	206 589 564 210 858 73 765 -65 072 8 693 5 054 33 806		33 638 <b>45 168</b>	3 169 33 638 36 807
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference  (13) NON-CURRENT RECEIVABLES Loan receivables Capital loan receivables  Receivables from Group companies Capital loan receivables  Receivables from associated companies Loan receivables	230 419 - 233 412 89 985 -97 933 -7 948 13 090 33 638 46 728	206 589 564 210 858 73 765 -65 072 8 693 5 054 33 806 38 860		33 638 45 168 1 2 765	33 638 36 807 1
Materials and supplies Fuel Work in progress  Fuel (coal and unrefined uranium) Replacement price Book value Difference  (13) NON-CURRENT RECEIVABLES Loan receivables Capital loan receivables  Receivables from Group companies Capital loan receivables  Receivables from associated companies	230 419 - 233 412 89 985 -97 933 -7 948 13 090 33 638 46 728	206 589 564 210 858 73 765 -65 072 8 693 5 054 33 806 38 860		33 638 <b>45 168</b>	33 63 36 80

	Group		Paren	t Company
	2001	2000	2001	2000
	EUR 1 000	EUR 1 000	EUR 1 000	EUR 1 000
CURRENT RECEIVABLES				
Accounts receivable	73 911	65 362	41 699	30 419
Loan receivables	1 177	_	_	-
Share issue receivables	-	6 317	-	5 853
Deferred assets	16 180	16 187	1 178	1 662
Other receivables	22 001	4 087	100	123
	113 269	91 953	42 977	38 057
Receivables from Group companies				
Accounts receivable			679	1 874
Deferred assets			212	
Other receivables			20	45
			911	1 919
Receivables from associated companies				
Accounts receivable	376	3 686	43	104
Deferred assets	570	3 000	-	59
Other receivables	1 453	1 008	_	-1
Other receivables	1 829	4 695	43	162
Main items included in current				
deferred assets				
Personnel expenses	585	378	_	53
Interest income	9 178	8 160	424	875
Income taxes	_	411	7	7
Indirect taxes	71	380	_	_
Others	6 346	6 858	747	727
	16 180	16 187	1 178	1 662
Interest-bearing receivables				
Non-current assets	219 241	202 232	182 959	230 914
Current assets	63 629	47 839	52 136	42 876

## (15) CURRENT FINANCIAL ASSETS

Current financial assets (2000) include privatization vouchers of the Estonian subsidiary that can be used for purchasing land offered for sale as part of the country's privatization process.

Replacement price	_	58
Book value	_	-17
		/11

	Group			t Company
	<b>2001</b> EUR 1 000	2000 EUR 1 000	<b>2001</b> EUR 1 000	2000 EUR 1 000
(16) SHAREHOLDERS' EQUITY				
Share capital, Jan 1	57 580	57 379	57 580	57 379
Invalidation of Series D5	-168	_	-168	_
Transfer from share issues	543	201	543	201
Share capital, Dec 31	57 955	57 580	57 955	57 580
Share issue, Jan 1	9 469	6 721	9 469	6 721
Transfer to share capital	-543	-201	-543	-201
Transfer to share premium reserve	-17 579	-6 223	-17 579	-6 223
Share issues during the period	31 874	9 172	31 874	9 172
Share issue, Dec 31	23 221	9 469	23 221	9 469
Share premium reserve, Jan 1	312 343	306 120	307 714	301 491
Change in Group structure*)	-1 160	-	-	_
Invalidation of Series D5	-1 514	_	-1 514	-
Share issue premium	17 580	6 223	17 579	6 223
Share premium reserve, Dec 31	327 249	312 343	323 779	307 714
Revaluation reserve, Jan 1	218 644	218 644	218 644	218 644
Revaluation reserve, Dec 31	218 644	218 644	218 644	218 644
Retained earnings, Jan 1	165 368	176 145	38 083	36 502
Change in Group structure*)	1 160	_	_	_
Retained earnings, Dec 31	166 528	176 145	38 083	36 502
Profit (loss) for the financial year	-1 298	-10 776	2 044	1 581
Total shareholders' equity	792 299	763 405	663 726	631 490
*) Effect of the Service Group separated from the C	Group during the period			
Distributable funds, Dec 31				
Retained earnings	166 528	176 145	38 083	36 502
Profit (loss) for the financial year	-1 298	-10 776	2 044	1 581
<ul> <li>Capitalized formation expenses</li> </ul>	-12 262	-18 376	_	_
<ul> <li>Cost of acquisition of own shares</li> </ul>	0	-3	_	-
Portion of accumulated depreciation     difference transferred to				
shareholders' equity	-160 358	-161 991	_	_
	-7 390	-15 002	40 127	38 083

	No.	à FIM	EUR 1 000
ARE CAPITAL BY SHARE CATEGORY			
Series A	13 350 077	10.00	22 453
- entitling to electricity generated or acquired			
by PVO-Vesivoima Oy			
Series B	6 534 572	10.00	10 990
- entitling to 49.6% of electricity generated or acquired			
by Teollisuuden Voima Oy			
Series C	8 314 455	10.00	13 984
- entitling to electricity generated or acquired			
by PVO-Lämpövoima Oy			
Series D4	232 000	10.00	390
- entitling to electricity and heat generated			
by Veitsiluodon Voima Oy			
Series D6	300 000	10.00	505
- entitling to electricity and heat generated			
by Oulun Voima Oy			
Series D7	60 000	10.00	101
- entitling to electricity and heat generated			
by Jämsänkosken Voima Oy			
Series E	4 654 743	10.00	7 829
- entitling to electricity and heat generated			
by Mussalon Voima Oy and to 7.2% of electricity			
generated or acquired by Teollisuuden Voima Oy			
Series G	299 400	10.00	503
– entitling to 49.9% of electricity and heat generated			
by Oy Alholmens Kraft Ab			
Series G2	60 000	10.00	101
- entitling to 76% of electricity and heat generated			
by Kymin Voima Oy			
Series G3	18 720	10.00	31
- entitling to 69.3% of electricity and heat generated			
by Järvi-Suomen Voima Oy			
Series H	500 000	10.00	841
- entitling to electricity and heat generated			
by PVO-Huippuvoima Oy			
Series I	4 696	10.00	8
- entitling to 63.3% of electricity and heat generated			
or acquired by PVO-Innopower Oy			
Series K1	130 000	10.00	219
- entitling to electricity and heat generated or			
acquired by Kokkolan Voima Oy			
	34 458 663		57 955

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 received.

## NOTES TO THE ACCOUNTS

(17) DEFERRED TAX LIABILITY  Deferred tax liability  From appropriations			<b>2001</b> EUR 1 000	2000 EUR 1 000	<b>2001</b> EUR 1 000	2000 EUR 1 000
Deferred tax liability			EUR 1 000	EUR 1 000	EUR 1 000	EUR 1 000
Deferred tax liability						
From appropriations						
			159 803	160 045		
(18) NON-CURRENT LIABILITIES						
Bond loans			93 307	93 307	_	_
Loans from financial institut	ions		324 675	271 186	65 738	31 392
Pension fund loans			4 906	6 541	_	_
Other non-current liabilities			501 020	478 384	346 304	267 951
			923 908	849 418	412 042	299 343
Liabilities to Group compan	ies					
Other non-current liabilitie	es				346 304	267 951
Repayment schedules for lon from 2007 (from 2006)	ıg-tern	n loans,				
Loans from financial institu	utions		117 777	61 391	4 843	708
Pension fund loans			0	1 635	_	_
Other non-current liabilitie	es		3 177	4 357	_	_
			120 954	67 383	4 843	708
Bond loans Curr	rency	%				
1991-2001	CHF	7.250	_	65 651		
Repayments			_	-65 651		
1993-2003	JPY	5.300	86 708	93 528		
1997-2004	FIM	5.800	11 773	11 773		
			98 481	105 301		
Adjustment of swap loans a	ınd rec	eivables	-5 174	-11 994		
			93 307	93 307		

	Group		Parent Company	
	<b>2001</b> EUR 1 000	2000 EUR 1 000	<b>2001</b> EUR 1 000	2000 EUR 1 000
CURRENT LIABILITIES				
Bonds	90 470	59 787		
Loans from financial institutions	25 892		17 249	12 903
Pension fund loans	1 635	30 398	17 249	12 903
Other non-current liabilities	1 033	1 635	_	_
Advances received	_ 27	255 727	_	_
	60 170		40.470	27.051
Accounts payable		41 840	48 470	37 851
Deferred liabilities	50 677	54 363	16 247	13 308
Other short-term liabilities	32 993 <b>261 864</b>	27 785 216 790	15 378 <b>97 344</b>	10 001 74 063
To Group companies				
Accounts payable			36 762	37 175
Deferred liabilities			77	10 304
Other short-term liabilities			12 371	1 041
Other short term masmates			49 210	48 520
To associated companies				
Advances received	_	165	_	_
Accounts payable	3 804	1 289	2 673	237
Deferred liabilities	_	_	_	201
Others	2	_	_	_
	3 806	1 454	2 673	438
Main items included in current				
deferred liabilities				
Personnel expenses	7 203	11 136	563	553
Interest expenses	22 335	21 947	12 373	11 038
Income taxes	237	27	237	10
Indirect taxes	261	203	-	_
Others	20 641	21 050	3 074	1 707
	50 677	54 363	16 247	13 308
Interest-free and interest-bearing liabilities				
Non-current				
Interest-bearing	923 908	849 418	412 042	299 343
Current	923 908	849 418	412 042	299 343
Interest-free	123 362	110 747	60 455	45 662
	143 304	110 / 4/	00 733	<del>4</del> 5 002
Interest nee  Interest-bearing	138 502	106 043	36 889	28 401

		Group		Parent Company		
	<b>2001</b> EUR 1 000	2000 EUR 1 000	<b>2001</b> EUR 1 000	2000 EUR 1 000		
(20) CONTINGENT LIABILITIES						
Mortgages						
As security against own debt	26 103	54 400				
As security for own commitments	26 103	1 374 55 774				
Guarantees						
Loan guarantees						
For associated companies	171 158	112 290	171 158	112 235		
For others	669	699	699	699		
Other guarantees	007	0,,	0,,	077		
For own commitments	11 092	7 438	7 617	7 312		
For Group companies	-	7 130	37 592	45 824		
For associated companies	1 251	1 200	1 200	1 200		
For others	1 517	-	1 517	1 200		
1 of others	185 687	121 627	219 783	167 270		
Leasing commitments						
Payments for 2002 / 2001	10 322	12 543				
Payments for the following years	126 114	151 308				
	136 436	163 851				
Other commitments	555	660	336	336		
Nuclear waste management liabilities						
Nuclear waste management liability Funds in the Nuclear Waste	693 200	663 000	_	-		
Management Fund (Mar 31)	693 200	656 200	_	_		
Guarantee required under Section 44	073 200	030 200				
of the Nuclear Energy Act	77 280	87 232	43 893	49 545		
Nuclear waste management	77 200	07 232	13 073	17 3 13		
receivables pledged to the State						
Nuclear Waste Management Fund	212 345	201 727	_	_		
(94) PERINATIVE CONTRACTO						
(21) DERIVATIVE CONTRACTS  Capital values of derivative contracts						
providing a hedge against exchange rate						
and interest risks were as follows:						
Interest rate derivatives						
Option contracts Purchased	60 000	110 000	_			
Written	60 000	110 000	_	_		
Swap agreements	154 384	131 352	88 866	85 685		
Currency derivatives						
Forward contracts	0	662	_	_		
Swap agreements	86 708	159 179	_	_		

## 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 15.5%.

ROI% =

	profit before	_	financial income
100 x	extraordinary items	т	and expenses
100 X	capital invested (avera	ge 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.

### INVESTMENTS

Investments in the grid totalled EUR 1.8 million.

### PROFIT AND LOSS ACCOUNT

Jan 1 - De	ec 31, 2001	Jan 1 - Dec 31, 2000
	EUR 1 000	EUR 1 000
TURNOVER	3 398	3 117
Raw materials and services	-1 200	-1 043
Personnel expenses	-105	-102
Depreciation and		
value adjustments	-477	-435
Other costs and expenses	-212	-290
OPERATING PROFIT	1 404	1 247
Financial income and expense	es 332	238
Profit before appropriations and taxes	1 736	1 485
Appropriations		
Decrease in accumulated	d	
depreciation difference	318	278
Income taxes	-597	-511
PROFIT FOR THE		
FINANCIAL YEAR	1 457	1 252

ANCE SHEET	Dec 31, 2001 EUR 1 000	Dec 31, 2000 EUR 1 000		Dec 31, 2001 EUR 1 000	Dec 31, 2000 EUR 1 000
ASSETS			EQUITY AND LIABILITIES		
NON-CURRENT ASSETS			Calculated equity	2 838	2 838
Intangible assets			Retained earnings	5 142	3 890
Capitalized expenditure	584	738	Profit for the financial year	1 457	1 252
				9 437	7 980
Tangible assets					
Grid	5 585	3 378	APPROPRIATIONS		
Advance payments and			Accumulated depreciation		
work in progress	0	726	difference	3 060	3 378
	6 169	4 842			
CURRENT ASSETS			LIABILITIES		
Current receivables			Current		
Accounts receivable	384	477	Accounts payable	204	350
Deferred assets	0	238	Deferred liabilities	737	685
Cash in hand and at banks	6 885	6 836		941	1 035
	7 269	7 551			
	13 438	12 393		13 438	12 393

# SHARES AND HOLDINGS

		Domicile	Group holding %	Parent Company holding %		
GROUP COMPANIES						
Jämsänkosken V	Joima Oy	Helsinki	100.0	100.0		
Järvi-Suomen V	•	Helsinki	69.3	69.3		
Kokkolan Voim	•	Helsinki	100.0	100.0		
Kymin Voima C	•	Helsinki	76.0	76.0		
Mussalon Voim	=	Helsinki	100.0	100.0		
Nokian Lämpö	•	Helsinki	80.1			
Olkiluodon Ves		Helsinki	100.0			
Oulun Voima C	•	Helsinki	100.0	100.0		
Perusvoima Oy	•	Helsinki	100.0			
Posiva Oy		Helsinki	60.0			
Posivia Oy		Helsinki	100.0			
PVO-Huippuvo	oima Oy	Helsinki	100.0	100.0		
PVO-Innopowe	•	Helsinki	63.3	63.3		
PVO-Kiinteistö	•	Helsinki	100.0	100.0		
PVO-Lämpövo	•	Helsinki	100.0	100.0		
PVO-Pool Oy	,	Helsinki	100.0	100.0		
PVO-Vesivoima	a Oy	Helsinki	100.0	100.0		
PVO-Voimaver	•	Helsinki	100.0	100.0		
Raahen Voima	Oy	Helsinki	100.0	100.0		
Rouhialan Voin	•	Helsinki	100.0	100.0		
Teollisuuden Vo		Helsinki	56.8	56.8		
TVO Nuclear S	Services Oy	Eurajoki	100.0			
Veitsiluodon Vo	oima Oy	Helsinki	100.0	100.0		
Vieskan Voima	Oy	Helsinki	100.0	100.0		
Wisapower Oy	•	Helsinki	100.0	100.0		
Kiint. Oy Voim	alinja	Kristiinank.	100.0			
		Domicile	Group holding %	Parent Company holding %	Shareholders' equity	Profit/loss for the financial year
ASSOCIATED AND PARTICII	PATING INTEREST C	OMPANIES				
Oy Alholmens	Kraft Ab	Pietarsaari	49.9	49.9		
Fingrid Oyj		Helsinki	25.1	25.1		
As.Oy Pahkako	sken Paritalot	Yli-Ii	36.2	36.2		
Polartest Oy		Helsinki	24.1		860	320
Radtek Oy		Helsinki	30.0		429	-105
Tornionlaakson	Voima Ov	Ylitornio	50.0			
Vaskiluodon Vo	· ·	Vaasa	50.0			
Voimalohi Oy	•	Kemi	50.0			
•						

PROPOSAL OF THE BOARD OF DIRECTORS FOR RECORDING THE FINANCIAL RESULT

The Group has no distributable assets.

The profit and loss account of the Parent Company Pohjolan Voima shows a profit of EUR 2 044 147.14. The distributable equity totals EUR 40 126 497.66.

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, March 1, 2002

Heikki Sara Juhani Pohjolainen Evan Edwards Chairman Deputy Chairman

Petri Heinonen Juhani Paananen Tapani Sointu

Esa Tirkkonen Erkki Varis

Timo Rajala President and CEO

### **AUDITORS' REPORT**

To the shareholders of Pohjolan Voima Ov

We have audited the accounts, the accounting records and the administration of Pohjolan Voima Oy for the financial year January 1 – December 31, 2001. 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, March 18, 2002

PricewaterhouseCoopers Oy Authorized Public Accountants

Eero Suomela Authorized Public Accountant

## SHAREHOLDERS AND DISTRIBUTION OF SHARES AS OF DEC. 31, 2001

	%
Etelä-Pohjanmaan Voima Oy	4.3
City of Helsinki	1.4
Ilmarinen Mutual Pension Insurance Company	4.4
Kemira Oyj + Eläkesäätiö Neliapila	4.5
City of Kokkola	2.1
Kotkan Energia Oy	1.3
Kymppivoima 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	1.9
City of Pori	1.2
Päijät-Hämeen Voima Oy	1.3
Stora Enso Oyj	16.0
TXU Nordic Energy Oy	14.5
UPM-Kymmene Corporation	38.7
Vantaa Energy Ltd	0.5
Total	100.0

## **POWER PLANT-SPECIFIC DATA**

Plant	Fuel	Location	Electrical	Environmental
		oı	ıtput, MW	protection
			(Pohjolan	technology
			Voima's share)	
HYDROPOWER				
Isohaara	water	Kemijoki	106	
Jumisko	water	Kemijoki	25	
Raasakka	water	Iijoki	58	
Maalismaa	water	Iijoki	33	
Kierikki	water	Iijoki	32	
Pahkakoski	water	Iijoki	38	
Haapakoski	water	Iijoki	28	
Melo	water	Kokemäenjoki	60	
Harjavalta	water	Kokemäenjoki	14	
Portimokoski and others	water	Tengeliönjoki	7	
Output, total	MW		401	
NUCLEAR ROWER				
NUCLEAR POWER Olkiluoto	uranium	Eurajoki	954	
Output, total	MW	Burujoki	954	
THERMAL POWER				
Kristiina 2	coal	Kristiinankaupunki	242	desulfurization, low-NO <sub>x</sub>
Tahkoluoto	coal	Pori	225	desulfurization, low-NO <sub>x</sub>
Vaskiluoto 2	coal	Vaasa	115	desulfurization, low-NO <sub>x</sub>
Meri-Pori	coal	Pori	146	desulfurization, catalysts
Mussalo 1	coal, natural gas	Kotka	75	low-NO <sub>x</sub>
Mussalo 2, combined cycle	natural gas	Kotka	238	$low-NO_x$
Nokia	natural gas	Nokia	70	$low-NO_x$
Kristiina 1	oil	Kristiinankaupunki	210	
Vaskiluoto 3	oil	Vaasa	160	
Seinäjoki	peat, wood	Seinäjoki	63	circulating fluidized bed, fu
Veitsiluoto	wood, peat	Kemi	145	bubbling fluidized bed, fue
Oulu	wood, peat	Oulu	146	bubbling fluidized bed, fuel
Alholmens Kraft 1	wood, peat	Pietarsaari	12	circulating fluidized bed, fu
Alholmens Kraft 2	wood, peat	Pietarsaari	120	circulating fluidized bed, fu
Kokkola	wood, peat	Kokkola	20	bubbling fluidized bed, fuel
	, r			5 bea; rae

## **CONTACT PERSONS**

### POHJOLAN VOIMA OY

President and CEO Timo Rajala

Liisa Sirola, Secretary

Executive Vice President

Matti Kaisjoki

Kirsi Holmberg, Secretary

Group Controller

Minna Korkeaoja

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 Jaakko Tuomisto

Co-operation in Electricity Trade;

Russia and the Baltic Region

Risto Mäkinen

Managerial Accounting

Terttu Lapinleimu

Financial Accounting

Aune Ranta

Financing Timo Väisänen

Jukka Kalliomäki Cash Management

Kaija Silver

Strategies

Risto Vaarna

Internal Auditing

Taru Yrjänäinen-Paatero

Legal Affairs

Jussi Kivimäki

Seppo Ehanti

Environmental Affairs

Birger Ylisaukko-oja

Jouko Rämö

Communications and

Corporate Relations

Antti Kuusela

Osmo Kaipainen

Fuels

Heikki Jatakari, coal, oil

Juha Poikola, biomass

Personnel

Juhani Mäki

Vesa Saari

Heikki Varis

Transmission, IT Systems,

Technology

Risto Vesala

Jorma Isotalo

Corporate Planning

Paavo Onkalo

POWEST OY

President

Minna Korkeaoja

Technology and Development

Projects, Wind Power

Veli-Matti Jääskeläinen

Lauri Luopajärvi

Pekka Ottavainen

PVO-LÄMPÖVOIMA OY

President

Matti Kaisjoki

PVO-POOL OY

Managing Director

Orvo Laurila

PVO-VESIVOIMA OY

President

Jukka Kiviluoto

TEOLLISUUDEN VOIMA OY

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