



*Annual Report* 2004





## **Pohjolan Voima is** a

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

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## CONTENTS

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<i>4</i>	Pohjolan Voima
<i>10</i>	Highlights in 2004
<i>12</i>	Review by the President
<i>15</i>	Operating environment
<i>21</i>	Business review
<i>29</i>	Corporate responsibility
<i>35</i>	Corporate governance
<i>38</i>	Board of Directors
<i>40</i>	Executive Officers
<i>41</i>	Accounts for 2004
<i>68</i>	Glossary

The Annual General Meeting of Pohjolan Voima Oy was held on Monday, 4 April 2005 at 1 p.m. at Töölönkatu 4, 00101 Helsinki.

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## POHJOLAN VOIMA

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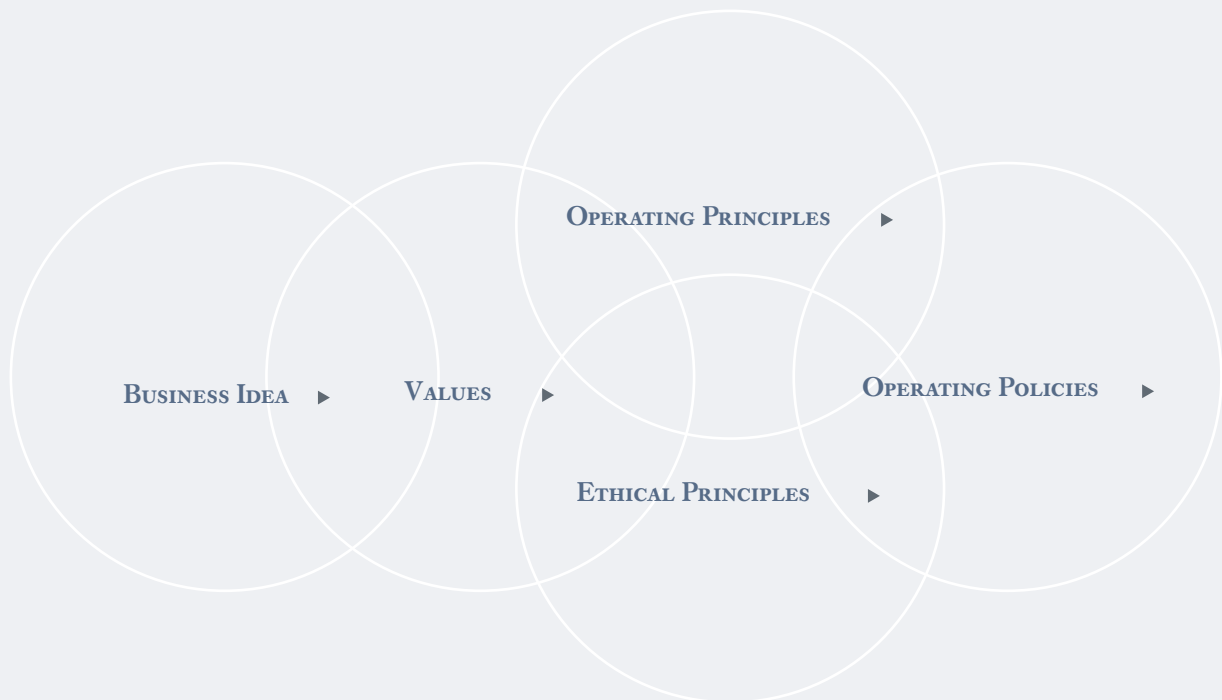
### BUSINESS IDEA

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

### VALUES

*Responsibility • Reliability • Competence*

These values are materialized in the Group's operating principles, ethical principles and operating policies. Over the decades, Pohjolan Voima's core values have shaped the Group's operations and developed a corporate culture in which it is safe to work towards common objectives.



## OPERATING PRINCIPLES

We treat each of our shareholders equally and supply them with competitively priced electricity and heat by utilizing a wide range of energy sources.



We ensure good operability of the production machinery.



In developing the supply capacity, we seek new and innovative solutions that support long-term operation.



We purposefully promote co-operation with our partners and stakeholders as well as within the Group.



We value competent and efficient employees. We encourage our employees to develop their skills and to embrace new challenges with an open mind.



We are a secure employer.



In constantly seeking to improve the working environment, we aim at promoting the interests of our employees in the best way possible.



We take account of the ecological and social effects of our entire supply chain in a responsible and anticipatory manner.



We value equitable, long-term and reliable relationships with our stakeholders.



We act ethically and comply with laws and regulations.

## ETHICAL PRINCIPLES

Act honestly and fairly.

Respect each person as an individual.

Act openly, maintain confidentiality.

Distinguish between your own interests and those of the Group's.

Keep distinctions and gifts reasonable.

Take care of the Group's property.



## The objective of Pohjolan

Voima is to reliably, and in the long term, supply its shareholders with *competitively priced energy* that has been generated by environmentally acceptable means.

## HISTORY

Pohjolan Voima was established in 1943 as a mutual production company. The Company's founders needed electricity for their operations, but none of the shareholders could alone cover the extensive costs involved in the construction of power plants: a decision was taken to centralize the production of energy and to share the costs. In the beginning, Pohjolan Voima built hydropower plants. In the 1960s, as the electricity demand was increasing and the opportunities for further construction of hydropower were dwindling, the Company undertook to build thermal power plants as well. The first thermal power plants were fuelled by oil. When the oil crises increased the price of fuel manifold, Pohjolan Voima built coal-fired power plants and was among the founders of the nuclear power company, Teollisuuden Voima Oy.

In the 1990s, Länsirannikon Voima Oy and Etelä-Suomen Voima Oy merged with Pohjolan Voima, which also purchased Oy Nokia Ab's energy business. At the turn of the millennium, Pohjolan Voima launched jointly with its shareholders an extensive construction programme of biofuel-fired power plants and contributed to Teollisuuden Voima's nuclear power project. Pohjolan Voima's founder shareholders were Finnish forest industry companies. Later on, municipal energy utilities and companies as well as other industries became owners as well.

## BUSINESS OPERATIONS

The objective of Pohjolan Voima's business operations is to reliably, and in the long term, supply its shareholders with competitively priced energy that has been generated by environmentally acceptable means. The Group's business is based on the fact of being capable of building, operating and maintaining versatile electricity and heat production machinery. The shareholders obtain the generated energy in accordance with their shareholdings and are, correspondingly, committed to bearing the production costs.

The price of energy supplied by Pohjolan Voima is steadier and more predictable than the price of electricity on the Nordic electricity exchange.

Pohjolan Voima's subsidiary, Powest Oy, owns companies whose businesses support the power production and energy supply of its shareholders. As the owner of Powest, Pohjolan Voima Oy aims to safeguard the availability, quality and competitive price of the services that support power production. Powest publishes an annual review of its own.

## ENERGY PRODUCTION

Pohjolan Voima has power plants of various types, whose production has a different cost structure. The Group aims to optimize the operation of its power plants in accordance with each load and market situation. The versatile production structure offers reliable electricity generation in variable consumption situations. In addition to the Group's own

production, Pohjolan Voima acquires electricity to complement the supply as a whole.

### *Hydropower*

Hydropower plants can be started, regulated and stopped more easily than other power plants. Opportunities to exploit hydropower depend on the discharges of rivers and the water volumes of reservoirs. The licensing conditions specify the maximum and minimum water levels of the reservoirs. The investment costs of hydropower plants are high, whereas the operating costs are low. The plant permits require that the fish stocks and aquatic environment be managed.

Pohjolan Voima has its own hydropower plants and shareholdings of hydropower plants in the Kemijoki, Iijoki, Kokemäenjoki and Tengeliönjoki water systems.

### *Nuclear power*

Nuclear power satisfies the continuous and consistent need for electricity. The investment costs of a nuclear power plant are high, whereas the operating costs are low. The objective is a high degree of utilization of the plants, which means that electricity is generated as much as possible.

Pohjolan Voima's subsidiary Teollisuuden Voima generates nuclear power at two plant units at Olkiluoto.

### *Thermal power*

Thermal power can be divided into combined heat and power (CHP) and condensing power. The heat produced at CHP plants is used as process steam and as district heat: this raises the overall efficiency of the power plants to well over 90% at best. The fuels used at CHP plants include coal, peat, wood fuels and natural gas. In terms of production costs, CHP plants are often more economical than condensing power plants.

At condensing power plants, as high a proportion as possible of the energy contained in the fuel is converted into electricity. The primary fuel of condensing power plants is coal. The heavy fuel oil-fired reserve and peak-load power plants are used when the demand for electricity is exceptionally great, or when other power plants are out of production.

Pohjolan Voima has continued to renovate its thermal power capacity.

### *Wind power*

Wind power plants generate electricity according to the wind conditions. The annual production is only about a quarter in comparison with all-year production at full capacity. The construction of wind power requires government subsidy in accordance with the energy policy. The unit costs of a wind power plant investment are high.

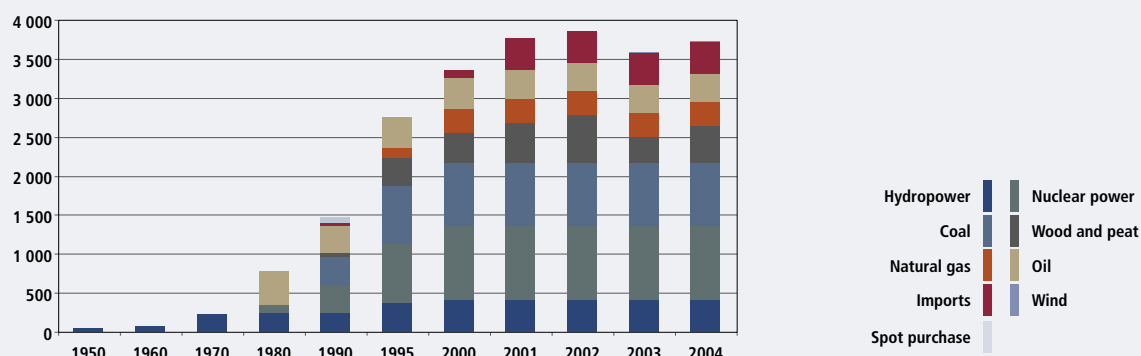
Pohjolan Voima has wind power plants in Kokkola, Oulunsalo, Kristiinankaupunki and Oulu.



## GENERAL SHAREHOLDING OF THE SHAREHOLDERS ON 31 DECEMBER 2004

shareholder	holding, %
Etelä-Pohjanmaan Voima Oy	7.52
City of Helsinki	0.83
Ilmarinen Mutual Pension Insurance Company	4.35
Kemira Oyj and Pension foundation Neliapila	2.80
Kemira GrowHow Oyj and Kemira Agro Oy's Pension foundation	1.76
City of Kokkola	2.44
Kympivoima Tuotanto Oy	8.72
Kyro Corporation	0.18
Oy Metsä-Botnia Ab	1.58
M-real Corporation	2.86
Myllykoski Corporation	0.86
Nordic Energy Oy	0.00
City of Oulu	1.75
Outokumpu Oyj	0.02
Oy Perhonjoki Ab	2.68
City of Pori	1.16
Päijät-Hämeen Voima Oy	1.98
Rautaruukki Oyj	0.02
Stora Enso Oyj	15.60
UPM-Kymmene Corporation	42.57
Vantaa Energy Ltd	0.32
<b>Total</b>	<b>100.00%</b>

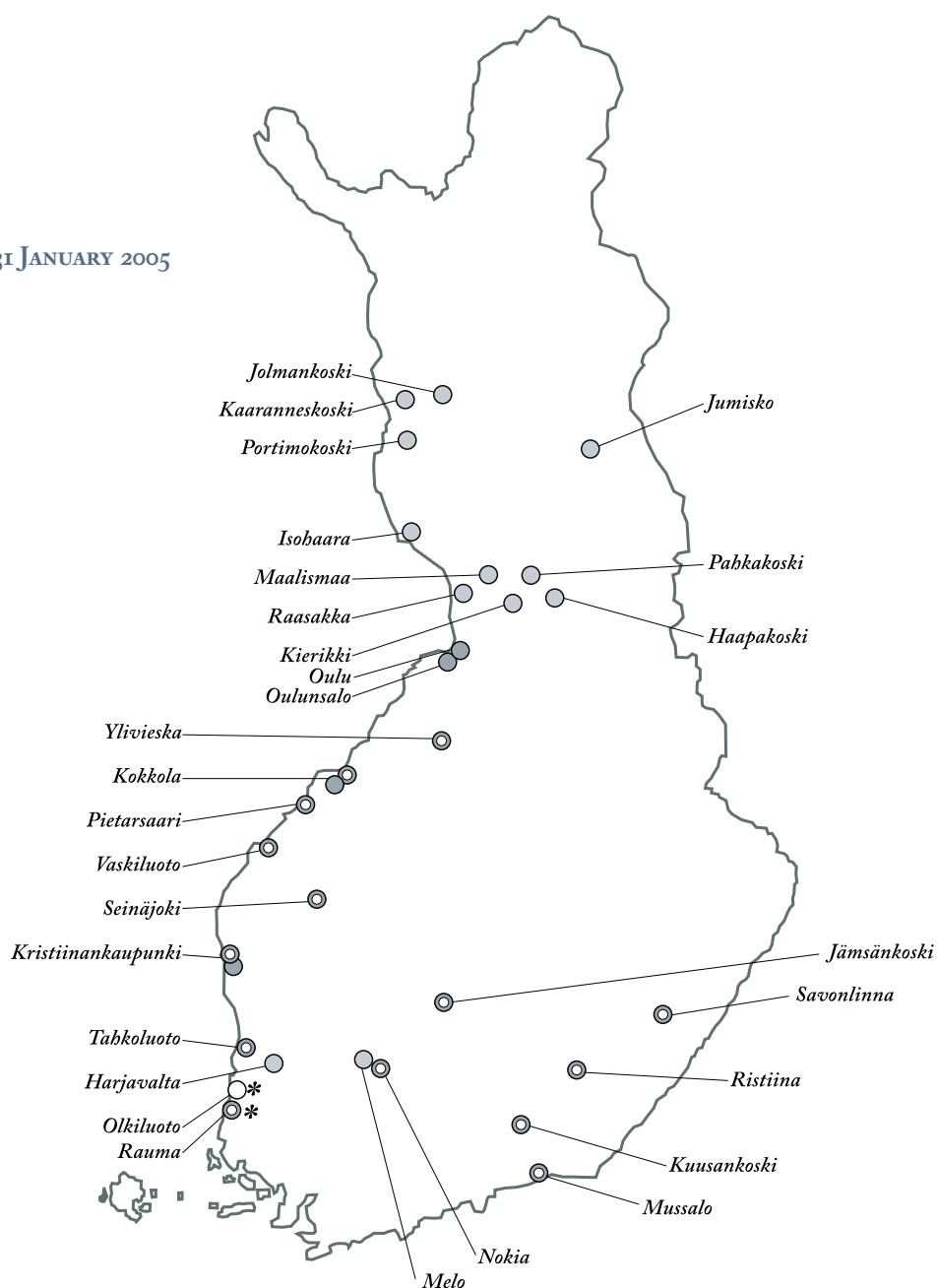
Pohjolan Voima's electricity supply capacity in 1950 - 2004, MW





## PRODUCTION CAPACITY, 31 JANUARY 2005

- Hydropower plant
- Nuclear power plant
- Wind power plant
- ⊙ Thermal power plant
- \* Under construction



## Pohjolan Voima's key figures

		2004	2003	2002	2001	2000
Turnover	€ million	667	659	670	570	508
Operating profit	€ million	0	-21	+38	+33	+26
Net interest-bearing liabilities	€ million	1 063	801	774	780	705
As percentage of turnover	%	159	122	115	137	139
Equity-to-assets ratio	%	43	47	48	49	51
Total assets	€ million	2 664	2 386	2 357	2 310	2 160
Investments	€ million	427	90	197	182	55
Personnel		873	864	803	784	1 855

## HIGHLIGHTS IN 2004

### JÄRVI-SUOMEN VOIMA OY'S SAVONLINNA POWER PLANT INAUGURATED

The new biofuel-fired power plant was inaugurated in February 2004. The power plant's electricity generation capacity is 17 MW and heat generation capacity 53 MW. The fuels used include by-products from UPM's Savonlinna plywood mill: all of the bark, crushed veneer and sanding dust, and some of the sawdust. In addition, by-products from other regional wood-processing industry and logging residue are used as fuels. Pohjolan Voima jointly owns Järvi-Suomen Voima Oy with Suur-Savon Sähkö Oy.

### WISAPOWER OY'S POWER PLANT INAUGURATED IN PIETARSAARI

Pohjolan Voima's subsidiary, Wisapower Oy, built an evaporating plant, a recovery boiler and a turbine plant as part of UPM's Pietarsaari mill. The power plant was inaugurated in August 2004 and it generates electricity and heat. The power plant's electrical output is 140 MW. The plant burns black liquor produced during the pulping process.

### WIND POWER PLANTS BEING BUILT

Pohjolan Voima commissioned three wind power plants in Kristiinankaupunki and purchased a 1 MW wind power plant, located at Vihreäsaari in Oulu, from the city of Oulu.

In addition, the construction of a new 3 MW wind power plant was underway at Vihreäsaari in Oulu. In 2003, Pohjolan Voima already commissioned two 1 MW wind power plants in Kokkola and three 1 MW plants in Oulunsalo.

### AREA WORK OF TVO'S OLKILUOTO 3 PROJECT BEGAN

Pohjolan Voima's subsidiary, Teollisuuden Voima Oy, began the area work of the Olkiluoto 3 nuclear power plant unit in the beginning of 2004. The supplier of the plant unit of about 1 600 MW is a consortium formed by Framatome ANP and Siemens. Olkiluoto 3 is scheduled for commissioning in 2009. The construction will begin in the spring of 2005.

### DECISIONS TAKEN ON THE TURBINE AND AUTOMATION RENOVATION OF THE TAHKOLUOTO POWER PLANT

The power of the Tahkoluoto power plant will increase by about 10 MW, when some of the power plant's turbine cylinders and rotors are replaced. The power plant's instrumentation and control system will be modernized at the same time. Both projects are scheduled for completion in autumn 2005.



The Minister of Trade and Industry, Mauri Pekkarinen, inaugurated the Savonlinna power plant in February.



The Minister of the Environment, Jan-Erik Enestam, inaugurated the wind power plants in Kristiinankaupunki in May.



In August, Prime Minister Matti Vanhanen inaugurated the plants built under the WISA 800 investment at the Pietarsaari mill. Under the project, Pohjolan Voima's subsidiary, Wisapower, built a recovery boiler plant.

## DECISION TAKEN TO BOOST HYDROPOWER PRODUCTION

Pohjolan Voima will renovate the machinery of its hydropower plants on the Iijoki River and boost their production. By employing new technology it is possible to increase the power of the plants by about 50 MW in all. The first phase of the work will be carried out at the Kierikki hydropower plant in 2006 and 2007.

## AGREEMENTS ON THE CULTIVATION OF REED CANARY GRASS SIGNED

Pohjolan Voima launched the cultivation project of reed canary grass, grown in the field, in Ostrobothnia in 2002. The first agreements on the cultivation of reed canary grass were signed in spring 2004. Reed canary grass will be supplied to the Kokkola, Pietarsaari, Seinäjoki and Ylivieska bio-fuel-fired power plants. In the future, the Group aims to use reed canary grass at its other biofuel-fired power plants as well. The target set for 2007 is to achieve a cultivated area of 10 000 hectares: this would raise the utilization of energy crops to 0.3 TWh.

## EMISSION PERMITS GRANTED FOR POHJOLAN VOIMA'S POWER PLANTS

Parliament passed the Emissions Trading Act in 2004. In accordance with the requirements laid down in the Act,

Pohjolan Voima applied for greenhouse gas emissions permits for its plants, and the Government allocated emission allowances of carbon dioxide to the plants. Pohjolan Voima thus made provision for the emissions trading that began in the beginning of 2005.

## NEW SHAREHOLDERS FOR POHJOLAN VOIMA OY

Pension foundation Neliapila and Kemira Agro Oy's Pension foundation sold some of their shares in Pohjolan Voima Oy to Outokumpu Oyj and Rautaruukki Oyj.

## "THE POHJOLAN VOIMA WAY" PROCESS CONTINUED

The Group began implementing the set of ground rules entitled "The Pohjolan Voima Way – sound operating practice", which was adopted towards the end of 2003. During the year under review, training sessions were held during which the personnel were familiarized with the Group's core values, principles and policies. Furthermore, a project was launched to assess and measure corporate responsibility.



The largest wind power plant in Finland was erected at Vihreäsaari in Oulu in mid-November.



Area work was carried out in the Olkiluoto 3 project.



Pohjolan Voima signed the first agreements on the cultivation of reed canary grass.

## REVIEW BY THE PRESIDENT

Pohjolan Voima achieved well its targets set for 2004. Our production capacity functioned reliably and the supply of both electricity and heat was maintained at the previous year's level.

One of the priorities set for the operations in 2004 was to make provision for emissions trading within the EU. From the viewpoint of our Group, the allocation of emission allowances was not implemented in the anticipated manner. The emission allowances allocated to our power plants were based on reference years 2000–2003, which meant that condensing power production became the biggest bearer of the costs incurred by emissions trading.

Early measures, such as substantial investments in bio-energy, were disregarded to a great extent in the allocation of emission allowances. Emissions trading may result in the actual favouring of less efficient and carbon-intensive energy production in other EU countries.

### CONTINUATION OF THE CLIMATE POLICY REQUIRES CAREFUL CONSIDERATION

The entry into force of the Kyoto Protocol and the Kyoto mechanisms offer the State of Finland the opportunity to utilize emission reductions particularly outside the EU. This would contribute to alleviating the emission reduction burden placed on Finnish industry and energy production in the burden sharing within the EU.

In international climate policy, the real problem is that commitments to reduce emissions do not concern the United States and the leading economic powers of Asia, i.e. China and India. Regarding follow-up negotiations on the UN's climate policy, the EU must raise the issue of involving the above-mentioned states in the potential climate protocol that would concern the years after 2012 to a decisive role.

The EU should see to it that the above states as well as other rival countries are involved in the next Protocol to the UN's Framework Convention on Climate Change. Otherwise, the competitiveness of the industry in the EU area would be increasingly damaged.

With respect to the targets of climate policy, it would be more reasonable to promote low-carbon forms of produc-

tion. For instance, Finland has long been investing in the utilization of bioenergy, district heat, increased energy efficiency and nuclear power, which all contribute to cutting greenhouse gas emissions.

The use of refuse-derived fuel by employing gasification technology is an innovative way of reducing carbon dioxide and methane emissions. The Supreme Administrative Court will render a final decision on the project, which has been opposed by nature conservation organizations. A favourable decision would mark a new advance for Finnish technology and open up important markets. It is regrettable that the implementation of projects indisputably sound in environmental terms faces opposition at a time when they are badly needed.

Pohjolan Voima has invested considerably in wind power and, at the same time, supported the efforts of the Finnish Winwind Oy to make a breakthrough both in the EU area and elsewhere in the world. The new 3 MW wind power plant type, put into operation in early 2005, is the most recent example of Pohjolan Voima's pioneer role.

### NUCLEAR POWER – AN ESSENTIAL ELEMENT OF CLIMATE POLICY

Additional construction of nuclear power is Pohjolan Voima's most significant means of meeting the increasing deficit in capacity and the requirements set by international climate policy.

Our subsidiary, Teollisuuden Voima, is responsible for the reliable production of its existing power plants while also concentrating on ensuring the smooth implementation of the Olkiluoto 3 unit. Area work of Olkiluoto 3 began in January 2004 and the project is proceeding according to the planned schedule. Construction work is set to begin before the summer of 2005. From the point of view of this project, it is positive that nuclear power has gained greater public acceptance.

### BIOFUEL PROGRAMME PROGRESSES

The largest recovery boiler plant in the world, built by Wisapower, was a new landmark in our investment programme

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**ADDITIONAL CONSTRUCTION OF NUCLEAR POWER IS POHJOLAN VOIMA'S MOST SIGNIFICANT MEANS OF MEETING THE INCREASING DEFICIT IN CAPACITY AND THE REQUIREMENTS SET BY INTERNATIONAL CLIMATE POLICY.**

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linked with bioenergy. Prime Minister Matti Vanhanen inaugurated the plant in Pietarsaari in August.

Pohjolan Voima will build a biofuel-fired power plant at the Rauma paper mill jointly with UPM and Rauman Energia. The construction project is launched in early 2005 and it is scheduled for completion towards the end of 2006.

New investment projects are being studied all the time. The availability of fuels and other preconditions for investment determine the construction of the next power plants.

**POWER PLANTS BEING RENOVATED**

In the next few years, Pohjolan Voima will invest in the hydropower renovation programme. Under the programme, our hydropower plants will be renovated in such a manner that their efficiency will be improved and they will provide an additional power of some 50 MW.

Besides the renovation of hydropower plants, the Group has launched a renovation and maintenance programme of its thermal power plants, which will also involve substantial power increases. The first project site is the Tahkoluoto power plant, whose turbine and instrumentation and control system will be renovated.

**POHJOLAN VOIMA'S VALUE PROCESS WAS FURTHERED**

"The Pohjolan Voima Way" process is underway in the Group. On the basis of the personnel study completed in autumn, it can be said that working conditions in our Group are good. Some defects were discovered, but they will be tackled to further improve job satisfaction.


The past year was successful for our Group. For this I extend my warmest thanks to the entire personnel. At the same time, I would like to thank our shareholders and other stakeholder groups for their good co-operation.

I also welcome Outokumpu Oyj and Rautaruukki Oyj as Pohjolan Voima's shareholders.

**TIMO RAJALA**







**Electricity consumption** in Finland totalled 86.8 TWh, which was *1.8% higher than in 2003*.

## OPERATING ENVIRONMENT

### ELECTRICITY MARKETS

The weather in 2004 was mild and rainfall was heavy in the latter part of the year. The market prices of fuels, coal in particular, rose and abundant rain in Finland hampered peat production.

According to preliminary information, electricity generation in the Nordic electricity market area totalled 374 TWh. In early 2004, the water conditions continued to be poor owing to the drought in previous years, and lower than average rainfall did not help the situation. However, thanks to the high rainfall levels towards the year-end, the water conditions improved in all the Nordic countries. At the turn of the year, water reservoirs in Sweden and Norway were already near the long-term average. A total of 180 TWh of electricity was generated with hydropower.

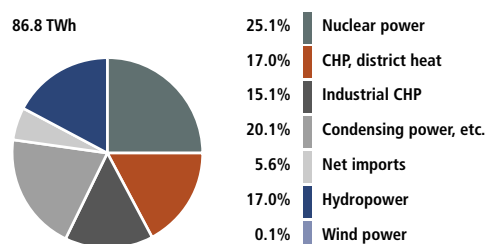
In the Nordic countries, electricity generation with nuclear power was higher than ever, totalling 96 TWh. The rise was due to the increased production in Sweden. As a result of the improved water conditions, electricity generation with thermal power was smaller than in the previous year, 93 TWh in all.

Despite the mild weather, the consumption of electricity in the Nordic electricity market area increased during 2004. According to preliminary information, the total consumption in the area amounted to 386 TWh. The consumption increased most in Norway and in Finland. The increase in consumption was particularly large in Norway, where the electricity consumption grew owing to the reduced market price of electricity.

Electricity production in Finland totalled 81.9 TWh, which was 1.9% higher than in 2003. Thanks to the better than average water conditions in Finland towards the end of the year, hydropower production was higher than in 2003, totalling 14.7 TWh.

In Finland, electricity generation with nuclear power amounted to 21.8 TWh, which is roughly the same as in previous years. Electricity production with thermal power totalled 45.3 TWh. The production of condensing power in particular was smaller than in 2003 because of the mild weather and the water conditions in the latter part of the year.

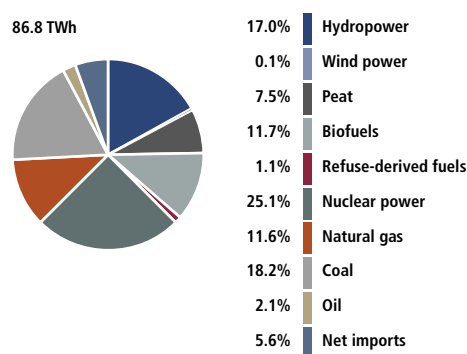
### Net supply of electricity in Finland in 2004



Source: Association of Finnish Energy Industries



## Electricity supply by energy source in Finland in 2004



Source: Association of Finnish Energy Industries

The total consumption of electricity in Finland amounted to 86.8 TWh, an increase of 1.8% on the previous year. Compared with the previous year, the consumption increased especially in industry and construction.

### ELECTRICITY IMPORTS

Imports were also needed to cover the consumption. The transmission connection from Russia to Finland was used at maximum capacity nearly throughout the year. Net imports of electricity to Finland amounted to 4.9 TWh. During the peak hour in 2004, on 11 February 2004, the power demand rose to 13 400 MW. At that time, electricity was generated at a power of 12 660 MW and, in addition, electricity was imported from Russia.

In a year of average precipitation, electricity production in Finland, Sweden, Norway and Denmark is not sufficient to cover the consumption of electricity in these countries, and therefore electricity is imported from Russia, Germany and Poland. Depending on the water conditions in Sweden and Norway, the annual variation in hydropower production may be equal to consumption in Finland.

The co-operation organ of the Nordic grid companies, Nordel, assesses that when the peak consumption coincides in Finland, Sweden, Norway and Denmark, the deficit in output in the area totals some 1 700 MW. The deficit is covered by importing electricity or by limiting consumption.

### ELECTRICITY PRICE

The price of electricity in the Nordic electricity exchange, Nord Pool, was steadier than in 2003. Despite the poor water conditions early in the year, price peaks like those in the previous year did not occur. Nord Pool's system price and the area price in Finland were at their highest in August. As a result of the mild weather and the heavy rainfall, the system price and the area price in Finland dropped towards the year-end to a lower level than early in the year.

The area price in Finland was lower than the system price almost throughout the year. In 2004, the area price in Finland was EUR 27.68 per megawatt-hour on average.

Owing to restrictions of the electricity transmission networks, electricity cannot be transmitted limitlessly from one area to another within the Nordic market area. A study conducted by Nordel shows that the removal of transmission restrictions would increase the scope for operation of the Nordic electricity markets. From Finland's point of view, the most important project is the Fennoskan II transmission connection to be built between Finland and Sweden.

#### FUEL MARKETS

In the fuel markets, 2004 was an exceptional year in many respects. The world market prices of fossil fuels in particular went up and, in Finland, the heavy rainfall hindered peat production. In autumn, the world market price of crude oil that reached a record high induced pressure for increases in fuel prices.

After the sharp rise in 2003, the world market price of coal continued to go up in the course of 2004. In addition to the price rise of the actual raw material, the transport costs of coal increased as well. The rise in prices was mainly due to the increased demand. On the other hand, a drop in the dollar lessened the effects of price increases in euros. In 2004, the use of coal in Finland totalled about 7 million tonnes, or 50 TWh.

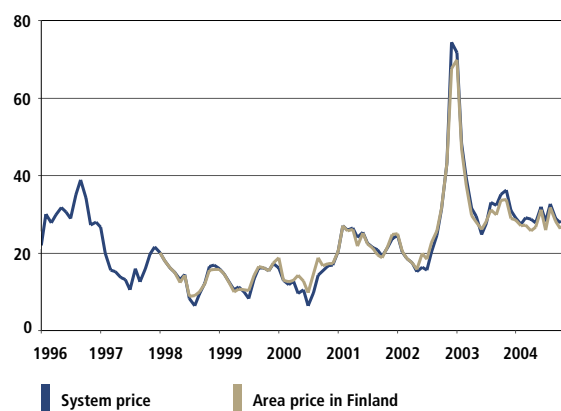
The natural gas was imported to Finland from Russia. In 2004, imports to Finland amounted to 4.6 billion cubic metres, which is equivalent to 46 TWh in terms of energy.

At the end of May 2004, Finland's peat stocks totalled some 12 TWh. Because of the unusually rainy summer, only 11 TWh of fuel peat was produced in Finland in 2004. The peat stocks and the production during summer will probably not be sufficient to meet the entire peat demand during the winter of 2004–2005.

The launching of emissions trading increased the demand for wood and raised its market price. The price increase particularly stimulated the supply of logging residue. The national growth target of 0.8 TWh per year set for the supply is assessed to be achieved in 2004 as well.

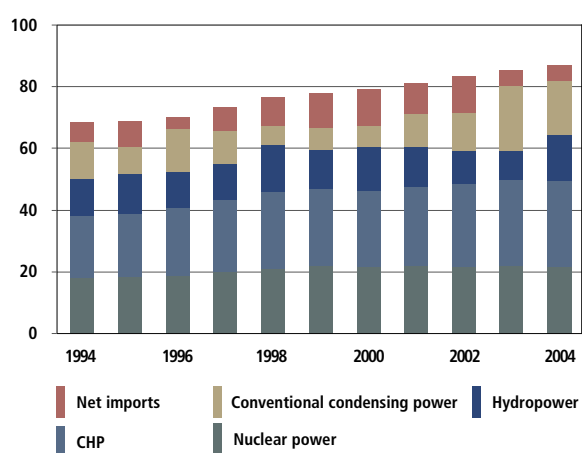
As far as energy crops are concerned, the cultivated area of reed canary grass is expected to start growing rapidly.

Exchange price of electricity in 1996 - 2004, Nord Pool Spot, €/MWh



Source: Nord Pool

## Net supply of electricity in Finland in 1994 - 2004, TWh



Source: Association of Finnish Energy Industries

From 2006 on, reed canary grass will be entitled to the same level of EU subsidies as cereal crops.

## EMISSIONS TRADING

The Finnish parliament passed the Emissions Trading Act, which came into effect in 2004. The Act applies to carbon dioxide emissions from combustion plants larger than 20 MW and smaller combustion plants connected to the same district heating network as them, as well as from oil refineries, coke ovens and some plants and processes of the steel, mineral and forest industries. The EU's Emissions Trading Directive is implemented by the Emissions Trading Act.

In Finland, the emissions trading system includes more than 500 plants and some 150 companies. In 2004, the operators made provision for the beginning of emissions trading by applying, in accordance with the Act, for greenhouse gas emissions permits and for emission allowances based on the first national allocation. An emission permit requires that the carbon dioxide emissions from the plant be monitored and the emission reports be submitted to the Energy Market Authority, which acts as the emissions trading authority.

The Emissions Trading Act determined the allocation criteria of the emission allowances for the first emissions trading period, i.e. 2005–2007. The national allocation plan ratified by the Council of State defined the free emission allowances pertaining to the first period for the operators. Every year in April, the operators must return an amount of emission allowances corresponding to the carbon dioxide emissions during the previous calendar year to the Energy Market Authority.

The EU's emissions trading was launched in the beginning of 2005. In Finland, the entry into force of the Emissions Trading Act required that the implementation of the directive in the other EU countries make progress.

## OTHER AMENDMENTS TO LEGISLATION

Parliament passed a law on an amendment to the Electricity Market Act, which came into effect in December. From the point of view of electricity producers, the most significant amendment was the obligation to inform the Energy Market Authority of any changes in the power plants' production capacity and of the maintenance outages planned for the period of December to February. Correspondingly, the Energy Market Authority was given the power to order the postponement of a power plant's maintenance outage scheduled for the wintertime owing to a critical electricity production situation, if necessary.

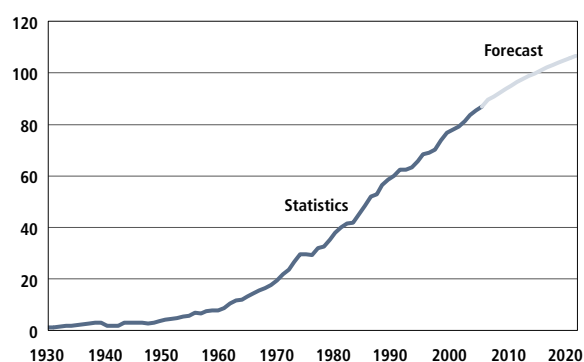
The requirements for the monitoring and measurement of emissions in compliance with what is called the Large Combustion Plants decree, which came into force in 2002, became effective in November 2004. In accordance with the decree, the plants with a power of more than 100 MW are in general required to carry out continuous measurements of sulfur dioxide, nitrogen oxides and particles.

A proposal for a total reform of the Water Act was completed. The reform would make the structure of the law clearer as well as facilitate and accelerate the procedures. Several issues still require further studies. The preparation of the act will probably take a few more years.

The implementation of the EU Water Framework Directive progressed to the first phase, as Parliament passed the Act on the Arrangement of Water Management. Concrete measures and effects will be determined by decrees to be issued in the future.

From 1990, the EU has issued more than 600 environmental directives. Questions of interpretation of the directives, as well as their inconsistency and specificity have contributed to increasing the bureaucracy of the operating environment and impairing the predictability of permit decisions.

## Total annual consumption of electricity in Finland in 1930 - 2020, TWh



Source: Association of Finnish Energy Industries



## Pohjolan Voima's

total electricity supply and own  
*production in 2004 kept at the  
previous year's level.*



## BUSINESS REVIEW

The demand for electricity supplied to the shareholders determines the volume of Pohjolan Voima's electricity supply. Pohjolan Voima optimizes its electricity supply as a whole on the basis of the volume of electricity to be supplied and the production costs. Most of the electricity is generated at the Group's own plants. In this business review, the volumes of electricity supply are shown in accordance with Pohjolan Voima's shareholdings, for which reason they differ from the figures given in the financial statements.

In 2004, Pohjolan Voima's total electricity supply and own production kept at the previous year's level. Electricity generation with hydropower and wind power and at CHP plants increased compared with the previous year. On the other hand, production at the condensing power plants was slightly smaller than in 2003.

Electricity supply totalled 22.9 TWh, of which the Group's own production represented 17.7 TWh. In addition to the Group's own production, a total of 2.9 TWh of electricity was imported from Russia and 2.3 TWh purchased from the electricity markets. Pohjolan Voima's production accounted for about 22% of the electricity produced in Finland in 2004. At the year-end, the electricity supply capacity available to Pohjolan Voima totalled 3 723 MW.

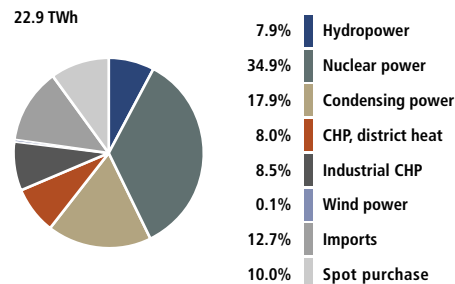
### HYDROPOWER

In 2004, Pohjolan Voima generated a total of 1.8 TWh of electricity with hydropower. The production volume is slightly higher than the production in a year of average precipitation. Hydropower accounted for 7.9% of the total electricity supply.

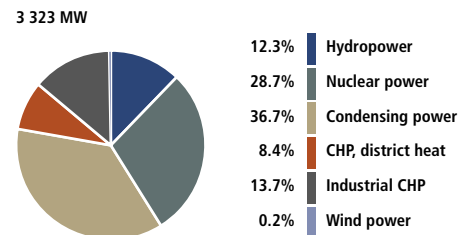
Pohjolan Voima's hydropower plants are located in the Iijoki, Kemijoki, Kokemäenjoki and Tengeliönjoki water systems. The combined capacity of the hydropower plants is 409 MW, which accounts for 12.3% of Pohjolan Voima's production capacity.

A renovation programme was confirmed for the hydropower plants on the Iijoki River. At the same time, a decision was taken to improve the efficiency of the plants as well by employing new technology. It is possible to obtain about 20% more power and 5% more energy from the plants

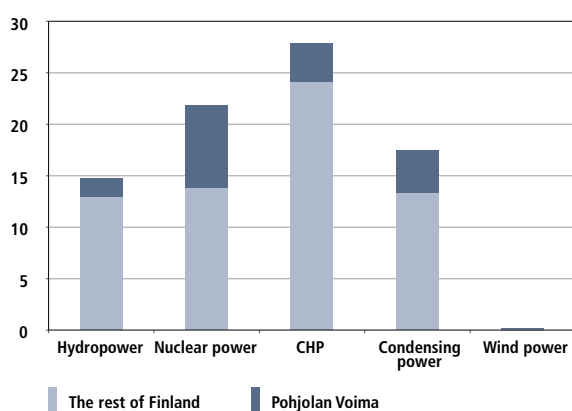
### Pohjolan Voima's electricity supply in 2004



### Pohjolan Voima's electricity generation capacity



### Pohjolan Voima's share of the electricity production in Finland in 2004, TWh



without making any modifications to the plant structures and the river bed. The first renovation will be made at the Kierikki plant in 2006 and 2007. Boosting the production of hydropower will contribute to increasing the production of renewable, emission-free and domestic energy.

To maintain the fish stocks, a total of 2.6 million fry were stocked in the Kemijoki and Iijoki water systems and in the sea area in 2004. At the Melo power plant on the Kokemäenjoki River, a procedure for determining a fish management fee was initiated. Permanent agreements were concluded about the responsibilities for the maintenance of railway and road bridges, the household water supply arrangements along the Iijoki River and the hydropower holdings.

Pohjolan Voima has given its consent to the building of a fishway at the Isohaara power plant. The Municipality of Keminmaa applied for a building permit from the Environmental Permit Authority. The municipality has committed itself to compensating Pohjolan Voima for the loss of energy due to the fishway.

In 1996, Pohjolan Voima claimed compensation from the Finnish Government for the lost economic benefit owing to protection of the Iijoki River. After the District Court and the Court of Appeal had rejected the claim, Pohjolan Voima applied for a retrial permit from the Supreme Court in 2004. A retrial permit has not been granted yet.

### NUCLEAR POWER

Pohjolan Voima's subsidiary, Teollisuuden Voima, generates electricity with nuclear power. The combined net electrical output of the plant units, located at Olkiluoto in Eurajoki, is 1 680 MW, of which Pohjolan Voima obtains an output of 954 MW in accordance with its shareholding. Nuclear power accounts for 28.7% of Pohjolan Voima's electricity production capacity.

In 2004, Teollisuuden Voima generated a total of 14.1 TWh of electricity with nuclear power, of which Pohjolan Voima's share was 8.0 TWh. In 2004, the load factor of the Olkiluoto power plants was 95.6%, which is among the highest in the world. Nuclear power accounted for 34.9% of



Pohjolan Voima's electricity supply.

Area work of the new nuclear power plant unit, Olkiluoto 3, began in the beginning of 2004. The work is progressing according to plan and the construction is set to begin before the summer of 2005. The net electrical output of the new Olkiluoto unit is about 1 600 MW and the plant is scheduled for commissioning in 2009. Upon completion, the plant unit will fulfil the increasing electricity requirement in Finland as a form of production free from carbon dioxide emissions.

Teollisuuden Voima continuously monitors radiation doses received by staff working at the Olkiluoto plant and doses detected in the neighbourhood of the plant. The radiation dose caused by the power plant to the population in the plant's area of influence was 0.0002 mSv in 2004. The annual dose caused by natural radiation sources is about 3.7 mSv. The average occupational radiation dose received by staff working at the plant was 1.28 mSv per person. The radiation dose received by an individual must not exceed 50 mSv a year.

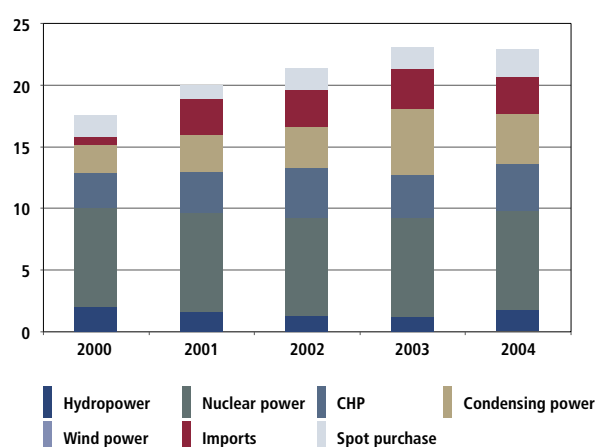
Releases from the nuclear power plant into the air were extremely small. Radioactive releases into the sea represented only 0.17% of the amounts permitted by the authorities. The heat load released with cooling-waters into the sea amounted to 27.8 TWh. In winter, the cooling-water discharge area stays open over an area of 3 to 20 square kilometres, depending on the weather conditions. Studies have shown that the operation of the power plant has no major harmful effects on the fish stocks or fishing in the surrounding sea area.

#### THERMAL POWER

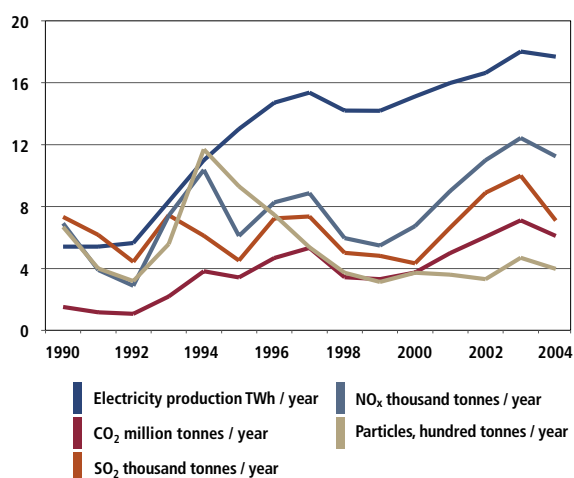
A total of 1 954 MW of thermal power capacity is available to Pohjolan Voima, of which combined heat and power (CHP) plants represent 733 MW and condensing power plants 1 221 MW. The CHP plants account for 22.1% and condensing power plants for 36.7% of Pohjolan Voima's electricity generation capacity.

Pohjolan Voima supplied a total of 7.9 TWh of electricity generated with thermal power from its wholly or partially

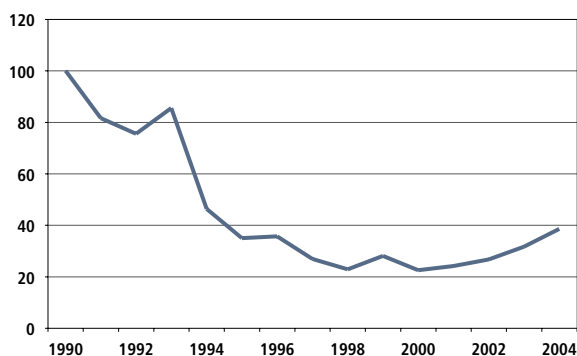
Pohjolan Voima's electricity supply in 2000 - 2004, TWh



## Pohjolan Voima's production and emissions, 1990 - 2004



## Environmental index of thermal power, 1990 - 2004



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.

owned power plants. The volume was slightly smaller than in 2003. The amount of electricity generated at CHP plants increased as a result of the commissioning of Wisapower's recovery boiler plant, whereas the amount of electricity generated at condensing power plants was reduced.

A total of 3.8 TWh of electricity was supplied from the CHP plants, which made up 16.5% of Pohjolan Voima's electricity supply.

Electricity generated at the condensing power plants amounted to 4.1 TWh. Condensing power accounted for 17.9% of the electricity supply.

### Use of fuels

In 2004, the CHP and condensing power plants consumed a total of 1.9 million tonnes of coal, or 13.6 TWh. The coal was imported from Russia and Poland. The consumption of natural gas amounted to 1.4 TWh and the consumption of oil to 0.2 TWh.

A total of 5.5 TWh of wood-based fuels and 3.1 TWh of peat were consumed at the power plants. The most important wood-based fuels were black liquor and bark.

225 tonnes of reed canary grass were consumed experimentally. This amount represents a yield of 40 hectares.

### Changes in the production capacity

The recovery boiler plant built by Pohjolan Voima's subsidiary, Wisapower, was commissioned in Pietarsaari in 2004. Testing of the plant began in February and the generator was synchronized with the high-voltage grid at the end of March. The evaporating plant of the recovery plant was put into operation in early April.

In summer 2004, decisions were taken to modernize the instrumentation and control system of the Tahkoluoto power plant and some of the turbine cylinders and rotors. Both projects are scheduled for completion in autumn 2005. Owing to the improved efficiency, the electrical output of the power plant will increase by about 10 MW.

### The environment

Emissions from production decreased on 2003. In 2004,

Pohjolan Voima's carbon dioxide emissions totalled 6.1 million tonnes, which accounted for 9% of the carbon dioxide emissions in Finland.

The particle emissions from the thermal power plants were reduced, amounting to 397 tonnes. A total of 393 thousand tonnes of fly ash, bottom ash and desulfurization gypsum were produced as by-products from the flue gas cleaning. Of this amount, 55.9% was utilized. The gypsum was used as a raw material in the building materials industry and the ash was used for earth works. The environmental index of thermal power showed a decrease in 2004, as some of the ash produced from production in previous years was stored in disposal areas during the year.

Towards the year-end, a leak was detected in an underground light fuel oil pipe at the Mussalo power plant. Removal of the contaminated soil for further treatment and decontamination of the area began immediately in accordance with the instructions given by the authorities. The decontamination was completed in January 2005. The leak caused no damage outside the plant site.

The power plants in Tahkoluoto, Seinäjoki, Kristiinankaupunki, Nokia and Vaasa were analyzed in accordance with the energy conservation plan for Pohjolan Voima's thermal power plants during 1998–2004. About 100 energy conservation points were identified, of which more than 20 have been implemented. One of the most significant projects was the new high-pressure turbine put into operation in Seinäjoki in 2004. The new turbine increases the plant's efficiency, thereby cutting specific emissions from the plant.

Pohjolan Voima applied for environmental permits for its power plants in accordance with the new Environmental Protection Act. Plant-specific environmental data are shown in the Environmental Information 2004 attached to the Annual Report.

#### *Emissions trading*

Pohjolan Voima made provision for operations in accordance with the Emissions Trading Act, which came into effect in 2004 by applying for greenhouse gas emissions permits for

its thermal power plants and emission allowances on the basis of the national allocation plan. The Energy Market Authority granted emission permits to Pohjolan Voima's thermal power plants. The Council of State, for its part, allocated emission allowances to the thermal power plants for energy production.

#### **WIND POWER**

Pohjolan Voima generates wind power at nine wind power plants in all. The plants are located in Kokkola, Oulunsalo, Oulu and Kristiinankaupunki. Three new power plants were commissioned in Kristiinankaupunki in 2004. A total of 0.013 TWh of electricity was generated with wind power, which accounted for 11% of the electricity produced with wind power in Finland in 2004.

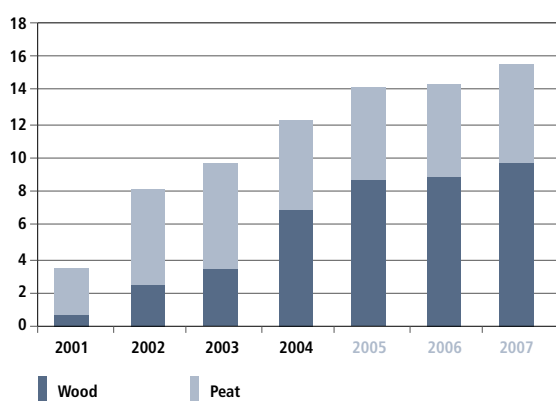
The erection of Finland's largest wind power plant began at Vihreäsaari in Oulu in November 2004. Commissioning of the power plant began in December. The output of the power plant is 3 MW, and upon its completion Pohjolan Voima will account for altogether 8 MW of the wind power capacity available in Finland.

#### **ELECTRICITY IMPORTS**

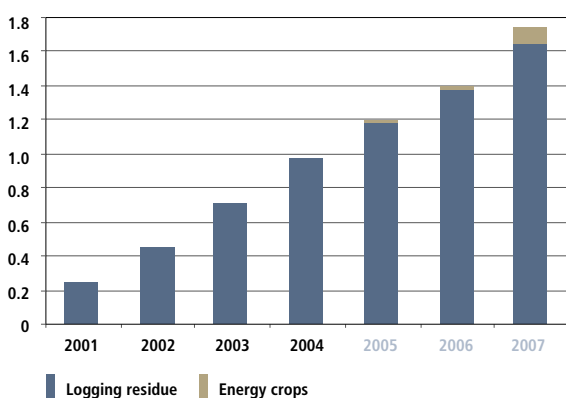
Pohjolan Voima imported a total of 2.9 TWh of electricity from Russia. Electricity imports from Russia represented 12.7% of the electricity supply. Pohjolan Voima's long-term 400 MW electricity import contract terminated at the end of 2004.

Pohjolan Voima is involved in a project that aims to build a transmission connection between Finland and Estonia by means of a submarine direct-current cable. In 2002, the Ministry of Trade and Industry granted Pohjolan Voima a permit for the cross-border line necessary for the construction of the transmission connection, and the Western Finland Environmental Permit Authority has granted a permit for the construction and the use of the sea bottom. Furthermore, the Council of State has granted a redemption permit in accordance with the Redemption Act for an underground cable route from the coast to the 400 kV substation in Espoo.

### Use of biomass in Pohjolan Voima's biofuel programme in 2001 - 2007, TWh\*



### Use of logging residue and energy crops in Pohjolan Voima's biofuel programme in 2001 - 2007, TWh\*



\* The figures also include other shareholdings than Pohjolan Voima's

In 2004, action was initiated to obtain an exceptional permit from the Finnish and Estonian energy market authorities and the European Commission to ignore some of the regulations imposed in Directive 2003/54/EC and Decree 1228/2003. An exceptional permit concerning the use of the transmission connection is an essential precondition for commercial use of the cable between the parties involved in the project.

#### SPOT PURCHASE OF ELECTRICITY

Pohjolan Voima purchases electricity if it is more economical than the production cost of electricity at its own power plants. In 2004, Pohjolan Voima purchased 2.3 TWh of electricity from the market.

#### BIOFUEL PROGRAMME

In 2004, the biofuel programme focused on increasing the use of forestry woodfuel and energy crops. In addition, studies were launched with a view to finding out whether it is technically and economically viable to use biomass as a supplementary fuel in coal-fired boilers. At the biofuel-fired power plants, the use of logging residue, mainly residue bales and stumps, increased by 0.3 TWh, or 140 000 cubic metres. In the acquisition of stumps, efforts concentrated on improving the harvesting technique and the quality of fuel. Various harvesting, crushing and combustion tests of reed canary grass were carried out at the power plants.

The biofuel programme is being carried on and new investment sites are being actively searched. To date, the programme has involved the investments of some EUR 700 million in new power plants and an extensive research and development programme aimed to increase the use of forestry woodfuel and energy crops. The objective is to utilize the biomass resources available from the forests and fields in the vicinity of power plants as efficiently as possible. The biofuel programme has created about 700 new jobs, most of which are in the acquisition of fuels.

The consumption target of 500 000 cubic metres, or 1 TWh, of logging residue, which was set in the beginning of the biofuel programme, was achieved in 2004. In the

future, the target set for increased use is 100 000 solid cubic metres, or 0.2 TWh a year, which accounts for a quarter of the increase target for entire Finland.

Pohjolan Voima's target set for reed canary grass is to achieve a cultivated area of 10 000 hectares by 2007. The use of energy crops would then amount to 0.3 TWh a year.

### POWEST

Pohjolan Voima's subsidiary, Powest Oy, owns companies whose businesses support the power production and energy supply of its shareholders. As Powest's owner, Pohjolan Voima aims to safeguard the availability, quality and competitive price of the services that support power production.

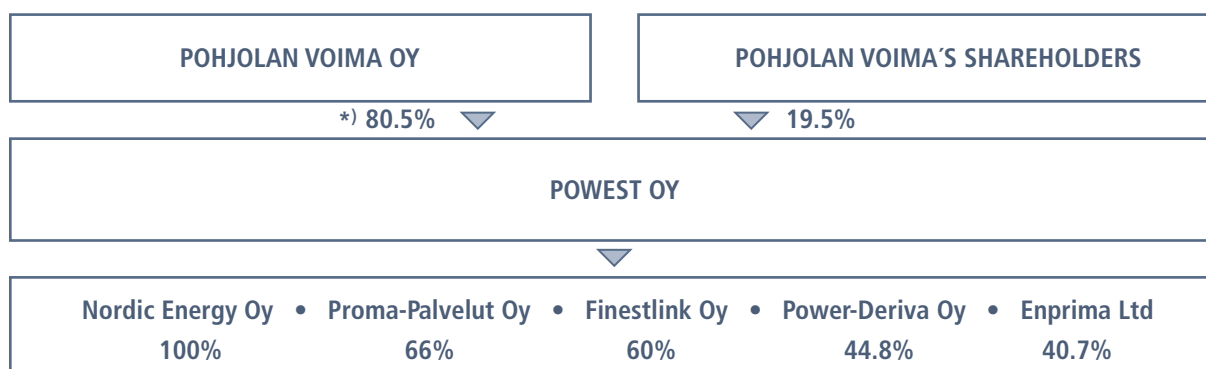
When Nordic Energy Oy's majority shareholder, TXU Europe, went into liquidation, Powest acquired its shares in Nordic Energy and Nordic Energy became Powest's fully owned subsidiary at the end of 2003. At the same time, some of Pohjolan Voima's shareholders purchased the Pohjolan Voima shares held by Nordic Energy, constituting about 15%, and Pohjolan Voima acquired from TXU Europe a share of about 15% of the Powest shares. These shares were Powest's E series shares, entitled to dividend, which were converted into voting shares of Series K at the shareholders' meeting in December.

In 2004, Nordic Energy employed 20 people on average, while in 2003 the average number of personnel was 45. Nordic Energy ended its operations in Stockholm in March 2004. The turnover was EUR 154.2 million.

Proma-Palvelut Oy launched its operations in the beginning of 2004. The company renders operation and maintenance services for Pohjolan Voima's thermal power plants. During 2004, 426 people on average worked for Proma-Palvelut, of whom 120 people were hired by Empower Oy to carry out maintenance work at thermal power plants. At the end of the year, permanent staff numbered 409. The turnover was EUR 22.6 million.

Powest, Vantaa Energy Ltd and Vapo Oy interrupted the gasification plant project of refuse-derived fuel, jointly prepared by them, owing to delays caused by complaints lodged against the plant permits. The refined clean gas would have been substituted for a third of the coal used at Vantaa Energy's Martinlaakso power plant. The Vaasa Administrative Court returned the permits to the authorities for re-preparation, owing to the complaint lodged against the environmental permits, which had been granted towards the end of 2002. The parties involved in the project appealed against the court's judgement to the Supreme Administrative Court. Up to the beginning of 2005, the handling of the complaints had already lasted for more than two years and continues to be unfinished.

Jointly with the City of Helsinki, Powest established Finestlink Oy, whose function is to own shares in Nordic Energy Link AS, an Estonian company formed to construct and own the direct-current cable connection between Finland and Estonia. Powest owns 60% and the City of Helsinki 40% of Finestlink.



\* Pohjolan Voima's shareholding is 80.5% and the share of voting stock 98.8%.





*By maintaining the good*

availability of its power plants, Pohjolan

Voima creates the scope to *provide its*

*shareholders with competitively*

priced electricity.

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## CORPORATE RESPONSIBILITY

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Pohjolan Voima's shareholders include large export industry companies and municipalities or energy companies owned by them. The importance of basic industry for the Finnish economy continues to be considerable. Reliable energy supply at a competitive price provides the groundwork for investments of industry. Households get electricity and heat supplied by Pohjolan Voima through municipal energy companies.

Pohjolan Voima supplies the electricity it has procured to its shareholders at cost price. The Group itself does not seek to yield a profit but to safeguard an economical and steady energy price for its shareholders. By investing in new capacity and by maintaining the good availability of its power plants, Pohjolan Voima contributes to creating the scope to provide its shareholders with competitively priced electricity under various load situations.

Pohjolan Voima has power plants and power plant shares in 24 municipalities in Finland. In 2004, the average number of employees working for the Pohjolan Voima Group was 1 228, with the employees residing in 104 municipalities. In addition, the Group uses a large number of sub-suppliers. The companies in the Group paid EUR 5.8 million in real estate taxes to 14 municipalities. The economic effects thus extend over a wide area in Finland. The indirect effects that are often linked with the domestic energy sources – hydropower and wind power, peat and other bioenergy – are important for the Finnish economy.

The nuclear power company, Teollisuuden Voima, addresses its corporate responsibility independently and publishes its own report on this issue.

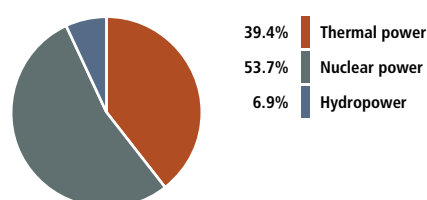
### “THE POHJOLAN VOIMA WAY”

#### – THE COMMON GROUND RULES

The set of ground rules entitled “The Pohjolan Voima Way – sound operating practice” guides Pohjolan Voima's corporate responsibility. These rules unite Pohjolan Voima's core values, operating principles and ethical principles as well as the operating policies concerning the personnel, stakeholders and environment. “The Pohjolan Voima Way” ground rules

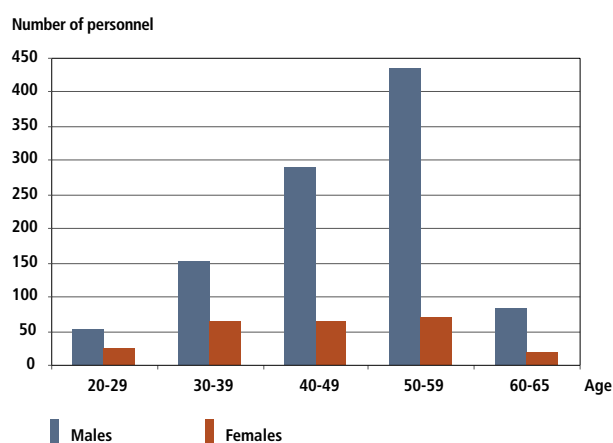
### Personnel by form of production on average in 2004

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## Personnel's age distribution



were adopted towards the end of 2003. In 2004, the personnel were familiarized with their contents, and points of development were identified. In the hydropower organization, the development points identified by the personnel were already introduced as parts of the operations planning. Development work on assessing and measuring the corporate responsibility was launched.

### CO-OPERATION – THE CORNERSTONE OF PERSONNEL POLICY

Pohjolan Voima wants to safeguard the permanence of its competent personnel as well as their readiness for changes and high level of motivation. Indeed, the personnel turnover rate is low. The duration of the permanent employment relationships averaged 18 years. The average age of the personnel was 47.1 years, which represents the average in the energy sector. Male-domination is typical of the entire sector: males accounted for 81% and females for 19%. The recruitment policy was renewed in 2004 with a view to supporting the provision made for the retirement of baby boomers.

Smooth co-operation is the basis for personnel policy. The Group management and the representatives of all the different personnel groups, 20 people in all, participate in the Group meetings, which are arranged regularly. Two Group meetings were held in 2004.

The management groups of several Group subsidiaries include the representatives elected by the clerical employees and workers. The co-operation committees, which function in the power plant locations, discuss topics important for the personnel.

Pohjolan Voima and its employees' representatives maintain good relationships with professional organizations. This line of action has ensured labour peace for a long time.

### PERSONNEL DEVELOPMENT

Personnel studies carried out at regular intervals continued in 2004. In Group-wide terms, the personnel have committed themselves to working for the company and have a strong motivation. By plant and by company the results

varied a great deal, however. The issues to be improved included the working climate, the division of workloads and the handling of conflicts in the work community.

A separate training section was set up to co-ordinate the training operations. During 2004, management training was further improved. Pohjolan Voima's strategic areas of expertise and the future change requirements were established towards the end of the year. The objective is to maintain and upgrade the expertise level even when the baby boomers retire.

The readiness of the managers and the subordinates for development discussions was improved with the aid of training in development discussions. The personnel study showed that the number of employees who had had a development discussion was considerably higher than in the previous study in 2002.

Improvement of the workers' and clerical employees' pay systems continued by issuing instructions and by training managers. Assessments of the personnel's competence and work performance required by the systems were linked to the development discussions so as to form a part of them.

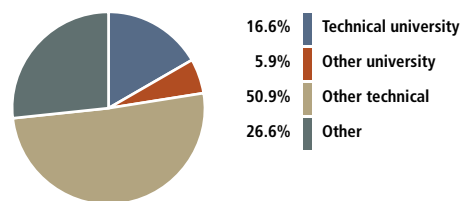
## HEALTH AND SAFETY

Pohjolan Voima's objective is to make the working environment a healthy and safe one, where the employees will not suffer from work-related disease or injuries at work or in retirement. Occupational health and safety is co-ordinated by a separate labour protection section. Its tasks also include introducing the best labour protection practices into the entire organization.

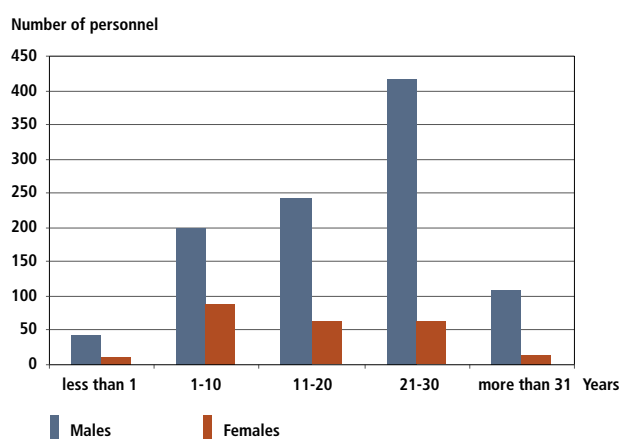
In 2004, the Group spent some EUR 590 000, or EUR 480 per person, on occupational health care. With regard to occupational safety, Pohjolan Voima's objective is zero accidents. A total of 37 accidents occurred in 2004. No accidents occurred at the Tahkoluoto and Nokia thermal power plants.

A survey was conducted at the thermal power plants during 2004 with the objective of including the occupational health and safety issues more extensively in the management systems of the power plants.

## Personnel's education



## Personnel's years in service



During 2004, Pohjolan Voima formulated the principles of data security. A training package was prepared on the basis of the principles and training of the personnel began. The training, which will concern the entire personnel, will be completed in the course of 2005.

## INTERACTION WITH STAKEHOLDERS

Relations with the stakeholders are based on the confirmed stakeholder policy. The activity is open, honest and interactive in nature. Pohjolan Voima maintains contact nationwide with the players in the energy sector and their stakeholder groups, such as authorities, political decision-makers and civic organizations. In the power plant locations, contact is maintained with the local authorities and decision-makers as well as local residents.

Pohjolan Voima has identified the stakeholder groups according to power plant and business sector, and continues to enhance contacts with the stakeholders. The water systems exploited for hydropower production also have various other uses and plenty of users. In these areas, co-operation with the stakeholders is active with a view to restoring the aquatic environment and promoting fish stock management.

Pohjolan Voima's co-operation partners include, for instance, the Lahti Symphony Orchestra, of whose Symphonically Together team Pohjolan Voima is a member. The campaign tour to promote clean indoor and outdoor air organized jointly with the Pulmonary Association HELI was completed at the end of 2004.

## RESPONSIBILITY FOR THE ENVIRONMENT

Pohjolan Voima has committed itself to good management and continuous improvement of environmental issues. The environmental policy, which is included in "The Pohjolan Voima Way" ground rules, defines the basic principles of Pohjolan Voima's work for the benefit of the environment. The Group's companies set their own environmental objectives and targets on the basis of the principles of the Group's environmental policy.

The basis for Pohjolan Voima's environmental policy is the identification of the environmental effects and risks and the management of all aspects of operations, while also considering the life-cycle approach. Pohjolan Voima's products, electricity and heat, are supplied to the shareholders, many of which have committed themselves to sustainable development programmes and a good operating procedure. All work tasks in the Group involve due consideration of the environment.

The environmental committee established by the Board of Directors monitors environmental issues. In addition to Pohjolan Voima's representatives, the committee consists of the environmental directors and other representatives of the largest shareholders.

Pohjolan Voima's production companies have the certified environmental management systems according to the ISO 14001 standard in use. In 2004, environmental management systems were being built at the Kuusankoski and Pietarsaari plants. Environmental programmes included in the systems ensure continuous improvement of the operations. The implementation of the measures proposed by the programmes is monitored with the aid of audits at various levels.

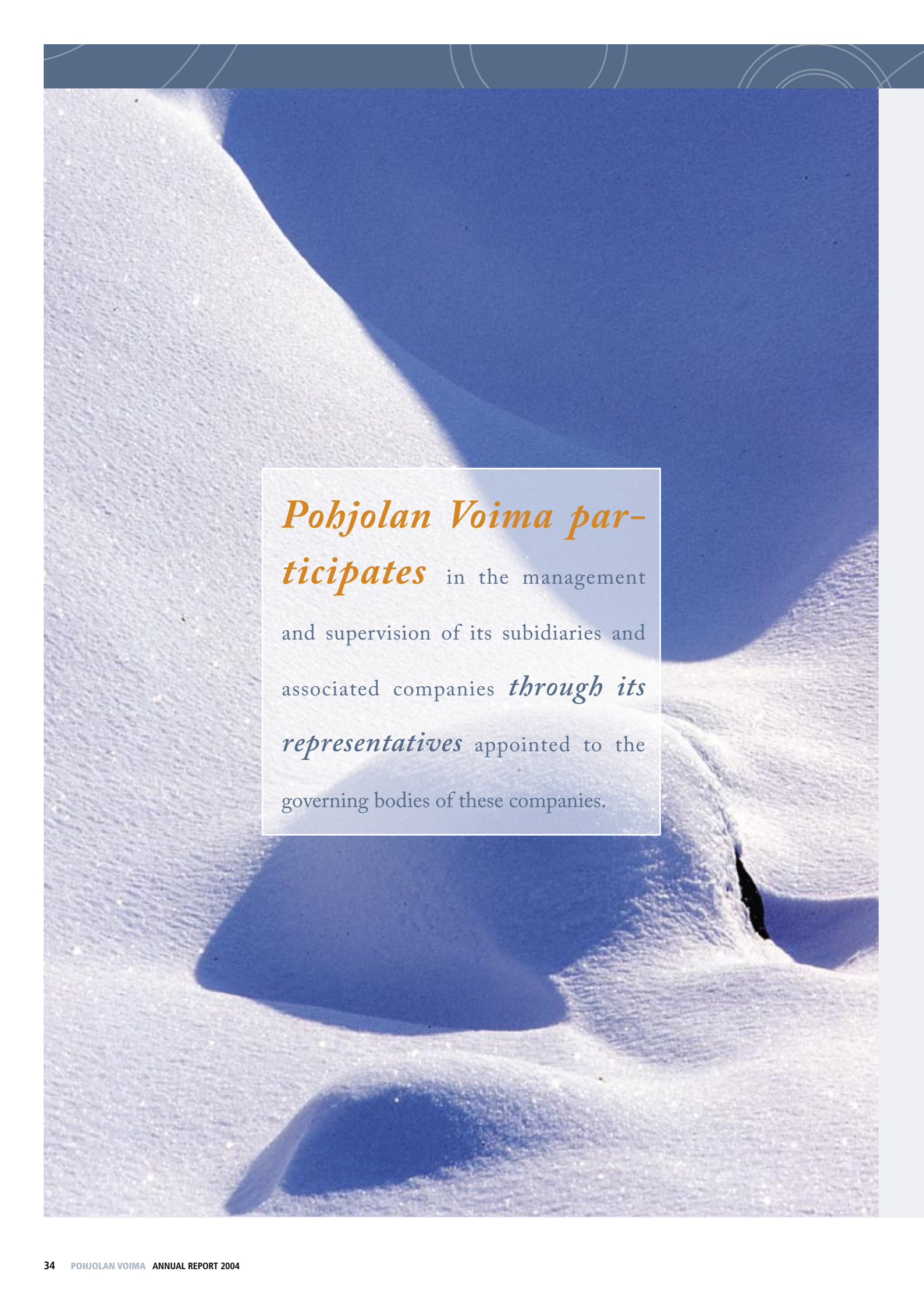
Pohjolan Voima has published an Environmental Report since 1994. From 2001, the most significant environmental information has been published as part of the Annual Report and on the Group's Web site, which also includes data on the origin of and emissions from electricity production. Pohjolan Voima reports on the most important environmental issues to its shareholders in the Group-internal Environmental Reviews drawn up at fixed intervals, and in reports that describe the environmental quality of electricity. In 2004, the Environmental Review was published three times. Production form-specific and power plant-specific environmental information is available in the Appendix to the Annual Report, Environmental Information 2004.

#### **RESPONSIBILITY FOR THE SUPPLY CHAIN**

Significant purchases include fuels for energy production and acquisitions linked with the construction of power

plants. Although Pohjolan Voima has production in Finland only, a considerable proportion of the purchases is made from abroad.

The social responsibility policy for procurement, which is included in "The Pohjolan Voima Way" ground rules, has been translated into English and Russian, and the suppliers of goods and services have been informed of the guide. Pohjolan Voima's coal procurement is within the scope of an environmental management system audited by an outside certification authority. A separate study was conducted on the environmental quality of the electricity imported from Russia.



*Pohjolan Voima participates* in the management and supervision of its subsidiaries and associated companies *through its representatives* appointed to the governing bodies of these companies.



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## CORPORATE GOVERNANCE

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Pohjolan Voima's governance is based on the Companies Act and the corporate documents. In addition to the regulations issued in the Companies Act and other applicable Finnish legislation, the Group's management is guided by the recommendation made by the HEX, the Central Chamber of Commerce of Finland and the Confederation of Finnish Industry and Employers for the management and control systems of listed companies. Pohjolan Voima complies with the recommendation insofar as the corporate documents determine otherwise.

Pohjolan Voima is administered and managed by the General Meeting of Shareholders, the Board of Directors and the President and CEO. The task of other governing bodies and other organizations is to assist and support the decision-making of the top management.

The Pohjolan Voima Group comprises the parent company Pohjolan Voima Oy and its subsidiaries, which include the subgroups Teollisuuden Voima Oy and Powest Oy.

The Group's subsidiaries and associated companies have their own governing bodies as well as some committees and corporate documents of their own. Pohjolan Voima Oy plays an active role in the management of its subsidiaries. Pohjolan Voima Oy's General Meeting of Shareholders issues directives to the Board of Directors regarding the composition of the Boards of Directors of the subsidiaries and, if necessary, certain decisions taken by the subsidiaries. The parent company's Board of Directors and the Corporate Executive Team discuss the main principles of the Group's operations. Pohjolan Voima participates in the management and supervision of its subsidiaries and associated companies through its representatives appointed to the governing bodies of these companies.

The Powest subgroup has not been included in the consolidated financial statements, as Pohjolan Voima has authority over Powest Oy but is not entitled to dividends.

### GENERAL MEETING OF SHAREHOLDERS

Supreme authority is vested in the General Meeting of Shareholders. The General Meeting of Shareholders takes

decisions on statutory matters. It also elects the members of the Board of Directors in accordance with the procedure specified in the corporate documents and issues binding directives to the Board of Directors regarding the elections of the Board members of the subsidiaries and any significant investments.

### BOARD OF DIRECTORS

The members of the Board of Directors are elected annually at the General Meeting of Shareholders. The procedure for the election and organization of the Board is specified in detail in the corporate documents.

The Chairman of the Board of Directors is appointed by the company's largest shareholder and the Deputy Chairman is appointed by the second largest shareholder.

The President and CEO presents the issues on the agenda to the Board of Directors. The President and CEO is not a member of the Board. One of the Group's executive officers acts as the secretary to the Board of Directors.

The Board of Directors is responsible for managing the company and arranging its operations appropriately in accordance with legislation, the corporate documents and any decisions taken in the General Meeting of Shareholders. The Board of Directors supervises the operations and management of Pohjolan Voima, as well as takes decisions on the Group's significant investments and financing.

The Board of Directors discusses and approves, for instance, the financing, insurance, risk management and competition rights policies as well as the internal audit guidelines.

The following people served as members of the Board of Directors in 2004: Heikki Sara, Pekka Laaksonen, Rami Vuola, Esa Tirkkonen and Erkki Varis. Tapani Sointu and Stefan Storholm also served as members of the Board of Directors until the Annual General Meeting of 22 March 2004 and Markku Tynkkynen, Tapio Ahola and Sakari Suontaka from that meeting onwards. Heikki Sara served as the Chairman of the Board and Pekka Laaksonen as the Deputy Chairman.

In 2004, the total remuneration to the members of the Board of Directors amounted to EUR 225 800.

The Board of Directors convened 11 times in 2004. 95% of the Board members on average were present at the meetings.

## COMMITTEES OF THE BOARD OF DIRECTORS

### *Working group preparing the decisions of the Board*

The main task of the working group is to prepare the issues to be discussed by the Board of Directors, primarily those submitted to the working group but also the issues that the working group considers necessary. The Board of Directors appoints the working group annually. The working group consists of the representatives of the largest shareholders. The President and CEO acts as the chairman and convenor.

The preparation working group convened ten times during the year under review.

### *Operations committee*

The operations committee sees to it that the production operations are carried out in accordance with the Articles of Association and the corporate documents. The Board of Directors appoints the committee. Each of Pohjolan Voima's shareholders is entitled to appoint one member to the committee. The President and CEO or a company representative appointed by him acts as the chairman. In addition to the permanent members, experts employed by Pohjolan Voima participate in the meetings of the operations committee.

The operations committee convened eight times in 2004.

### *Salary working group*

The salary working group of the Board develops the incentive and remuneration system of the corporate management and approves the criteria for the management's incentive bonuses. The company's incentive and remuneration system does not include shares or share derivatives. The working group convened once in 2004.

The Chairman of the Board takes decisions on the general salary benefits of the President and CEO. The President and CEO is entitled to take decisions on the basic salaries and benefits of the other executive officers.

### *Finance committee*

The finance committee assists the President and CEO in financial and economic issues and submits a proposal for the company's financing policy to the Board for decision. The committee convened five times in 2004.

### *Environmental committee*

The environmental committee is a forum for co-operation in environmental management. The Board of Directors appoints the committee members. The environmental committee convened twice in 2004.

### *Legal working group*

The task of the legal working group is to maintain the corporate documents up to date and in line with legislation as well as to give the Board of Directors advice on issues of principle and other financially significant legal issues. The Board of Directors appoints the legal working group, which comprises the representatives of the largest shareholders and a number of Pohjolan Voima's experts. The working group convened four times in 2004.

## PRESIDENT AND CEO, CORPORATE EXECUTIVE TEAM

Timo Rajala, M.Sc.(Eng.), serves as the company's President and CEO. The Executive Vice President is Matti Kaisjoki, M.Sc.(Eng.).

In operational management, the President and CEO is supported by the Corporate Executive Team, which discusses the main principles related to the operations. In addition to the President and CEO and the Executive Vice President, the Executive Team comprises Minna Korkeaaja and Arto Piela, Pertti Simola from 1 May 2004, Jari Niemelä from 1 April 2005 and Jukka Kiviluoto until



31 March 2005. The Executive Team also included Mauno Paavola until 31 August 2004.

Furthermore, the Corporate Executive Team has appointed operational management groups to act as working groups that prepare issues to be discussed, thus supporting the Corporate Executive Team and the directors responsible for the operations.

#### **PERSONNEL REPRESENTATION IN THE ADMINISTRATION**

Communication between the personnel and the employer, and the personnel's opportunities to influence are ensured by representative co-operation. Group-level co-operation is called the Group meeting. Two Group meetings were held during 2004.

#### **AUDITING AND AUDITOR**

The principal task of statutory auditing is to verify that the financial statements give correct and sufficient information on the Group's result and financial position. The Annual General Meeting annually appoints one regular auditor, which shall be an auditing corporation approved by the Central Chamber of Commerce, to audit Pohjolan Voima's administration and accounts.

In 2004, the Annual General Meeting elected Price-waterhouseCoopers Oy, Authorized Public Accountants, as the regular auditor. Eero Suomela, Authorized Public Accountant, acted as the auditor in charge. The total amount of fees paid for the auditing in the Group was EUR 200 000 in 2004. In addition, EUR 35 000 was paid to the Authorized Public Accountants for services other than the audit.

#### **INTERNAL CONTROL, RISK MANAGEMENT AND INTERNAL AUDITING**

The Board of Directors and the operational management are responsible for the arrangement and sufficiency of company-internal control. The objective of internal control is to ensure the efficiency and profitability of the operations,

the reliability of information as well as compliance with the regulations and operating principles.

The Board of Directors has confirmed the risk management policy and the description of the risk management procedure. The business sectors are responsible for the implementation of risk management and for the description of risks. The management of business risks forms part of the operations planning process. The director of risk management and the operational management group of risk management develop and monitor the risk management process and, if necessary, support the responsible persons in the implementation of risk management.

The operating principles and principal procedures of Pohjolan Voima's internal auditing have been defined in the auditing regulations confirmed by the Board of Directors. Internal auditing reports to the director appointed by the Board. The operations of internal auditing support the management in the development of a good administrative system, risk management and internal control system as well as in the assessment of their efficiency.

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## BOARD OF DIRECTORS, 31 DECEMBER 2004

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### Members



#### Heikki Sara

*Chairman*

*Executive Vice President, Strategy, UPM-Kymmene Corporation*

*Born 1946; D.Tech.*

*Joined United Paper Mills in 1976;*

*Executive Vice President of UPM-Kymmene Corporation since 1996*

*Executive Vice President, Strategic Development, since 2002*

*Member of the Board of Oy Metsä-Botnia Ab*

*Member of the Energy Committee of the Confederation of Finnish Industries, EK*



#### Pekka Laaksonen

*Deputy Chairman*

*Senior Executive Vice President, Stora Enso Oyj*

*Born 1956; M.Sc.(Econ.)*

*Joined Enso in 1979*

*Head of Stora Enso Packaging Boards since 1993*

*Stora Enso's Country Manager Finland*

*Member of the Boards of several subsidiaries and associated companies*

*Chairman of the Board of the Finnish Forest Industries Federation*

*Member of the Board of Suominen Corporation*

*Member of the Board of the Confederation of Finnish Industries, EK*



#### Rami Vuola

*CEO*

*Etelä-Pohjanmaan Voima Oy*

*Born 1968; M.Sc.(Eng.)*

*Employed by IVO Voimansiirto Oy in 1993–1998*

*Employed by Finnish Power Grid Plc and Fingrid System Oy, holding expert and management posts in 1998–2000*

*Production Manager for TXU in 2000–2003*

*CEO of Etelä-Pohjanmaan Voima Oy and*

*Vaskiluodon Voima Oy since 2003*

*Member of the Board of Teollisuuden Voima Oy (TVO)*



#### Esa Tirkkonen

*Deputy Chief Executive Officer*

*Kemira Oyj*

*Born 1949; M.Sc.(Eng.)*

*Joined Kemira in 1974*

*Chairman or Member of the Boards of Kemira's several subsidiaries*

*Member of the Board of Kemira GrowHow Oyj*

*Member of the Board of Teollisuuden Voima Oy (TVO)*

### Personal deputy members

#### Anja Silvennoinen

*Vice President, Energy*

*UPM-Kymmene Corporation*

*Born 1960; M.Sc.(Eng.), MBA*

#### Timo Koivuniemi

*Senior Vice President*

*Stora Enso Oyj*

*Born 1948; M.Sc.(Eng.)*

#### Hannu Linna

*CEO*

*Vaasan Säbkö Oy*

*Born 1955; M.Sc.(Eng.)*

#### Jukka Liimatainen

*Vice President, Energy*

*Kemira Oyj*

*Born 1946; M.Sc.(Eng.)*

## Members



### Erkki Varis

CEO

Oy Metsä-Botnia Ab

*Born 1948; M.Sc.(Eng.)*

*Working for forest industry companies since 1975*

*CEO of Oy Metsä-Botnia Ab since 1997*

*Member of the Supervisory Board of Ilmarinen Mutual Pension*

*Insurance Company, Member of the Board of Sunila Oy*

*Chairman of the Board of Excellence Finland*

*Deputy Chairman of the Board of the Espoo Chamber of Commerce*

*Compania Forestal Oriental; Botnia S.A., Chairman of the Board*

*A/S Baltic Pulp, Supervisory Board, member*

*Finnish Academy of Technology, permanent member*



### Markku Tynkkynen

Executive Vice President, Resources

UPM-Kymmene Corporation

*Born 1952; M.Sc.(Paper Eng.)*

*Joined United Paper Mills in 1982, holding several posts in production, business development, sales and business management*

*Several management posts at UPM-Kymmene Corporation since 1996*

*Executive Vice President, Resources, since 2004*

*Member of the Board of Teollisuuden Voima Oy (TVO)*



### Tapio Ahola

Director of Technical Development

Myllykoski Paper Oy

*Born 1949; M.Sc.(Eng.)*

*Employed by Myllykoski since 1974, holding several management posts in, e.g., research, production, projects and business development*

*Myllykoski Paper Oy's Director of Technical Development*

*Managing Director of Pato Osakeyhtiö*



### Sakari Suontaka

CEO

KymppiVoima Tuotanto Oy

*Born 1951; B.Sc.(Eng.)*

*Consulting tasks in the energy sector: Enertek Oy in 1975–1987*

*and Energy Ekono Oy in 1987–1998*

*KymppiVoima's CEO since 1998*

*Member of the Electricity Production Committee of the Association of Finnish Energy Industries*

*Member of the Advisory Committee of Fingrid Oyj*

## Personal deputy members

### Aarre Metsävirta

Senior Executive Vice President,

Deputy CEO

M-real Corporation

*Born 1945; M.Sc.(Eng.)*

### Tapani Sointu

Vice President

UPM-Kymmene Corporation

*Born 1955; M.Sc.(Econ.)*

### Seppo Ruohonen

Managing Director

Helsinki Energy

*Born 1946; M.Sc.(Eng.)*

### Patrick Wackström

Managing Director

Päijät-Hämeen Voima Oy

*Born 1958; B.Sc.(Eng.)*

## EXECUTIVE OFFICERS, 31 DECEMBER 2004

### **Timo Rajala**

*President and CEO, Pohjolan Voima Oy*

*Born 1947; M.Sc.(Eng.)*

*Joined the Group in 1982*

*Chairman of the Boards of several Group companies*

*Deputy Chairman of the Board of Teollisuuden Voima Oy (TVO)*

*Chairman of the Board of Fingrid Oyj*

*Member of the Board of the Association of Finnish Energy Industries*

*Member of the National Board of Economic Defence and*

*its Executive General*

### **Matti Kaisjoki**

*Executive Vice President, Power Procurement, Thermal Power Production*

*Born 1945; M.Sc.(Eng.)*

*Joined the Group in 1991*

*Chairman of the Boards of several Group companies*

*Expert of the Energy Committee of the*

*Finnish Forest Industries Federation*

*Member of Energy supply sector of the*

*National Board of Economic Defence*

*Deputy member of the Board of Fingrid Oyj*

### **Jukka Kiviluoto**

*President, PVO-Vesivoima Oy*

*Managing Director, Länsi-Suomen Voima Oy*

*Born 1943; B.Sc.(Eng.)*

*Joined the Group in 1995*

*Member of the Boards of several companies and organizations in the energy sector*

### **Minna Korkeaoja**

*Executive Vice President, Group Controller*

*President, Powest Oy*

*Born 1964; M.Sc.(Econ.)*

*Joined the Group in 1989*

*Member of the Boards of several Group companies*

*Member of the Board of Ramboll Gruppen A/S*

### **Arto Piela**

*Executive Vice President, Corporate Strategy,*

*Legal and Environmental Affairs, Communications,*

*Corporate Relations and Procurement*

*Born 1960; LL.M.*

*Joined the Group in 1989*

*Chairman or Member of the Boards of several Group companies*

*Secretary of the Board of Pohjolan Voima Oy*

*Chairman of the Board of Enprima Oy*

*Member of the Board of the Finnish Energy*

*Industries Federation FINERGY*

*Member of the Election Committee of the Association of Finnish*

*Energy Industries*

### **Pertti Simola**

*President and CEO, Teollisuuden Voima Oy*

*Born 1950; M.Sc.(Eng.)*

*Joined the Group in 2004*

*Member of the Boards of Posiva Oy,*

*Powest Oy and Nordic Energy Oy*



*Members of the Executive Team, from the left:*

**Jussi Kivimäki (Secretary), Minna Korkeaoja, Arto Piela, Timo Rajala, Jukka Kiviluoto, Matti Kaisjoki and Pertti Simola**

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## ACCOUNTS FOR 2004

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42	Review by the Board of Directors 2004
47	Consolidated profit and loss account
48	Consolidated balance sheet
49	Consolidated cash flow statement
50	Profit and loss account of Parent Company
51	Parent Company balance sheet
52	Parent Company cash flow statement
53	Accounting policies
54	Notes to the accounts
65	Information required by Section 32 of the Electricity Market Act
66	Shares and holdings
67	Proposal of the Board of Directors for recording the financial result and Auditors' report



## Review by the Board of Directors 2004

### THE NORDIC ELECTRICITY MARKET

In 2004, electricity consumption in Finland totalled 86.8 TWh (85.2 TWh in 2003). A total of 81.9 (80.4) TWh of electricity was produced in Finland, while net imports into Finland amounted to 4.9 (4.9) TWh. Nearly the maximum amount of electricity was imported from Russia and plenty of electricity was exported to the other Nordic countries.

The period of unusually low rainfall levels in the Nordic countries ended in summer and the storage reservoirs in the area reached the normal levels at the turn of the year. In 2004, the production of hydropower in the Nordic countries amounted to 186 TWh, while in a year of average precipitation it is 197 TWh. In 2004, the amount of coal used for energy production in Finland totalled some 7.0 million tonnes, or nearly as much as in the record year of 2003.

The market prices of electricity were steadier than in 2003 and no significant price peaks occurred. The weekly price of market electricity in the Nordic electricity exchange, Nord Pool, reached its peak in August, and was more than EUR 30 per megawatt-hour. The prices dropped towards the end of the year owing to the improved water conditions, and the area price in Finland was EUR 28 (35) per megawatt-hour on average.

### POHJOLAN VOIMA'S ELECTRICITY AND HEAT PRODUCTION

In 2004, Pohjolan Voima's electricity supply totalled 30.0 (29.9) TWh. Of this amount, the Group's own electricity production accounted for 24.7 (24.9) TWh, of which the Parent Company's supplies to its shareholders amounted to 17.7 (18.0) TWh. The subsidiaries supplied a total of 7.1 (6.9) TWh to their other shareholders. Electricity imports from Russia amounted to 2.9 (3.3) TWh and purchases from the Nordic electricity markets were 2.3 (1.7) TWh.

Nuclear power made up 47.0% (47.3%) of the electricity supply. Teollisuuden Voima's Olkiluoto Power Plant generated 14.1 (14.2) TWh of electricity, of which Pohjolan Voima obtained 8.0 (8.0) TWh in accordance with its shareholding. The load factor of the Olkiluoto plants, 95.6% (96.3%), continued to be among the top figures in the world.

Hydropower accounted for 1.8 (1.2) TWh, or 6.0% (4.0%), of the electricity supply.

Pohjolan Voima produced 4.8 (5.9) TWh of condensing power. It represented 16.2% (19.8%) of the electricity supply.

A total of 4.0 (3.7) TWh of electricity was generated at the CHP plants. The consumption of peat and biofuels

totalled 9.7 (6.8) TWh. Peat accounted for 3.5 (3.9) TWh and wood-based fuels for 6.3 (2.9) TWh. The increased consumption of wood-based fuels was mainly due to the completion of Wisapower Oy's investment.

### *Pohjolan Voima's electricity supply in 2000 – 2004 (GWh)*

	2000	2001	2002	2003	2004
Nuclear power	14 072	14 152	14 106	14 154	14 090
Hydropower	1 996	1 604	1 239	1 183	1 802
CHP	2 867	3 268	4 062	3 651	3 954
Condensing power	2 678	3 471	3 714	5 930	4 768
Wind power	0	0	0	7	20
Imports from Russia	690	2 887	2 988	3 299	2 951
Spot purchase	1 717	1 057	1 756	1 698	2 288
<b>Total</b>	<b>24 020</b>	<b>26 439</b>	<b>27 866</b>	<b>29 922</b>	<b>29 973</b>

### INVESTMENTS

Investments of the Pohjolan Voima Group, excluding financial investments, totalled EUR 426.9 (89.7) million.

Investments in the biofuel-fired power plants totalled EUR 25.4 (49.1) million. Teollisuuden Voima invested EUR 53.3 (30.3) million in the modernizations of the turbine plants and in plant modifications and improvements as part of the annual outages. Investments in the Olkiluoto 3 nuclear power plant unit amounted to EUR 328.3 million. The Group invested EUR 2.9 (4.5) million in wind power. In December 2003, Nokian Lämpövoima Oy signed a contract to purchase some of the district-heating network, worth EUR 9.8 million, from the town of Nokia. The remaining investments were mainly in repairs and renovations.

The sales of fixed assets totalled EUR 0.7 (34.3) million.

Wisapower's recovery boiler plant in Pietarsaari was completed in April. In Kristiinankaupunki, construction work on three wind power plants began in the autumn of 2003 and the 1 MW power plants were commissioned at the turn of 2004. One 1 MW wind power plant was completed at Olkiluoto in December, and the construction of Finland's largest wind power plant began at Vihreäsaari in Oulu in November. The output of the power plant is 3 MW and it is scheduled for completion in spring 2005. As part of the financing of the 3 MW investment, the Group accepted as a capital contribution the 1 MW wind power plant previously owned by the City of Oulu, which is also located at Vihreäsaari in Oulu.

In accordance with the decision taken by the Board of Directors in December 2003, Pohjolan Voima has invested

EUR 166.9 million in Teollisuuden Voima's Olkiluoto 3 project. The Municipality of Eurajoki granted a building permit for Olkiluoto 3 in January 2005. Teollisuuden Voima handed over the construction site to the consortium formed by Framatome and Siemens on schedule, in the beginning of February 2005. The extensive inspection and acceptance procedure required for a construction licence progressed in co-operation with the plant supplier and the authorities. The Council of State is likely to grant the construction licence in February 2005. The construction will begin in spring 2005 and the plant is scheduled to be ready for electricity production in 2009.

Pohjolan Voima is involved in the construction project of a direct-current cable connection between Finland and Estonia. In 2004, an exceptional permit was applied for from the Finnish and Estonian energy market authorities and the European Commission to ignore some of the regulations imposed in the relevant EU directive and decree. An exceptional permit concerning the use of the transmission connection is an essential precondition for commercial use of the connection. It is anticipated that the decision will be taken in March 2005. Finestlink Oy, which is owned by Pohjolan Voima and the City of Helsinki, will purchase 10.1% of the shares in Nordic Energy Link AS, an Estonian company formed to construct and own the direct-current cable connection, if a favourable decision on the exceptional permit is rendered. Nordic Energy Link has chosen ABB as the designer, builder and installer of the transmission connection.

In January 2005, Rauman Voima Oy took a decision to invest in the power plant to be built at UPM-Kymmene Oyj's Rauma paper mill. Upon completion, the new power plant will generate 140 MW of process steam, 50 MW of district heat and 65 MW of electricity. The power plant's main fuels will be bark and felling residue. The investment is scheduled for completion towards the end of 2006 and the new plant will then replace the power plant that has been operating as part of the mill for more than 40 years.

## RESEARCH AND DEVELOPMENT

The Group's expenditure on research and development totalled EUR 19.8 (12.4) million in 2004.

The most significant subject of research was the final disposal facility for spent nuclear fuel. Excavation work on the underground rock characterization facility known as ONKALO began under the final disposal project. The excavation work will continue until 2008, including the construction of an access tunnel to a depth of 417 metres and the drilling of a ventilation raise to a depth of 287

metres. The financing of the research linked with reactor safety and nuclear waste management shifted from the Ministry of Trade and Industry to the power companies. In 2004, Teollisuuden Voima accounted for EUR 2.7 million of the finance for public programmes.

The biofuel programme includes an investment programme of biofuel-fired power plants as well as research and development operations linked with the fuel procurement of power plants. In 2004, the biofuel programme focused on increasing the use of forestry woodfuel and energy crops. In addition, studies were launched with a view to finding out whether it is technically and economically viable to use biomass as a supplementary fuel in coal-fired boilers. The use of logging residue increased at the biofuel-fired power plants. Furthermore, various harvesting, crushing and combustion tests of reed canary grass were carried out.

## PERSONNEL

Pohjolan Voima bears the responsibility for promoting the physical, mental and social welfare of its personnel. The objective is to eliminate work-related disease and injuries. A study into the Group's working climate was conducted in 2004 as part of the monitoring of occupational welfare. The personnel have committed themselves to working for the company and have a strong motivation, but by plant and by company the results varied a great deal, however. The issues to be improved included, for instance, the working climate and the division of workloads.

The Group defined its strategic areas of expertise and the necessary measures required to maintain the expertise level when the baby boomers begin to retire. The Olkiluoto 3 investment contributes to ensuring the maintenance and diversification of nuclear power expertise at Teollisuuden Voima. The average number of employees working for the Group was 873 (864) and for the parent company 72 (65). At the end of the year, the Group personnel numbered 838 (846).

## THE ENVIRONMENT

All power plants in the Pohjolan Voima Group have valid environmental permits and Water Court permits. Environmental management is based on the certified environmental management systems in accordance with the ISO 14001 standard. In 2004, the environmental management systems were built for Kuusankoski and Alholmens Kraft. Regulatory compliance is dealt with as part of the certified environmental management systems. The operations of Teollisuuden Voima were also in compliance with the

environmental permits and the environmental management system. No deviation from the commitments of the environmental programme that would have been serious with respect to the environment was discovered during 2004.

The past year was exceptionally rainy. The regulation and power plant operation in the water systems fulfilled the permit conditions, and most of the voluntarily agreed environmental targets could also be achieved. A total of 2.6 (2.6) million fry was stocked in the Kemijoki and Iijoki water systems and in the nearby sea areas.

The Municipality of Keminmaa applied for a building permit from the Environmental Permit Authority to build a fishway at the Isohaara power plant. As the fishway would be connected to the power plant structures, the granting of a permit requires that the power plant owner should give its consent. PVO-Vesivoima and the Municipality of Keminmaa made an agreement by which the Municipality committed itself to compensating for the loss of energy due to the water used for the fishway.

Towards the year-end, a leak was detected in an underground light fuel oil pipe at Nokian Lämpövoima Oy's Mussalo power plant. Removal of the contaminated soil for further treatment and decontamination of the area began immediately in accordance with the instructions given by the authorities. The decontamination was completed in January 2005. The leak caused no damage outside the plant site.

At the thermal power plants, there were no deviations from regulatory compliance. Emissions from production decreased on 2003. The carbon dioxide emissions totalled 6.9 (7.6) million tonnes. The reduction was mostly due to the decreased production at the coal-fired condensing power plants compared with the previous year. This also reduced the emissions of nitrogen oxides, sulfur dioxide and particles. The sulfur dioxide emissions amounted to 7.9 (10.7) thousand tonnes, the nitrogen oxide emissions to 12.1 (12.8) thousand tonnes and the particle emissions to 0.4 (0.5) thousand tonnes.

Pohjolan Voima's detailed environmental information is available in the Appendix to the Annual Report, Environmental Information 2004, and on the Group's Web site at [www.pohjolanvoima.fi](http://www.pohjolanvoima.fi). Teollisuuden Voima provides information on the environmental issues related to nuclear power generation on its Web site at [www.tvo.fi](http://www.tvo.fi) and in a separate social responsibility report.

Pohjolan Voima and its subsidiaries and associated companies are not aware of any environmental liabilities that have not been covered.

## CHANGES IN THE GROUP STRUCTURE

Jointly with the City of Helsinki, Powest established Fin-

estlink Oy, whose function is to own shares in Nordic Energy Link AS, an Estonian company formed to construct and own the direct-current cable connection between Finland and Estonia. Powest owns 60% and the City of Helsinki 40% of Finestlink.

In early 2005, Pohjolan Voima sold 28% of its shares in Rauman Voima Oy to Rauman Energia Oy at the same time as Rauman Voima took a decision to invest in a power plant at the Rauma paper mill.

## FINANCES

The Group's liquidity remained good. Net interest-bearing liabilities at the end of the year stood at EUR 1 062.7 (801.0) million. There were no liabilities in foreign currencies.

The Group has the following long-term credit ratings:

### Pohjolan Voima Oy

Japan Credit Rating Agency AA

### Teollisuuden Voima Oy

Japan Credit Rating Agency AA  
Standard & Poor's BBB

For liquidity management, the Group was able to rely on domestic commercial paper programmes of EUR 900 million (EUR 250 million), of which EUR 789 million (EUR 209 million) was unused. Pohjolan Voima and Teollisuuden Voima both increased the size of their commercial paper programmes substantially during the year under review. At the end of the year, the revolving credit facilities amounted to EUR 2 757 million (EUR 2 216 million), of which EUR 2 577 million (EUR 2 101 million) was available. Financial arrangements for the Olkiluoto 3 nuclear power plant unit constitute the majority of the revolving credit facilities.

At the end of the year, the Group had an equity-to-assets ratio of 43.1% (47.1%). The deferred tax liability is not included in the figure, as it is not expected to be realized.

A total reduction of EUR 23.0 (18.9) million in the deferred tax liability improved the Group result in 2004. Some of the reduction in the tax liability was due to a decrease in the accumulated depreciation differences and some to a change in the tax rate. In the year of comparison, the Group result decreased owing to the depreciation in value of the Mussalo gas-fired combined-cycle power plant.

## SHAREHOLDERS' EQUITY AND SHARE ISSUES

The Annual General Meeting held on 22 March 2004 authorized the Board of Directors to take a decision on an increase of the share capital through a new share issue deviating from the shareholders' pre-emptive subscription rights as follows:

- In the I series, a maximum of EUR 45 074.37 and a maximum of 26 800 shares.

The Annual General Meeting simultaneously cancelled the share issue authorizations granted in 2003.

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

- An increase of 156 000 in the D2 series share capital on 22 April 2004. The issue, directed at UPM-Kymmene Corporation, had a subscription price of EUR 8.580 million.
- An increase of 6 961 in the I series share capital on 24 September 2004. The issue, directed at Kemira Oyj, UPM-Kymmene Corporation, Myllykoski Corporation, City of Oulu, Stora Enso Oyj and City of Kokkola, had a subscription price of EUR 0.390 million.

#### SHAREHOLDERS OF POHJOLAN VOIMA (GENERAL SHAREHOLDING)

Shareholder	Holding %	
	31 Dec. 2003	31 Dec. 2004
Etelä-Pohjanmaan Voima Oy	4.373	7.517
City of Helsinki	0.815	0.832
Ilmarinen Mutual Pension Insurance Company	4.562	4.354
Kemira Oyj and Pension foundation Neliapila	2.787	2.797
Kemira GrowHow Oyj and Kemira Agro Oy's Pension foundation	1.848	1.756
City of Kokkola	2.242	2.443
Kymppivoima Tuotanto Oy	2.940	8.721
Kyro Corporation	0.190	0.181
Oy Metsä-Botnia Ab	1.584	1.575
M-real Corporation	2.564	2.865
Myllykoski Corporation	0.850	0.864
Nordic Energy Oy	15.219	0.004
City of Oulu	0.119	1.749
Outokumpu Oyj	0.000	0.016
Oy Perhönjoki Ab	2.170	2.684
City of Pori	1.182	1.159
Päijät-Hämeen Voima Oy	0.960	1.980
Rautaruukki Oyj	0.000	0.016
Stora Enso Oyj	13.319	15.598
UPM-Kymmene Corporation	41.968	42.573
Vantaa Energy Ltd	0.309	0.316

#### CORPORATE MANAGEMENT

The Annual General Meeting elected the following members to the Board of Directors: Tapio Ahola, Direc-

tor, of Myllykoski Paper Oy; Pekka Laaksonen, Senior Executive Vice President, of Stora Enso Oyj; Heikki Sara, Executive Vice President, of UPM-Kymmene Corporation; Sakari Suontaka, CEO, of Kymppivoima Tuotanto Oy; Esa Tirkkonen, Deputy CEO, of Kemira Oyj; Markku Tynkkynen, Executive Vice President, of UPM-Kymmene Corporation; Erkki Varis, CEO, of Oy Metsä-Botnia Ab; and Rami Vuola, CEO, of Etelä-Pohjanmaan Voima Oy.

Heikki Sara was elected Chairman and Pekka Laaksonen Deputy Chairman in the organization meeting of the Board of Directors. The Board of Directors convened 11 (13) times in 2004

#### LEGAL ACTIONS PENDING

In 2002, the Helsinki District Court rejected the action for damages filed by PVO-Vesivoima Oy against the Finnish Government, which claimed compensation for the lost economic benefit owing to protection of the Iijoki River. PVO-Vesivoima appealed against the court's judgement to the Helsinki Court of Appeal, which announced its decision on 30 December 2003 and did not change the judgement. PVO-Vesivoima applied for a retrial permit from the Supreme Court in 2004. A retrial permit has not been granted yet.

The West Finland Regional Environment Centre appealed against the decision rendered by the Vaasa Administrative Court in 2003 concerning the ash disposal site for PVO-Lämpövoima Oy's Kristiinankaupunki power plant to the Supreme Administrative Court. In its appeal, the Environment Centre demands that the structural requirements for the bottom structure of the disposal site should be returned to the form originally decided by the Environment Centre. PVO-Lämpövoima submitted an appeal of its own regarding the surface structure of the disposal site and the material used for the drying layer. The Supreme Administrative Court has not rendered a decision yet.

The gasification plant planned to be built as part of the Martinlaakso power plant jointly by Pohjolan Voima, Vapo Oy and Vantaa Energy Ltd was granted an environmental permit at the end of 2002. The Vaasa Administrative Court reversed the permit decision on 31 December 2003 and returned the matter to the Western Finland Environmental Permit Authority for reconsideration. A complaint has been lodged with the Supreme Administrative Court against the judgement of the Vaasa Administrative Court, which has not rendered a decision yet.

Verification of the permits of several thermal power plants is underway in accordance with the Environmental Protection Act and Decree, which came into effect in 2000.



## PREPARATIONS FOR IFRS FINANCIAL STATEMENTS

Pohjolan Voima has not taken a decision about when to begin preparing the Group's financial statements in accordance with the International Financial Reporting Standards (IFRS). The most significant differences in the accounting practices would be the consolidation of Teollisuuden Voima as an associated company and the handling of leasing arrangements, financial instruments, revaluations and interest during construction. Compared with the 2004 consolidated financial statements in accordance with the Finnish accounting standards, the IFRS transition would decrease the balance sheet total by EUR 957.1 (743.6) million and increase the equity-to-assets ratio to 51.4% (53.6%).

## SHORT-TERM OUTLOOK

The consumption of electricity in the Nordic countries increased by about 2% in 2004. The consumption increased most in Norway, where, on the other hand, it decreased most in 2003. The Olkiluoto 3 nuclear power plant unit continues to be the only significant investment that will increase the electricity production capacity. The Olkiluoto power plant project will not be sufficient to cover the ever-growing consumption of electricity in the Nordic countries, but other investments will also be needed.

The Energy Market Authority granted greenhouse gas emissions permits to all of Pohjolan Voima's thermal power plants. The Council of State took a decision on the plant-specific emission allowances in accordance with the Emissions Trading Act on 21 December 2004. In the first national allocation of emission allowances, condensing power plants in particular obtained a scanty amount of allowances. Pohjolan Voima's plants obtained the pre-estimated amount of emission allowances for the period of 2005–2007, some 18 million tonnes.

At the same time as the first emissions trading period is being launched, preparations for the second emissions trading period, i.e. 2008–2012, also begin. The allocation plans of the countries involved for the second period shall be submitted to the Commission by June 2006. The Ministry of Trade and Industry launched the preparation of Finland's allocation plan in January 2005. The inclusion of new greenhouse gases and sectors in the second period will not be probable, since the Commission has not made proposals for these by the end of 2004.

The report drawn up by Professor Mikko Kara, an evaluator appointed by the Ministry of Trade and Industry, states that the first emissions trading period will not much change the operating environment. The price level and volumes of emissions trading are anticipated to remain

low. In early 2005, the price of emission allowances in the German EEX exchange varied between EUR 6.65 and 8.39, which supports the opinion stated by Professor Kara. According to him, the effects will be greater and the price of emission allowances will be EUR 10 to 20 per tonne in the second emissions trading period.

Finland's present climate strategy is being updated so as to become Finland's climate and energy strategy, the purpose being to submit it to Parliament in March–April 2005. The new climate and energy strategy assesses both short-term and long-term issues. Furthermore, the Ministry of Trade and Industry is performing scenario calculations, which help outline Finland's situation even until the year 2050. From Pohjolan Voima's point of view, it is important that no other restrictions besides emissions trading will be placed on the use of coal, that emission-free production forms will not be burdened by new taxes or charges, and that all methods of energy production that reduce emissions, e.g. waste incineration, will be permitted. The investment and tax subsidies currently provided in Finland must be maintained as a means of promoting renewable energy sources, and they must not be replaced by commitment-based certificates trading.

An official working group, whose task was to consider the financial status of municipalities in general, submitted its proposal to the Minister of Regional and Municipal Affairs in December 2004. Power producers were surprised to notice that the working group's proposal also included raising the upper limit of the real estate tax rate of power plant real estates to 3.50% and the lower limit to 2.20%. At present, the lower limit is 0.50%, and the upper limit is 1.40% for conventional power plants and 2.20% for nuclear power plants. The plan is to bring the proposal into force from the beginning of 2006. At Pohjolan Voima, the real estate tax burden would rise manifold and incur emission-free forms of production in particular.

From 1990, the EU has issued more than 600 environmental directives. Questions of interpretation of the directives, as well as their inconsistency and specificity have contributed to increasing the bureaucracy of the operating environment and impairing the predictability of permit decisions. The Finnish implementation and application practice adds to these problems.



## Consolidated profit and loss account

EUR 1 000 • 1 JAN. - 31 DEC.		2004	2003
<b>Turnover</b>	( 1 )	<b>666 770</b>	658 591
Production for own use		76	141
Other operating income	( 2 )	8 264	10 734
Raw materials and services	( 3 )	-353 350	-349 691
Personnel expenses	( 4 )	-49 688	-51 120
Depreciation and value adjustments	( 5 )	-92 799	-112 305
Other costs and expenses	( 6 )	-179 479	-177 220
<b>Operating profit</b>		<b>-206</b>	-20 870
Financial income and expenses	( 7 )	-22 889	-24 143
<b>Profit before taxes</b>		<b>-23 095</b>	-45 013
Income taxes	( 9 )	22 831	15 494
Minority interest		2 930	3 610
<b>Profit for the financial year</b>		<b>2 666</b>	-25 909

## Consolidated balance sheet

EUR 1 000	31 DEC. 2004	31 DEC. 2003
<b>ASSETS</b>		
<b>Non-current assets</b>		
Intangible assets	( 10 ) 25 704	25 806
Tangible assets	( 11 ) 1 827 622	1 493 959
Investments	( 12 ) 395 651	374 671
	<b>2 248 977</b>	<b>1 894 436</b>
<b>Current assets</b>		
Inventories	( 13 ) 206 933	203 233
Non-current receivables	( 14 ) 38 433	38 545
Current receivables	( 15 ) 140 179	230 028
Cash in hand and in bank	29 725	19 585
	<b>415 270</b>	<b>491 391</b>
	<b>2 664 247</b>	<b>2 385 827</b>
<b>EQUITY AND LIABILITIES</b>		
<b>Shareholders' equity</b>		
Share capital	( 16 ) 57 948	55 302
Share issue	4 777	78 999
Share premium reserve	387 925	302 602
Contingency reserve	547	547
Revaluation reserve	218 644	218 644
Retained earnings	141 787	167 696
Profit for the financial year	2 666	-25 909
	<b>814 294</b>	<b>797 881</b>
	<b>212 381</b>	<b>183 332</b>
<b>Liabilities</b>		
Deferred tax liability	( 17 ) 118 916	141 916
Non-current liabilities	( 18 ) 1 213 681	976 153
Current liabilities	( 19 ) 304 975	286 545
	<b>1 637 572</b>	<b>1 404 614</b>
	<b>2 664 247</b>	<b>2 385 827</b>

## Consolidated cash flow statement

EUR I 000	2004	2003
<b>Cash flow from operating activities</b>		
Operating profit	-206	-20 870
Adjustments to operating profit <sup>1)</sup>	80 118	102 178
Change in the net working capital <sup>2)</sup>	-3 558	21 466
Interest paid	-34 163	-40 728
Interest received	17 504	2 588
Dividends received	2 892	2 034
Other financial income and expenses	-1 387	1 153
Direct taxes paid	-3 274	-10
<b>Net cash from operating activities</b>	<b>57 926</b>	<b>67 811</b>
<b>Cash flow from investing activities</b>		
Acquisition of subsidiaries	-574	-1 501
Investment in other shares	-4 361	-254
Purchases of tangible and intangible assets	-416 156	-94 015
Proceeds from sales of Group companies	159	-
Proceeds from sales of associated companies	-	153
Proceeds from sales of other shares	263	70
Proceeds from sales of tangible and intangible assets	1 498	3 153
Increase (-) or decrease (+) in loan receivables	-9 972	-12 890
<b>Net cash spent on investing activities</b>	<b>-429 143</b>	<b>-105 284</b>
<b>Cash flow from financing activities</b>		
Increase in long-term liabilities	340 005	169 250
Decrease in long-term liabilities	-140 725	-126 639
Increase (-) or decrease (+) in interest-bearing receivables	15 935	-2 552
Increase (+) or decrease (-) in current interest-bearing liabilities	66 785	35 971
Share issue	92 186	20 412
Repayment of equity	-	-60 400
Change in minority interest	7 172	3 756
<b>Net cash spent on financing activities</b>	<b>381 357</b>	<b>39 798</b>
<b>Net increase (+) or decrease (-) in cash and cash equivalents</b>	<b>10 140</b>	<b>2 325</b>
Cash and cash equivalents, 1 Jan.	19 585	17 260
<b>Cash and cash equivalents, 31 Dec.</b>	<b>29 725</b>	<b>19 585</b>
<b><sup>1)</sup> Adjustments to operating profit</b>		
Depreciation and value adjustments	92 799	112 305
Gains (-) or losses (+) on sale of fixed assets	-1 156	-2 488
Share of associated companies' profits	-11 525	-7 639
	80 118	102 178
<b><sup>2)</sup> Change in working capital</b>		
Increase (-) or decrease (+) in inventories	-3 700	-9 118
Increase (-) or decrease (+) in non-interest-bearing receivables	3 685	49 566
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	-3 543	-18 982
	-3 558	21 466

## Profit and loss account of Parent Company

EUR 1 000 • 1 JAN. - 31 DEC.	2004	2003
<b>Turnover</b>	( 1 )	475 136
Other operating income	( 2 )	2 135
Raw materials and services	( 3 )	-233 571
Personnel expenses	( 4 )	-5 619
Depreciation and value adjustments	( 5 )	-1 184
Other costs and expenses	( 6 )	-233 026
<b>Operating profit</b>		<b>3 871</b>
Financial income and expenses	( 7 )	-2 660
<b>Profit before extraordinary items</b>		<b>1 211</b>
Extraordinary items		
Extraordinary income	( 8 )	0
<b>Profit before appropriations and taxes</b>		<b>1 211</b>
Appropriations		
Decrease (+) in accumulated depreciation difference		-368
Income taxes	( 9 )	-3 869
<b>Profit for the financial year</b>		<b>445</b>

## Parent Company balance sheet

EUR 1 000	2004	2003
<b>ASSETS</b>		
<b>Non-current assets</b>		
Intangible assets (10)	821	816
Tangible assets (11)	5 761	6 232
Investments (12)		
Holdings in Group companies	865 951	905 783
Other investments	310 291	203 059
	<b>1 182 824</b>	<b>1 115 890</b>
<b>Current assets</b>		
Inventories (13)	0	6 076
Non-current receivables (14)	36 893	37 073
Current receivables (15)	68 859	188 196
Cash in hand and in bank	17 633	2 913
	<b>123 385</b>	<b>234 258</b>
	<b>1 306 209</b>	<b>1 350 148</b>
<b>EQUITY AND LIABILITIES</b>		
<b>Shareholders' equity (16)</b>		
Share capital	57 948	55 302
Share issue	4 777	78 999
Share premium reserve	384 455	299 133
Contingency reserve	547	547
Revaluation reserve	218 644	218 644
Retained earnings	36 804	41 385
Profit for the financial year	445	-4 581
	<b>703 620</b>	<b>689 429</b>
<b>Appropriations</b>		
Accumulated depreciation difference	<b>3 113</b>	<b>2 745</b>
<b>Liabilities</b>		
Non-current liabilities (18)	438 878	392 787
Current liabilities (19)	160 598	265 187
	<b>599 476</b>	<b>657 974</b>
	<b>1 306 209</b>	<b>1 350 148</b>



## Parent Company cash flow statement

EUR 1 000	2004	2003
<b>Cash flow from operating activities</b>		
Operating profit	3 871	-14 056
Adjustments to operating profit <sup>1)</sup>	946	3 292
Change in net working capital <sup>2)</sup>	-9 097	-4 638
Interest paid	-15 338	-18 601
Interest received	8 812	8 633
Dividends received	1 778	1 667
Other financial income and expenses	-1 228	-71
Direct taxes paid	-3 187	-4
<b>Net cash from operating activities</b>	<b>-13 443</b>	<b>-23 778</b>
<b>Cash flow from investing activities</b>		
Investment in shares	-21 290	-80 394
Purchases of tangible and intangible assets	-419	-518
Proceeds from sales of shares	-	48
Proceeds from sales of tangible and intangible assets	385	981
Increase (-) or decrease (+) in loan receivables	-107 195	10 300
<b>Net cash spent on investing activities</b>	<b>-128 519</b>	<b>-69 583</b>
<b>Cash flow from financing activities</b>		
Increase in long-term liabilities	113 458	80 642
Decrease in long-term liabilities	-63 367	-35 689
Increase (-) or decrease (+) in interest-bearing receivables	20 180	-18 035
Increase (+) or decrease (-) in current interest-bearing liabilities	-74 835	104 487
Share issue	92 186	20 412
Repayment of equity	-	-60 400
<b>Net cash spent on financing activities</b>	<b>87 622</b>	<b>91 417</b>
<b>Net increase (+) or decrease (-) in cash and cash equivalents</b>	<b>-54 340</b>	<b>-1 944</b>
Cash and cash equivalents, 1 Jan.	2 913	4 857
Cash and cash equivalents received from merger	69 060	-
<b>Cash and cash equivalents, 31 Dec.</b>	<b>17 633</b>	<b>2 913</b>
<b>1) Adjustments to operating profit</b>		
Depreciation and value adjustments	1 184	1 935
Losses (+) or gains (-) on sales of fixed assets	-238	1 357
	946	3 292
<b>2) Change in working capital</b>		
Increase (-) or decrease (+) in non-interest-bearing receivables	-10 052	28 545
Increase (-) or decrease (+) in inventories	6 076	-6 076
Increase (+) or decrease (-) in short-term non-interest-bearing liabilities	-5 121	-27 107
	-9 097	-4 638

## Accounting policies

### CONSOLIDATION PRINCIPLES

The consolidated financial statements include, in addition to 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 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 are not entitled to dividend, in its Parent Company.

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

### ACCOUNTING PRINCIPLES IN THE CONSOLIDATED FINANCIAL STATEMENTS

#### *Mutual shareholdings*

The consolidated financial statements have been compiled in accordance with the acquisition cost 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 transactions between Group companies, internal receivables and liabilities, internal margins and internal distribution of profits 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 earnings for the year and the change in deferred tax liability.

#### *Associated companies*

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

has been deducted. The result of the associated companies is shown in other costs 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 European Central Bank on the closing date or to a contract rate. 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.

### NON-CURRENT ASSETS

Non-current assets have been entered in the balance sheet at their original acquisition cost from which depreciation according to plan has been deducted. Revaluation has been made on hydropower buildings and dam structures, and these are included in the balance sheet values.

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

• hydropower plants	40 to 80 years
• nuclear power plants	10 to 41 years
• condensing power plants	25 years
• co-generation power plants	4 to 33 years
• wind power plants	10 to 20 years
• transmission lines	30 years
• other fixed assets	3 to 40 years

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

### INVENTORIES

Inventories have been valued at their 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, 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 confirmed tax rate on the closing date.

## Notes to the accounts

EUR 1 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(1) Turnover</b>				
Sales of electricity	496 947	514 041	400 761	416 659
Sales of heat	81 279	65 341	60 919	47 301
Other sales	88 544	79 209	13 456	6 419
	<b>666 770</b>	<b>658 591</b>	<b>475 136</b>	<b>470 379</b>
<b>(2) Other operating income</b>				
Gains on sales of fixed assets	1 279	3 900	238	55
Rental income	2 460	2 151	1 478	1 485
Other income and expenditure	1 963	2 813	419	170
Subsidy for electricity production	2 562	1 870	-	-
	<b>8 264</b>	<b>10 734</b>	<b>2 135</b>	<b>1 710</b>
<b>(3) Raw materials and services</b>				
Fuel	204 605	204 968	11 373	17 210
Other materials, consumables and goods	126 724	126 351	208 264	221 729
Purchases during the period	331 329	331 319	219 637	238 939
Change in inventories	-11 280	-9 122	6 076	-6 076
External services	33 301	27 494	7 858	5 027
	<b>353 350</b>	<b>349 691</b>	<b>233 571</b>	<b>237 890</b>
<b>(4) Personnel expenses</b>				
Salaries and fees				
Salaries of the Boards of Directors and Managing Directors	1 349	1 338	539	477
Other salaries	37 327	39 116	3 857	3 235
	<b>38 676</b>	<b>40 454</b>	<b>4 396</b>	<b>3 712</b>
Pension expenses	8 279	7 317	941	838
Other indirect employee costs	2 733	3 349	282	250
	<b>11 012</b>	<b>10 666</b>	<b>1 223</b>	<b>1 088</b>
Total personnel expenses	<b>49 688</b>	<b>51 120</b>	<b>5 619</b>	<b>4 800</b>
Personnel (average)				
Salaried employees	600	588	67	61
Wage-earners	273	276	5	4
Total	<b>873</b>	<b>864</b>	<b>72</b>	<b>65</b>
Presidents of Group companies and some other staff members normally retire at the age of 62.				
<b>(5) Depreciation</b>				
Depreciation according to plan				
Formation expenses	-	6 128	-	-
Intangible assets	138	120	-	-
Other capitalized expenditure	2 562	2 687	207	290
Buildings and constructions	11 314	9 987	45	121
Machinery and equipment	76 963	65 864	485	1 077
Other tangible assets	1 765	1 275	-	-
Goodwill	57	57	-	-
Value adjustments to goods held as non-current assets	-	26 187	-	-
Investments	-	-	447	447
	<b>92 799</b>	<b>112 305</b>	<b>1 184</b>	<b>1 935</b>

EUR 1 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(6) Other costs and expenses</b>				
Energy purchases	55 036	55 744	225 344	231 311
Share of associated companies' profits	-11 525	-7 639	-	-
Repair and maintenance services	26 155	23 279	369	189
Rents and leases	11 161	9 463	1 852	1 840
Real estate taxes	5 816	5 964	56	62
Other expenses	92 836	90 409	5 405	8 118
	<b>179 479</b>	<b>177 220</b>	<b>233 026</b>	<b>241 520</b>
<b>(7) Financial income and expenses</b>				
Dividend income				
From associated companies	-	-	2 343	2 343
From others	1 731	522	161	5
	<b>1 731</b>	<b>522</b>	<b>2 504</b>	<b>2 348</b>
Interest income from long-term investments				
From Group companies	-	-	7 169	5 446
From associated companies	2 373	2 375	2 373	2 375
From others	3 600	5 268	-1 365	-1 206
	<b>5 973</b>	<b>7 643</b>	<b>8 177</b>	<b>6 615</b>
Other interest and financial income				
From Group companies	-	-	135	344
From associated companies	19	59	19	59
From others	1 112	2 017	513	1 682
	<b>1 131</b>	<b>2 076</b>	<b>667</b>	<b>2 085</b>
Total interest income	<b>7 104</b>	<b>9 719</b>	<b>8 844</b>	<b>8 700</b>
Value adjustments to investments held as non-current assets	-	-	-4	-13 555
Interest and financial expenses				
To Group companies	-	-	-6 736	-12 538
To associated companies	-35	-184	-34	-184
To others	-31 689	-34 200	-7 234	-2 827
	<b>-31 724</b>	<b>-34 384</b>	<b>-14 004</b>	<b>-15 549</b>
Total financial income and expenses	<b>-22 889</b>	<b>-24 143</b>	<b>-2 660</b>	<b>-18 056</b>
Interest and financial income includes net exchange rate differences				
	-227	60	-222	44
<b>(8) Extraordinary items</b>				
Extraordinary income, Group contribution			-	31 000
			-	31 000
<b>(9) Income taxes</b>				
Taxes for the financial year	170	3 435	399	3 869
Taxes for the previous periods	-1	-	-1	0
Change in deferred tax liability	-23 000	-18 929	-	-
	<b>-22 831</b>	<b>-15 494</b>	<b>398</b>	<b>3 869</b>

## Notes to the accounts

### (10) Intangible assets

EUR I 000	Formation expenses	Intangible rights	Other capitalized expenditure	Advance payments	Goodwill	Total
<b>Group</b>						
Acquisition cost, 1 Jan.	58 116	1 231	55 747	305	534	115 933
Increases	-	48	2 017	1 351	-	3 416
Decreases	-	-4	-68	-725	-	-797
Acquisition cost, 31 Dec.	58 116	1 275	57 696	931	534	118 552
Accumulated depreciation, 1 Jan.	-58 116	-248	-31 676	-	-87	-90 127
Accumulated depreciation on decreases	-	-	36	-	-	36
Depreciation for the period	-	-138	-2 562	-	-57	-2 757
Accumulated depreciation, 31 Dec.	-58 116	-386	-34 202	-	-144	-92 848
<b>Book value, 31 Dec. 2004</b>	<b>0</b>	<b>889</b>	<b>23 494</b>	<b>931</b>	<b>390</b>	<b>25 704</b>
Book value, 31 Dec. 2003	0	985	24 070	305	447	25 807
Subsidies received reducing acquisition cost						29
<b>Parent Company</b>						
Acquisition cost, 1 Jan.	-	11	2 643	-	-	2 654
Increases	-	-	214	-	-	214
Decreases	-	-	-2	-	-	-2
Acquisition cost, 31 Dec.	-	11	2 855	-	-	2 866
Accumulated depreciation, 1 Jan.	-	-	-1 837	-	-	-1 837
Depreciation for the period	-	-	-208	-	-	-208
Accumulated depreciation, 31 Dec.	-	-	-2 045	-	-	-2 045
<b>Book value, 31 Dec. 2004</b>	<b>-</b>	<b>11</b>	<b>810</b>	<b>-</b>	<b>-</b>	<b>821</b>
Book value, 31 Dec. 2003	-	11	805	-	-	816

### (11) Tangible assets

	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
<b>Group</b>						
Acquisition cost, 1 Jan.	43 110	380 549	1 807 938	261 042	100 165	2 592 804
Increases	204	45 112	88 212	16 947	374 401	524 876
Decreases	-33	-204	-26 799	-8	-100 637	-127 681
Acquisition cost, 31 Dec.	43 281	425 457	1 869 351	277 981	373 929	2 989 999
Accumulated depreciation, 1 Jan.	-	-152 261	-925 120	-21 464	-	-1 098 845
Accumulated depreciation on decreases	-	74	26 430	6	-	26 510
Depreciation for the period	-	-11 314	-76 963	-1 765	-	-90 042
Accumulated depreciation, 31 Dec.	-	-163 501	-975 653	-23 223	-	-1 162 377
<b>Book value, 31 Dec. 2004</b>	<b>43 281</b>	<b>261 956</b>	<b>893 698</b>	<b>254 758</b>	<b>373 929</b>	<b>1 827 622</b>
Book value, 31 Dec. 2003	43 110	228 288	882 817	239 578	100 165	1 493 959
Revaluations included in acquisition cost, 31 Dec.		66 296		198 849		
Production machinery and equipment, 31 Dec.			859 953			
Subsidies received reducing acquisition cost						12 811



### Capitalized interests relating to construction period

EUR 1 000	Formation expenses	Other capitalized expenditure	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
<b>Group</b>							
Acquisition cost, 1 Jan.	11 601	3 530	31 503	114 325	2 609	-	163 568
Increases	-	-	-	-	-	26 043	26 043
Decreases	-	-	-	-	-	-	-
Acquisition cost, 31 Dec.	11 601	3 530	31 503	114 325	2 609	26 043	189 611
Accumulated depreciation, 1 Jan.							
	-11 601	-1 629	-17 524	-62 979	-1 489	-	-95 222
Depreciation for the period	0	-123	-859	-3 176	-67	-	-4 225
Accumulated depreciation, 31 Dec.							
	-11 601	-1 752	-18 383	-66 155	-1 556	-	-99 447
<b>Book value, 31 Dec. 2004</b>	<b>0</b>	<b>1 778</b>	<b>13 120</b>	<b>48 170</b>	<b>1 053</b>	<b>26 043</b>	<b>90 164</b>
Book value, 31 Dec. 2003	0	1 901	13 981	51 346	1 120	-	68 348

### (11) Tangible assets

	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments	Total
<b>Parent Company</b>						
Acquisition cost, 1 Jan.		198	1 566	9 278	-	11 288
Increases		-	-	359	-	492
Decreases		-	-	-145	-	-433
Acquisition cost, 31 Dec.		198	1 566	9 492	-	11 347
Accumulated depreciation, 1 Jan.						
		-	-978	-4 078	-	-5 056
Depreciation for the period		-	-45	-485	-	-530
Accumulated depreciation, 31 Dec.						
		-	-1 023	-4 563	-	-5 586
<b>Book value, 31 Dec. 2004</b>		<b>198</b>	<b>543</b>	<b>4 929</b>	<b>-</b>	<b>5 761</b>
Book value, 31 Dec. 2003		198	588	5 200	-	6 232
Production machinery and equipment, 31 Dec.			4 368			

## Notes to the accounts

### (12) Investments

EUR I 000	Shares in associated companies	Other shares and holdings	Other receivables	Total
<b>Group</b>				
Acquisition cost, 1 Jan.	88 325	41 839	244 508	374 672
Increases	11 525	1 313	9 972	22 810
Decreases	-1 664	-167	0	-1 831
Acquisition cost, 31 Dec.	98 186	42 985	254 480	395 651
<b>Book value, 31 Dec. 2004</b>	<b>98 186</b>	<b>42 985</b>	<b>254 480</b>	<b>395 651</b>
Book value, 31 Dec. 2003	88 325	41 838	244 508	374 671

	Shares in Group companies	Receivables from Group companies	Shares in associated companies	Other shares and holdings	Total
<b>Parent Company</b>					
Acquisition cost, 1 Jan.	905 783	149 159	48 839	5 061	1 108 842
Increases	58 632	112 495	-	37	171 164
Decreases	-98 464	-5 300	-	-	-103 764
Acquisition cost, 31 Dec.	865 951	256 354	48 839	5 098	1 176 242
<b>Book value, 31 Dec. 2004</b>	<b>865 951</b>	<b>256 354</b>	<b>48 839</b>	<b>5 098</b>	<b>1 176 242</b>
Book value, 31 Dec. 2003	905 783	149 159	48 839	5 061	1 108 842
Revaluations included in acquisition cost, 31 Dec.	265 145				

EUR I 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(13) Inventories</b>				
Materials and supplies	10 688	2 952	-	-
Fuel	196 245	200 281	-	6 076
	<b>206 933</b>	<b>203 233</b>	-	<b>6 076</b>
Fuel (coal and unrefined uranium)				
Replacement price	189 289	79 445	-	6 423
Book value	-196 245	-71 809	-	-6 076
Difference	<b>-6 956</b>	<b>7 636</b>	-	<b>347</b>
<b>(14) Non-current receivables</b>				
Loan receivables	4 795	4 907	3 255	3 435
Capital loan receivables	33 638	33 638	33 638	33 638
	<b>38 433</b>	<b>38 545</b>	<b>36 893</b>	<b>37 073</b>
Receivables from Group companies				
Capital loan receivables			1	1
Receivables from associated companies				
Loan receivables	3 236	3 413	3 236	3 413
Capital loan receivables	33 638	33 638	33 638	33 638
	<b>36 874</b>	<b>37 051</b>	<b>36 874</b>	<b>37 051</b>

EUR I 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(15) Current receivables</b>				
Accounts receivable	64 754	77 984	46 354	43 496
Loan receivables	11 500	32 677	11 500	31 500
Share issue receivables	32 411	86 041	0	78 999
Deferred assets	13 337	19 596	10 880	31 822
Other receivables *)	18 177	13 730	125	2 379
	<b>140 179</b>	<b>230 028</b>	<b>68 859</b>	<b>188 196</b>
Receivables from Group companies				
Accounts receivable			1 124	824
Deferred assets			8 323	31 108
Other receivables			-	-
			<b>9 447</b>	<b>31 932</b>
Receivables from associated companies				
Accounts receivable	601	205	77	67
Loan receivables	11 500		11 500	
Deferred assets	3	145	3	50
Other receivables	-	217	-	-
	<b>12 104</b>	<b>567</b>	<b>11 580</b>	<b>117</b>
Main items included in current deferred assets				
Personnel expenses	154	190	-	-
Interest income	5 025	6 710	573	319
Interest expenses	308	8 853	-	-
Income taxes	337	8	334	7
Indirect taxes	-	21	-	-
Group contribution	-	-	-	31 000
Others	7 513	3 814	9 973	496
	<b>13 337</b>	<b>19 596</b>	<b>10 880</b>	<b>31 822</b>
*) Other receivables include cash pool receivables	8 947	3 592		
Interest-bearing receivables				
Non-current assets	254 316	244 508	256 354	149 159
Current assets	88 604	94 040	66 026	71 486
	<b>342 920</b>	<b>338 548</b>	<b>322 380</b>	<b>220 645</b>

## Notes to the accounts

EUR I 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(16) Shareholders' equity</b>				
Share capital, 1 Jan.	55 302	58 269	55 302	58 269
Invalidation of series of shares	0	-3 033	0	-3 033
Transfer to contingency reserve	0	-547	0	-547
Transfer from share issues	2 646	613	2 646	613
Share capital, 31 Dec.	<b>57 948</b>	55 302	<b>57 948</b>	55 302
Share issue, 1 Jan.	78 999	10	78 999	10
Transfer to share capital	-2 646	-613	-2 646	-613
Transfer to share premium reserve	-85 323	-19 809	-85 323	-19 809
Share issues during the period	13 747	99 411	13 747	99 411
Share issue, 31 Dec.	<b>4 777</b>	78 999	<b>4 777</b>	78 999
Share premium reserve, 1 Jan.	302 602	340 160	299 132	336 691
Invalidation of series of shares	0	-57 367	0	-57 367
Share issue premium	85 323	19 809	85 323	19 809
Share premium reserve, 31 Dec.	<b>387 925</b>	302 602	<b>384 455</b>	299 133
Contingency reserve, 1 Jan.	547	-	547	-
Transfer from share capital	-	547	-	547
Contingency reserve, 31 Dec.	<b>547</b>	547	<b>547</b>	547
Revaluation reserve, 1 Jan.	218 644	218 644	218 644	218 644
Revaluation reserve, 31 Dec.	<b>218 644</b>	218 644	<b>218 644</b>	218 644
Retained earnings, 1 Jan.	141 787	167 696	36 804	41 385
Retained earnings, 31 Dec.	<b>141 787</b>	167 696	<b>36 804</b>	41 385
Profit for the financial year	<b>2 666</b>	-25 909	<b>445</b>	-4 581
<b>Total shareholders' equity</b>	<b>814 294</b>	797 881	<b>703 620</b>	689 429
Distributable funds, 31 Dec.				
Retained earnings	141 787	167 696	36 804	41 385
Profit for the financial year	2 666	-25 909	445	-4 581
- Portion of accumulated depreciation difference transferred to shareholders' equity	-112 681	-118 659	-	-
	<b>31 772</b>	23 128	<b>37 249</b>	36 804
Share issue authorization 22 March 2004:	Series	Number	Used	Remaining
Authorization is valid for one year.	Series I	26 800	6 961	19 839
Authorization includes the right to disregard the shareholders' pre-emptive subscription rights.				

	NUMBER	à FIM	EUR I 000
<b>Share capital by share category</b>			
<b>Series A</b>	13 350 077	10.00	22 453
- entitling to electricity generated or acquired by PVO-Vesivoima Oy			
<b>Series B</b>	8 894 405	10.00	14 959
- some of the shares entitling to 56.8% of electricity generated or acquired by Teollisuuden Voima Oy at its Olkiluoto 1 and 2 units and with coal power, and some of the shares entitling to 60.2% of electricity generated or acquired by Teollisuuden Voima Oy at its Olkiluoto 3 unit upon its completion			
<b>Series C</b>	7 107 592	10.00	11 954
- entitling to electricity generated or acquired by PVO-Lämpövoima Oy			
<b>Series D2</b>	661 300	10.00	1 112
- entitling to electricity and heat generated by Wisapower Oy			
<b>Series D7</b>	273 519	10.00	460
- entitling to electricity and heat generated by Jämsänkosken Voima Oy			
<b>Series E1</b>	229 741	10.00	386
- entitling to electricity and heat generated by Mussalon Kaukolämpö Oy			
<b>Series G</b>	354 290	10.00	596
- entitling to 49.9% of electricity and heat generated by Oy Alholmens Kraft Ab			
<b>Series G2</b>	238 216	10.00	401
- entitling to 76.0% of electricity and heat generated by Kymen Voima Oy			
<b>Series G3</b>	115 850	10.00	195
- entitling to 50.0% of electricity and heat generated by Järvi-Suomen Voima Oy			
<b>Series H</b>	500 000	10.00	841
- entitling to electricity and heat generated by PVO-Huippuvoima Oy			
<b>Series I</b>	20 520	10.00	35
- entitling to 67.8% of electricity and heat generated by PVO-Innopower Oy			
<b>Series K1</b>	130 000	10.00	219
- entitling to electricity and heat generated or acquired by Kokkolan Voima Oy			
<b>Series K2</b>	25 178	10.00	42
- entitling to electricity and heat generated or acquired by Vieskan Voima Oy			
<b>Series N</b>	1 506 938	10.00	2 534
- entitling to 80.1% of electricity and heat generated by Nokian Lämpövoima Oy			
<b>Series V</b>	1 046 823	10.00	1 761
- entitling to 50.0% of electricity and heat generated by Vaskiluodon Voima Oy			
	34 454 449		57 948

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



## Notes to the accounts

EUR 1 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(17) Deferred tax liability</b>				
Deferred tax liability				
From appropriations	118 916	141 916		
<b>(18) Non-current liabilities</b>				
Loans from financial institutions	562 457	418 215	109 713	13 080
Pension fund loans	-	1 635	-	-
Other non-current liabilities	651 224	556 303	329 165	379 707
	<b>1 213 681</b>	<b>976 153</b>	<b>438 878</b>	<b>392 787</b>
Liabilities to Group companies				
Other non-current liabilities			329 164	379 707
Debts that fall due later than in five years				
Loans from financial institutions	175 980	207 142		
Other non-current liabilities	80 474	55 456		
	<b>256 454</b>	<b>262 598</b>		

EUR I 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(19) Current liabilities</b>				
Bonds	60 000	11 773	-	-
Loans from financial institutions	20 482	106 957	3 367	63 367
Pension fund loans	1 635	1 635	-	-
Advances received	5 693	1 248	-	-
Accounts payable	49 065	44 816	43 308	53 195
Deferred liabilities	49 912	55 891	60 506	28 470
Other short-term liabilities	118 188	64 225	53 417	120 155
	<b>304 975</b>	<b>286 545</b>	<b>160 598</b>	<b>265 187</b>
To Group companies				
Accounts payable			32 908	44 422
Deferred liabilities			55 519	17 695
Other short-term liabilities			-	6 500
			<b>88 427</b>	<b>68 617</b>
To associated companies				
Accounts payable	8 240	5 692	7 931	5 536
Deferred liabilities	72	47	-	-
Others	9	-	-	-
	<b>8 321</b>	<b>5 739</b>	<b>7 931</b>	<b>5 536</b>
Main items included in current deferred liabilities				
Personnel expenses	11 203	9 132	751	591
Interest expenses	13 913	17 570	6 494	8 833
Income taxes	-	3 278	-	3 188
Indirect taxes	375	47	-	-
Others	24 421	25 864	53 261	15 858
	<b>49 912</b>	<b>55 891</b>	<b>60 506</b>	<b>28 470</b>
Interest-free and interest-bearing liabilities				
Non-current				
Interest-bearing	1 213 681	976 153	438 878	392 787
	<b>1 213 681</b>	<b>976 153</b>	<b>438 878</b>	<b>392 787</b>
Current				
Interest-free	113 067	123 174	108 042	81 795
Interest-bearing	191 908	163 371	52 556	183 392
	<b>304 975</b>	<b>286 545</b>	<b>160 598</b>	<b>265 187</b>

## Notes to the accounts

EUR 1 000	Group		Parent Company	
	2004	2003	2004	2003
<b>(20) Contingent liabilities</b>				
Mortgages				
As security against own debt	13 455	16 818		
Guarantees				
Loan guarantees				
For associated companies	102 773	105 265	102 732	105 221
For others	-	699	-	699
Other guarantees				
For own commitments	2 434	8 813	505	7 928
For Group companies	-	-	28 547	34 208
For associated companies	-	1 200	-	1 200
	<b>105 207</b>	<b>115 977</b>	<b>131 784</b>	<b>149 256</b>
Leasing commitments				
Payments for 2005 / 2004	10 014	8 430		
Payments for the following years	210 608	199 121		
	<b>220 621</b>	<b>207 551</b>		
Other commitments	<b>792 700</b>	346	-	336
Nuclear waste management liabilities				
Nuclear waste management liability				
Funds in the Nuclear Waste Management Fund (2 April)	792 700	763 800		
Guarantee required under Section 44 of the Nuclear Energy Act	84 080	76 380	47 755	43 384
Nuclear waste management receivables pledged to the State Nuclear Waste Management Fund	247 186	236 943		

As part of the decision to invest in Teollisuuden Voima's third nuclear power plant unit, Pohjolan Voima Oy committed itself to an investment of EUR 407.3 million in 2004–2009 and to a shareholder loan of EUR 101.8 million. As Pohjolan Voima purchased the shares of Kemira Oyj, Outokumpu Oyj and Rautaruukki Oyj in the Olkiluoto 3 investment at the end of 2004, the above commitments rose to EUR 432.0 million in terms of investment and to EUR 108.0 million in terms of shareholder loan. EUR 166.9 million of the commitments were entered in the Parent Company's balance sheet.

In accordance with a decision taken by the West Finland Regional Environmental Centre, PVO-Lämpövoima is obliged to treat and landscape the disposal site for fly ash, bottom ash and gypsum waste originating from the coal-fired power plant to be built in Kristiinankaupunki. The cost estimate given in the permit application indicates that the cost of the decommissioning phase will be about EUR 3.3 million. The realization of these costs in full is uncertain, because the ash and gypsum waste can possibly be utilized and, on the other hand, the amount of ash and waste produced depends on the future degree of use of the power plant.

### (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	1 220 000	140 000		
Written	1 140 000	80 000		
Swap agreements	348 638	113 638	103 638	113 638
Currency derivatives				
Forward contracts	46 546	15 693		

#### Financing risks

The objectives and risks of financing operations have been defined in the financing policy, which is decided by the Board of Directors. The refinancing risk is managed by spreading the sources of financing, by sufficiently long maturity of loans and by a balanced schedule of maturity. Agreements on the maturity and refinancing of long-term credits are made in such a manner that no more than 25% of the outstanding credits will fall due within the next 12 months. The loan currency is euro. If loans are taken out in other currencies, the currency risk is eliminated by means of derivative contracts. The interest rate risk is monitored by means of duration, which indicates the sensitivity of the loan portfolio to changes in the interest rate level. The Group maintains a certain amount of liquid assets, credit limit arrangements and commercial paper programmes to reduce the liquidity risk. Free liquidity is invested in financial instruments issued by companies specified in the financing policy that can be liquidated quickly, if necessary.

## Information required by Section 32 of 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 12.2% (6.6%).

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

#### *Personnel*

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

### BALANCE SHEET

EUR 1 000 • 31 DEC.	2004	2003
<b>ASSETS</b>		
<b>Non-current assets</b>		
Intangible assets		
Capitalized expenditure	172	259
Tangible assets		
Grid	4 368	4 405
<b>Current assets</b>		
Current receivables		
Accounts receivable	343	397
Cash in hand and in bank	11 015	9 734
	<b>11 358</b>	<b>10 131</b>
	<b>15 898</b>	<b>14 795</b>

### PROFIT AND LOSS ACCOUNT

EUR 1 000 • 1 JAN. - 31 DEC.	2004	2003
<b>Turnover</b>	<b>3 460</b>	<b>4 099</b>
Other operating income	62	49
Raw materials and services	-1 278	-1 956
Personnel expenses	-145	-117
Depreciation and value adjustments	-321	-1 024
Other costs and expenses	-369	-501
<b>Operating profit</b>	<b>1 409</b>	<b>550</b>
Financial income and expenses	311	317
Profit before appropriations and taxes	1 720	867
Appropriations		
Decrease in accumulated depreciation difference	-281	202
Income taxes	-418	-310
<b>Profit for the financial year</b>	<b>1 021</b>	<b>759</b>

EUR 1 000 • 31 DEC.	2004	2003	EUR 1 000 • 31 DEC.	2004	2003
<b>ASSETS</b>			<b>EQUITY AND LIABILITIES</b>		
<b>Non-current assets</b>			<b>Shareholders' equity</b>		
Intangible assets			Calculated equity	2 838	2 838
Capitalized expenditure	172	259	Retained earnings	8 753	7 993
Tangible assets			Profit for the financial year	1 021	759
Grid	4 368	4 405		<b>12 612</b>	<b>11 590</b>
<b>Current assets</b>			<b>Appropriations</b>		
Current receivables			Accumulated depreciation difference	2 841	2 560
Accounts receivable	343	397	<b>Liabilities</b>		
Cash in hand and in bank	11 015	9 734	<b>Current</b>		
	<b>11 358</b>	<b>10 131</b>	Accounts payable	28	196
	<b>15 898</b>	<b>14 795</b>	Deferred liabilities	417	449
				<b>445</b>	<b>645</b>
				<b>15 898</b>	<b>14 795</b>

## Shares and holdings

	Domicile	Group holding, %	Parent Company holding, %		
<b>Group companies</b>					
Jämsänkosken Voima Oy	Helsinki	100.000	100.000		
Järvi-Suomen Voima Oy	Helsinki	50.000	50.000		
Kaukaan Voima Oy	Helsinki	100.000	100.000		
Kokkolan Voima Oy	Helsinki	100.000	100.000		
Kymin Voima Oy	Helsinki	76.000	76.000		
Mussalon Kaukolämpö Oy	Helsinki	100.000	100.000		
Mussalon Kiinteistöt Oy	Helsinki	100.000	100.000		
Nokian Lämpövoima Oy	Helsinki	80.100	80.100		
Olkiluodon Vesi Oy	Helsinki	57.192			
Perusvoima Oy	Helsinki	57.192			
Posiva Oy	Helsinki	34.315			
Posivia Oy	Helsinki	34.315			
PVO-Huippuvoima Oy	Helsinki	100.000	100.000		
PVO-Innopower Oy	Helsinki	67.780	67.780		
PVO-Kiinteistöt Oy	Helsinki	100.000	100.000		
PVO-Lämpövoima Oy	Helsinki	100.000	100.000		
PVO-Pool Oy	Helsinki	100.000	100.000		
PVO-Vesivoima Oy	Helsinki	100.000	100.000		
Raahen Voima Oy	Helsinki	100.000	100.000		
Rauman Voima Oy	Helsinki	100.000	100.000		
Rouhialan Voimansiirto Oy	Helsinki	100.000	100.000		
Teollisuuden Voima Oy	Helsinki	57.192	57.192		
TVO Nuclear Services Oy	Eurajoki	57.192			
Vieskan Voima Oy	Helsinki	100.000	100.000		
Wisapower Oy	Helsinki	100.000	100.000		
	<b>Domicile</b>	<b>Group holding, %</b>	<b>Parent Company holding, %</b>	<b>Shareholders' equity</b>	<b>Profit for the financial year</b>
<b>Associated and participating interest companies</b>					
Oy Alholmens Kraft Ab	Pietarsaari	49.900	49.900		
Fingrid Oyj	Helsinki	25.080	25.080		
Polartest Oy	Helsinki	18.301		1 296	547
Tahkoluodon Polttoöljy Oy	Pori	32.000		<sup>1)</sup> 112	<sup>1)</sup> 11
Tornionlaakson Voima Oy	Ylitornio	50.000			
Vaskiluodon Voima Oy	Vaasa	50.000	50.000		
Voimalohi Oy	Kemi	50.000		266	-114
<b>Other holdings</b>					
<sup>2)</sup> Powest Group	Helsinki		80.475	9 213	5 160

<sup>1)</sup> Information from the financial statements as of 31 December 2003

<sup>2)</sup> The Powest subgroup is not included in the Pohjolan Voima Group (see Accounting policies, entitlement to dividend).



## Proposal of the Board of Directors for recording the financial result and Auditors' report

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

The Group's distributable assets amount to EUR 31 771 827.11.

The profit and loss account of the Parent Company Pohjolan Voima shows a profit of EUR 444 902.46, after which its distributable equity totals EUR 37 249 166.87.

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, 17 February 2005

Heikki Sara Chairman	Pekka Laaksonen Deputy Chairman	Tapio Ahola
Sakari Suontaka	Esa Tirkkonen	Markku Tynkkynen
Erkki Varis	Rami Vuola	

Timo Rajala  
President and CEO

### AUDITORS' REPORT

To the shareholders of Pohjolan Voima Oy

We have audited the accounts, the accounting records and the administration of Pohjolan Voima Oy for the financial year from 1 January to 31 December 2004. The accounts prepared by the Board of Directors and the President and CEO, 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 President and CEO 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 President and CEO 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, 17 March 2005

PricewaterhouseCoopers Oy  
Authorized Public Accountants

Eero Suomela  
Authorized Public Accountant

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## GLOSSARY

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### ACIDIFICATION

Acidification is caused by the emissions of sulfur dioxide, nitrogen oxides and ammonia, which, when released into the air, react with water vapour in the air to form sulfuric and nitric acid.

### AREA PRICE

In the Nordic electricity exchange, the price for a bidding area that differs from the system price, if the transmission capacity is insufficient.

### BIOENERGY

The energy produced from biofuels is called bioenergy.

### BIOMASS

Biomass is organic matter developed through photosynthesis; the fuels produced from biomass are called biofuels. Biomass also includes waste flows that are mostly of organic origin and suitable for municipal and industrial energy production.

### BLACK LIQUOR

The mixture of the material containing plenty of lignin dissolved from wood during the pulp-cooking process and of the pulping chemicals, which is recovered in the pulp-washing phase, concentrated at the evaporating plant and burnt in the recovery boiler to recover the chemicals and to generate energy. About half the dry mass of wood dissolves in black liquor during the pulp cooking.

### BOTTOM ASH

By-product produced from the burning of coal. Bottom ash can be utilized for earth works.

### CERTIFICATION

E.g., verification of an environmental management system to fulfil the requirements of a standard.

### CHP

The co-generation of electricity and heat, or Combined Heat and Power, CHP.

### CLIMATE CHANGE

Climate change is assessed to be caused by direct or indirect human activity. It alters the composition and physicochemical processes of the atmosphere which affect, for example, the temperature and precipitation conditions of the earth.

### CONDENSING POWER

At condensing power plants, as high a proportion as

possible of the energy contained in the fuel is converted into electricity.

### DEPOSITION

Deposition is the mass of substances deposited at a certain time on the ground per unit area.

### EFFICIENCY

In the generation of thermal power, efficiency refers to the proportion of the total energy contained in fuels that becomes available in the form of electricity and heat.

### ELECTRICITY EXCHANGE

A public marketplace, where members of the exchange may buy and sell electricity.

### ELECTROSTATIC PRECIPITATOR

Air pollution control equipment installed to remove particles, e.g. fly ash, from the flue gas. The removal of particles is based on electrostatic forces.

### EMISSIONS TRADING

A system in accordance with the EU directive and national legislation with a view to restricting carbon dioxide emissions from, e.g., power plants. The operators are allocated emission allowances, which can be bought and sold.

### ENERGY FORM

E.g. electricity, heat, mechanical energy and chemical energy.

### ENERGY SOURCES

Energy sources include both fuels, such as coal, natural gas and fuel oil, and natural forces, such as wind, sunbeams and flowing water.

### FLY ASH

By-product produced from the use of solid fuels. Fly ash can be utilized for earth works, in the manufacture of asphalt and cement, and as mine-filling material.

### FOSSIL FUEL

A fuel produced or altered from organic material over a long period, which is deposited in the earth. E.g. coal, oil and natural gas.

### KYOTO PROTOCOL

The Kyoto Protocol obliges industrial countries to reduce their emissions of six greenhouse gases. The Protocol includes binding emission reduction commitments for 2008–2012.

The Protocol, which was agreed in 1997, entered into force on 16 February 2005. The United States and Australia have notified their withdrawal from the Protocol.

#### LOGGING RESIDUE

Logging residue is produced from waste left in forests after felling. Logging residue consists, e.g., of branches and crowns of spruces after final felling, undelimited trees from the thinning of young forests, and other crowns and branches removed during clearance and thinning.

#### LOW-NO<sub>x</sub> TECHNOLOGY

The means of reducing nitrogen oxides in combustion include low-NO<sub>x</sub> burners, the staging of combustion air and fuel feeding, and the reduction in temperature.

#### NORD POOL

The Nordic electricity exchange.

#### NO<sub>x</sub> OR NITROGEN OXIDES

Nitrogen oxides originate from nitrogen contained in fuels and in the combustion air.

#### MAIN GRID

The main grid is the national high-voltage electricity transmission network, which includes the 400 and 220 kilovolt (kV) lines and the most important 110 kV lines as well as substations. The Finnish main grid is owned by Fingrid Oyj.

#### PARTICLES

Particles are generally divided into total suspended particles (TSP) and respirable particles (PM<sub>10</sub>). The TSP include all particles contained in the air, while the PM<sub>10</sub> refer to particles with a diameter of less than 10 micrometres. In urban areas, particles mainly originate from vehicle traffic.

#### POWER GRID

A system of power lines, substations and other necessary electrical equipment connected to each other, which is intended for the distribution and transmission of electricity. The power grid is divided into the main grid, regional grids and distribution networks.

#### REFUSE-DERIVED FUEL

Waste that has been sorted and is suitable for being burnt.

#### REGIONAL GRID

A regional high-voltage grid of 110 kilovolts (kV). It connects power plants and substations to each other, and is linked to the 400 kV main grid.

#### REGULATION

The changing of water flow by continuous measures in such a way that the flow rate and water level correspond with the objectives set for the use of the watercourse.

#### RENEWABLE ENERGY SOURCES

Solar, wind and water energy, bioenergy, geothermal energy, wave energy and tidal power.

#### SIEVERT

The unit of radiation dose is sievert (Sv) and its multiple units are millisievert (1/1000 Sv) and microsievert (1/1000 000 Sv).

#### SO<sub>2</sub> OR SULFUR DIOXIDE

Sulfur dioxide is produced when the sulfur contained in the fuel reacts with the oxygen contained in the combustion air. Sulfur dioxide is a water-soluble and colourless gas, which further oxidizes in outdoor air to become, e.g., sulfuric acid.

#### SPECIFIC EMISSIONS

The volume of emissions calculated per energy unit produced (mg/kWh) or consumed (mg/MJ).

#### SPOT TRADING

In the Nordic electricity exchange, Nord Pool, spot trading of electricity takes place in periods of 24 hours. Deals are closed daily by 1.00 p.m. and the price of electricity is determined on the basis of supply and demand.

#### SYSTEM PRICE

In Nord Pool spot trading, the market price of electricity determined on the basis of all purchase and sales offers, which does not consider any capacity constraints in the transmission connections between the countries involved.

#### TWh OR TERAWATT-HOUR

The unit of measurement of energy. 1 TWh = 1 000 GWh (gigawatt-hour) = 1 000 000 MWh (megawatt-hour) = 1 000 000 000 kWh (kilowatt-hour).

#### V OR VOLT

The unit of voltage. 1 000 V = 1 kV (kilovolt).

#### µg

Microgramme is a millionth of a gramme.

POHJOLAN VOIMA'S PRODUCTION CAPACITY, 1 JANUARY 2005

	Plant	Location	Energy source	Year of completion	Electrical output (MW)	Pohjolan Voima's share (MW)
<b>HYDROPOWER</b>						
	Isohaara	Kemijoki	water	1949	106.0	106.0
	Jumisko	Kemijoki	water	1954	30.0	30.0
	Raasakka	Iijoki	water	1971	58.0	58.0
	Maalismaa	Iijoki	water	1967	33.0	33.0
	Kierikki	Iijoki	water	1965	32.0	32.0
	Pahkakoski	Iijoki	water	1961	34.0	34.0
	Haapakoski	Iijoki	water	1963	28.0	28.0
	Melo	Kokemäenjoki	water	1971	67.0	67.0
	Harjavalta	Kokemäenjoki	water	1939	73.0	14.5
	Kaarannekoski	Tengeliönjoki	water	1954	2.5	1.3
	Jolmankoski	Tengeliönjoki	water	1955	0.5	0.3
	Portimokoski	Tengeliönjoki	water	1987	10.5	5.3
<b>Total</b>				<b>475</b>	<b>409</b>	
<b>NUCLEAR POWER</b>						
	Olkiluoto 1	Eurajoki	uranium	1978	840	477
	Olkiluoto 2	Eurajoki	uranium	1980	840	477
	<b>Total</b>				<b>1 680</b>	<b>954</b>
<b>WIND POWER</b>						
	Kokkola	Kokkola	wind	2003	2	1
	Oulunsalo	Oulunsalo	wind	2003	3	2
	Kristiinankaupunki	Kristiinankaupunki	wind	2004	3	2
	Oulu	Oulu	wind	2001	1	1
	<b>Total</b>				<b>9</b>	<b>6</b>
<b>THERMAL POWER</b>						
	Kristiina 2	Kristiinankaupunki	coal	1989	242	242
	Tahkoluoto	Pori	coal	1976	225	225
	Vaskiluoto 2	Vaasa	coal	1998	230	115
	Meri-Pori	Pori	coal	1994	565	146
	Mussalo 1	Kotka	coal, natural gas	1966	75	75
	Mussalo 2	Kotka	natural gas	1973	238	238
	Nokia	Nokia	natural gas	1997	70	70
	Kristiina 1	Kristiinankaupunki	oil	1974	210	210
	Vaskiluoto 3	Vaasa	oil	1972	160	160
	Seinäjoki	Seinäjoki	peat, wood	1990	125	63
	AK 1	Pietarsaari	wood, peat	1991	25	12
	AK 2	Pietarsaari	wood, peat, coal	2001	240	120
	Kokkola	Kokkola	wood, peat	2001	20	20
	Ylivieska	Ylivieska	wood, peat	1994	6	6
	Ristiina	Ristiina	wood	2002	10	8
	Savonlinna	Savonlinna	wood	2003	17	0
	Jämsänkoski	Jämsänkoski	wood, peat	2002	46	46
	Kuusankoski	Kuusankoski	wood, peat	2002	76	58
	Wisapower	Pietarsaari	black liquor	2004	140	140
<b>Total</b>				<b>2 718</b>	<b>1 954</b>	
<b>CAPACITY, TOTAL</b>					<b>4 882</b>	<b>3 323</b>





