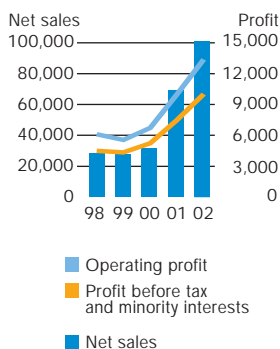
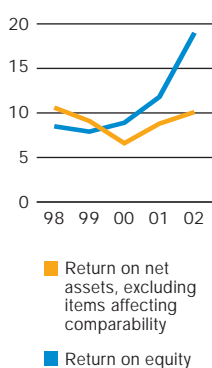


Generati ng power  
- transmi tti ng possi bi li ti es

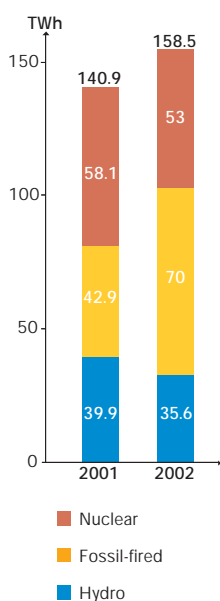
### Sales and Profit, SEK m



### Return on Capital, %



### Total Electricity Generation



## 2002 in Brief

- Net sales increased by 46 per cent to SEK 101 billion (69) and net profit improved by 81 per cent to SEK 7.6 billion (4.2).
- Operating profit excluding items affecting comparability increased by 46 per cent to SEK 12.9 billion (8.8). The high electricity price on the Nordic market at the end of the year improved profit by about 5 per cent.
- The return on net assets excluding items affecting comparability increased to 10.1 per cent (8.8). Return on equity improved to 19.1 per cent (11.8).

Vattenfall's vision is to be a leading European energy company. Today, Vattenfall generates electricity and heat and delivers energy to about 6 million customers in Northern Europe. The largest electricity customers are industries and energy companies.

For further information on the Vattenfall Group, see [www.vattenfall.com](http://www.vattenfall.com)

### The Vattenfall Group

	Nordic Countries	Germany and Poland	Total
Net sales, SEK m	37,162	63,863	101,025
Electricity generation, TWh*	87	71	158
Heat sales, TWh	8	26	34
Employees**	8,550	25,698***	34,248

\* These volumes refer to a normal generation year in the Nordic countries and to Vattenfall's own generation in Germany.

About 70 TWh of the generation in the Nordic countries is available to Vattenfall. The remainder is allocated to minority shareholders.

\*\* Average number of employees during the year.

\*\*\* The figure includes 124 employees in other countries.

### Financial Information from Vattenfall 2003

General Meeting of Shareholders **April 10**  
 Three-month interim report **May 13**  
 Six-month interim report **July 31**  
 Nine-month interim report **November 6**

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[www.vattenfall.com](http://www.vattenfall.com)

### "Our Responsibilities 2002"

"Our Responsibilities 2002", which contains Vattenfall's sustainability report, will be published in spring 2003 and can be obtained from [www.vattenfall.com](http://www.vattenfall.com).

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## Financial Highlights

	2002	2001
Net sales, SEK m	101,025	69,003
EBIT, SEK m	13,363	9,959
Profit before tax and minority interest, SEK m	9,987	7,454
Return on equity, %	19.1	11.8
Return on net assets, excl. items affecting comparability, %	10.1	8.8
Equity/assets ratio, %	20.0	22.7
Funds from operation (FFO), SEK m	17,106	13,148
Investments, SEK m	39,932	43,443
Total electricity sales, TWh	188.3	149.9
Total heat sales, TWh	33.5	25.4
Electricity generation, TWh	158.5	140.9
Average number of employees in the Group	34,248	23,814

# Vattenfall Opens Up Opportunities in Europe



Vattenfall has now fully ventured out into Europe. When Vattenfall became a limited liability company ten years ago, all of its operations, with one or two exceptions, were in Sweden. Today, our activities in Sweden are part of an essentially larger business. Over the past few years, Vattenfall has grown considerably through acquisitions in Germany and Poland. At the same time, we have divested our commitments outside Europe. Today, our core business is concentrated to Finland, Germany, Poland and Sweden.

The annual accounts for 2002 clearly show that our

expansion has been accompanied by a substantial improvement in profit. We have enhanced our earnings through deliberate measures throughout our organisation, gradually focusing on our core business in power and heat. The unbundling of our business into the individual stages of the value chain has improved efficiency and cut costs, with each stage operating on market terms. Today, we are wiser in our approach - and we have more specific demands on performance. The heightened market competition and our focus on core business have created a positive driving force for change within our organisation.

The substantial improvement in profit for the year is largely due to favourable developments in Germany, to a turnaround in the units in Market Nordic Countries and the closure of non-core IT-based business activities. Vattenfall's financial performance is always to some extent determined by the weather. As a result of the extremely low precipitation in the second half of 2002, electricity prices on the Nordic market rose sharply towards the end of the year. As a whole, we estimate that this has made a positive contribution to profit of about five per cent.

The transformation that Vattenfall has undergone is part of the restructuring of the entire electricity industry which is currently underway in Europe. Vattenfall is the only remaining Swedish power company of any significance. The rest of the Swedish power industry has either been incorporated into major international groups or comprises smaller, mainly municipality-owned companies.

There are three drivers of change on the European power, heat and gas markets: deregulation, integration and ownership diversification. An important factor in this process of transformation is the creation of an internal energy market in the European Union. The first step (the community directive of 1996) has paved the way; the step that the industry is about to take will lead to fully open and deregulated markets from 2007. This means increasing market integration and the convergence of the electricity and gas sectors.

## • The Power of People

The force driving Vattenfall's business is the Group's some 34,000 employees in Northern Europe. There are five themes underpinning Vattenfall's work in human resources:

- Culture and values
- Leadership and management development
- Competence development
- Ergonomics and occupational safety
- Reward systems

In 2002, we concentrated on developing our culture and values throughout the Vattenfall organisation in order to strengthen the shared values which are at the heart of our international Group. Vattenfall's "Adding Value through Diversity" project specifically focuses on female employees.

	Electricity sales (TWh)	Net sales (EUR billion)
E.ON AG	318 <sup>1</sup>	70 <sup>2</sup> /18 <sup>3</sup>
RWE AG	255 <sup>1</sup>	57 <sup>2</sup> /22 <sup>3</sup>
Electricité de France	407 <sup>4</sup>	41
Enel S.p.A	206	30
Endesa	134	16
Electrabel (Suez)	104	13
Vattenfall (2002)	188	11

<sup>1</sup> Including electricity trading

Figures from 2001, RWE from 2000/2001

<sup>2</sup> Excluding electricity taxes

<sup>3</sup> E.ON Energi, RWE's Energy business unit

<sup>4</sup> Electricity sales in France

## Vattenfall's Main Competitors Are a Number of European Companies

The major companies have grown considerably and will continue to expand – growth is necessary in order to achieve economies of scale. Most of our competitors have doubled in size over the past five-year period.

However, the underlying growth of volume in the market is low. The main change that can be observed is market integration which has stimulated structural rationalisation. Economies of scale can be achieved through structural change. The radical structural reform that is now underway is linked to the creation of a single, open energy market and the pieces of this puzzle are now falling into place.

## Vattenfall has Established Strong Market Positions in Northern Europe through Profitable Growth

The market positions that Vattenfall has now established are a solid platform for further value creation. The ongoing integration process in Europe is opening up opportunities for the gradual consolidation of our market positions. Vattenfall has a distinct and realistic opportunity to become one of the leading energy companies in Europe. Vattenfall is actively participating in establishing a new arena for the energy industry.

In both society and industry, we are witnessing an era of major change and globalisation. Countries and markets are becoming increasingly closely linked. Europe is now about to embark on the next major step – enlargement from 15 to 25 member states.

An important aspect of this transformation process is the demand for greater and clearer accountability on the part of

international companies. A leading company must also take responsibility.

For Vattenfall, with all its business focused within the energy sector, this demand is particularly salient. Customers and the public at large must be able to trust the power that comes from Vattenfall. We also aim to be a positive force in society, to adopt a clear ethical stance and to openly disclose how we fulfil our responsibilities.

Energy is fundamentally a positive force in society. Energy – and particularly electrical energy – is the basis of economic growth and creates the necessary conditions for a quality of life that we often take for granted. At the same time, all forms of energy supply entail some form of environmental impact. An energy company that aims to sustain its success must view environmental awareness and a sense of responsibility as integral parts of its business operations. A sense of responsibility lies at the very heart of Vattenfall's core values.

We are aiming high – and we aim to be the best. Vattenfall's ambition is to be number one for the customer, for the environment and for the economy. This is how we take responsibility – this is our promise to customers, the public and society.

Taking responsibility for our customers, the environment and the economy means striving for effectiveness and creating effective solutions. For effectiveness to be sustainable, we need an efficient market. Only an efficient market can provide the combination of risk, price and timeliness that best meets customers' needs. At the same time, an efficient market is necessary to provide solutions that are environmentally effective. An efficient market also makes the largest possible contribution to economic growth in society.

The past winter was truly a test of stamina for the Nordic electricity market. An extremely dry autumn combined with very low precipitation at the beginning of the winter led to the worst "dry year" in fifty years. However, the market continued to operate efficiently, in spite of these pressures. The occasional high prices and the extreme fluctuations made it clear that customers cannot exclusively focus on price but must also take price reliability into account. These events have highlighted the customer's need for a strong and sustainable power partner.

Vattenfall's policy is to hedge the risk of price fluctuations in the electricity that we generate through forward contracts. This reduces our exposure to the risk of occasional unfavourable weather conditions. However, at the same time, in a "dry year", this severely constrains the opportunities for in-







come. In 2002, the average spot price on the Nordic power exchange was 24.6 öre (SEK 0.01) per kilowatt hour. The income from Generation Nordic Countries corresponded to an average price which was substantially lower. On the other hand, if 2002 had been a year of abundant precipitation, our hedging policy would have given us a higher income than would have been possible with the considerably lower spot price. Our policy means that we are evening out our income from electricity generation over a long period of time. Electricity generation is a risky business with major fluctuations in conditions from year to year.

Last winter's electricity prices reflect a temporary shortage in water supply to the reservoirs. This situation is of marginal relevance to the future price of electricity. The electricity balance in the Nordic system in a year of normal precipitation is good and, in Vattenfall's view, this situation will remain the same throughout the rest of this decade. Therefore, in our opinion, in view of existing market con-

ditions, it is not possible to establish additional large-scale power production facilities on commercial terms.

Energy production has an impact on the environment. The major problem today – and in the future – is the greenhouse effect. This is a global issue – greenhouse gases know no boundaries. This issue is essentially all about carbon dioxide. Power production accounts for about one-third of the total global emissions. A raft of different measures will have to be implemented over a long period of time. In the long term, new technology is needed to minimise and preferably eliminate emissions. In the short term, measures that, as far as possible, reduce emissions from existing production are needed.

To effectively guide all of the measures that must be taken, market solutions must be established which direct financial resources towards the measures that provide the best return. Even if global trading is impossible to establish initially, the measures that are now being adopted in Europe

#### • Vattenfall Opens up Future Opportunities

Vattenfall conducts research into tomorrow's technologies. New technology is tested at Vattenfall's own facilities and at customer sites. Some examples of Vattenfall's R&D work are: the increased application of IT within our energy systems, which is opening up new possibilities for intelligent control and monitoring, renewable fuels as part of a sustainable energy system, CO<sub>2</sub> separation and storage, which may be a way forward in dealing with the climate issue, and the role of energy companies in supplying hydrogen gas to the transport system.

should be designed so that a common trading system can successively be developed. Acting responsibly with respect to greenhouse gases means placing emphasis on sustainability and common solutions. Acting responsibly also means that the phase-out of nuclear power in countries such as Sweden and Germany must more clearly be linked to climate policy.

The design of a carbon dioxide emissions trading system is vital for Vattenfall, which has major commitments in lignite-based electricity generation facilities in Eastern Germany. The power plants are among the most modern in the world and their environmental performance is highly satisfactory. The size of the reduction of carbon dioxide emissions that has already been achieved in Eastern Germany corresponds to the total carbon dioxide emissions in Sweden.

The electricity industry, including Vattenfall, has so far not been sufficiently sensitive and responsive to customers' demands and needs. This is the case, regardless of whether it is a matter of power outages, accurate and easy-to-understand electricity bills or products that are adapted to different customer categories.

At Vattenfall, we have decided to change this. An efficient market is ultimately based on customer confidence – that of major industrial customers and small household customers alike. As a major player on the market, we have an obvious responsibility to support an efficient market and to explain how the market operates. In Sweden, Vattenfall has launched a number of initiatives. In 2001, we made the decision to implement measures to improve the quality of our network services and we were the first power company to introduce a clear guarantee commitment. An efficient customer service was another important step along the way. During the year, the new organisation has raised Vattenfall's service level from below average for the industry to a situation where we managed our customers so well during the hectic winter that our customers are now more satisfied than those of our major competitors. This is the reward for high availability and a professional approach.

In 2002, we decided to focus on becoming the number one choice for the customer. We aim to get rid of preliminary charging and incomprehensible bills. Our customers will always have a clear understanding of what they are paying for.

Vattenfall is one of the players establishing a new arena for the European energy industry. Our vision is to become a leading European energy company. Vattenfall is transforming itself in order to create value and thereby manage our



shareholder's investments in the best way possible. Customers, the public and society can trust the power that they receive from Vattenfall.

The past year, 2002, marked an important step for Vattenfall. I would like to thank all of our employees who helped Vattenfall to make the transition from vision to action. We will continue to follow the course that we have set. Only a strong Vattenfall can contribute to competition, efficiency and progress.

Lars G Josefsson  
President and Chief Executive Officer  
Stockholm, February 20, 2003

### • Trust the Power from Vattenfall

Since spring 2002, Vattenfall has been implementing a corporate responsibility programme for the whole Group. Three areas where we intend to conduct specific, tangible work are:

- Being a good force in society
- Clarifying our ethical position
- Clearly disclosing how we take responsibility for important issues in our business operations.

Vattenfall is also one of the organisations backing "Akademien för etik i arbete" (the academy for ethics at work), along with other Swedish organisations, such as Alecta, ICA, Praktikertjänst, SEB, WM-data and TRR Trygghetsrådet.

Vattenfall is working to promote acceptance of and understanding for the conditions and possibilities in the area of energy supply. Open and transparent reporting allows insight into these issues. Read more about Vattenfall's work on corporate responsibility in the separate report, "Our Responsibilities 2002".

“Vattenfall’s ambition is to be number one for customers, the environment and the economy”

Executive Group Management				Group Functions	
Nordic Countries		Germany		Poland	
Generation	Electricity Networks Sweden	Mining and Generation	Trading	EW Heat	GZE Distribution and sales
Mega	Electricity Networks Finland	Transmission	Distribution		
Supply & Trading	Sales Sweden	Heat	Sales		
Heat	Sales Finland				
Services					



## Vision

**Vattenfall - a leading European energy company.**

Deregulation has created completely new market conditions. National boundaries and protected markets are becoming a thing of the past. A strongly competitive market is evolving in Europe, where about ten major companies are spearheading developments. Vattenfall is one of these companies, with its focus on the Nordic countries, Germany and Poland.

Being a leading company means that Vattenfall must be number one for the customer and the environment as well as actively contribute to the development of sustainable energy solutions for the future.

## Mission

**Vattenfall's mission is to enhance its customers' competitiveness, environment and quality of life through efficient energy solutions and world-class service.**

Vattenfall's ambition is to be number one for customers, the environment and the economy. Vattenfall's market position is based on a high operational performance and low costs combined with responsibility. Vattenfall has the capacity and expertise to deliver energy, mainly electricity and heat, which is environmentally acceptable and cost-effective, now and in the future, and which fulfils the customer's individual need for qualified energy solutions. By providing energy for an improved quality of life – heat and light, temperature and comfort, security and safety, reliability and an efficient utilisation of resources – Vattenfall gives its customers value for money.

## Financial Objectives

**Vattenfall's focus is on value creation and on profitable growth.**

The owner's profitability objective is 15 per cent on the book value of equity after tax. The return on equity was 19.1 per cent (11.8) in 2002. Translated into the Group's long-term profitability requirement, expressed as the return on net assets, this corresponds to a return of about 11 per cent before tax. The return for 2002 amounted to 10.1 per cent (8.8). The owner's objective, expressed as interest coverage, is 3.5 to 5 times. The result for 2002 was 2.6 times (2.6).

Vattenfall is committed to maintaining a rating in the Single A category.

## Dividend Policy

The aim is to maintain a sustainable and stable dividend, which should normally correspond to one-third of the net profit.

## Strategies

**Vattenfall's overall strategic direction is to develop its position as a leading European energy company through growth. However, after its extensive expansion in Germany and Poland, the company's short-term focus is on operational and financial consolidation.**

Over the past few years, Vattenfall has focused on the electricity and heat business on four main markets: Finland,

Germany, Poland and Sweden. At the same time, Vattenfall has significantly expanded its operations in Germany and Poland, which has put a burden on the company's financial position. To ensure that the acquisitions generate value and to secure future financial balance, Vattenfall will focus on the following areas over the next few years:

- Attaining its financial objectives
- Integrating and consolidating the German units in Europe
- Streamlining operations through non-core asset divestiture.

After consolidation is achieved, Vattenfall will once again pursue its main strategic direction of creating added value through growth.

## Focus on Value Creation

**A target for value creation has been established for each business unit.**

Value creation means that the return on net assets (operating profit) must be no less than equal to the cost of maintaining the assets, in other words the cost of financing. The cost of financing consists of the cost of borrowing as well as the owner's requirement on the return on capital invested.

The cost of financing sets the limit that must be reached and exceeded. The difference between the Group's position and this limit, expressed in SEK million, is called the gap. If the return is below the limit, measures must be taken to close the gap. If the Group is above the limit, additional value will be created, primarily through growth.

Individual targets have been formulated for each business unit. When combined, these targets must correspond to, or exceed, the Group objective.

## Group Structure

**The organisation is based on the value chain.**

The Executive Group Management mainly focuses on strategic development, with an emphasis on long-term development and financing issues, controls, objective-setting and variance analysis.

The Executive Group management controls the business units through a system whereby each management executive has personal responsibility for the control of specific business units, on the mandate of the Chief Executive Officer. Nordic and German operations are mainly organised into business units based on the electricity value chain. Vattenfall Poland is responsible for all of Vattenfall's business in Poland.

Under the existing structure, the business units have an extensive and independent mandate to develop their business within the framework of the Group's long-term objectives. The Group's business planning directive specifies objectives for value creation and growth for the Group as a whole.

# Nordic Countries

## Generation Nordic Countries

- has a generation capacity that corresponds to about 20 per cent of the electricity consumed in the Nordic region. The electricity generated is sold in Vattenfall and to the Nordic power exchange, Nord Pool.

## Market Nordic Countries

- comprises the following business units: *Sales Sweden, Sales Finland, Mega* and *Supply & Trading*. Sales primarily comprise electricity and energy-related services, targeting retail customers, energy companies, industries and other companies. Mega is responsible for sales to major customers. Supply & Trading co-ordinates the financial trading in electricity and other energy-related products in the Nordic region, including eco-labelled electricity and electricity with environmental declarations. In addition, Supply & Trading manages portfolios for the sales units.

## Electricity Networks Nordic Countries

- comprises the Electricity Networks Sweden and Electricity Networks Finland business units. Together, these units distribute electricity to 1.3 million customers.

## Heat Nordic Countries

- is responsible for heat sales and owns and operates CHP, district-heating and ready heat facilities in the Nordic countries and the Baltic countries.

## Services

- conducts consulting, contracting and R&D activities within the energy, infrastructure and industrial sectors.

# Germany

## Mining and Generation

- has a generation capacity corresponding to about 17 per cent of the electricity consumed in Germany. The electricity generated is sold in Vattenfall to Trading.

## Trading

- provides a central support function for the business units with respect to electricity trading and assumes and hedges risks throughout all stages of the value chain. The business unit also conducts its own trading operations.

## Transmission

- manages and operates the high-voltage network in Eastern Germany and Hamburg.

## Distribution

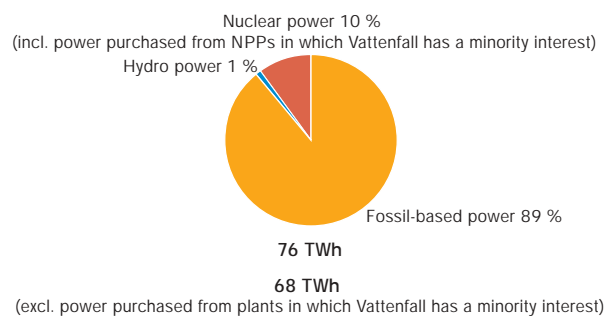
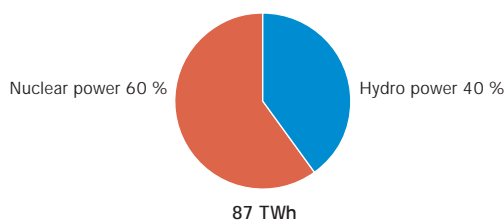
- distributes electricity to 3.4 million customers in Germany. Most of the electricity goes to customers in Berlin and Hamburg.

## Sales

- is responsible for the sale and marketing of electricity and electricity-related services to resellers and end-customers.

## Heat

- operates two of the largest district-heating systems (Berlin and Hamburg) in Western Europe. The business unit's responsibility includes the generation and sale of heat.



## Poland

### Elektrocieplownie Warszawskie S.A. (EW) - Heat

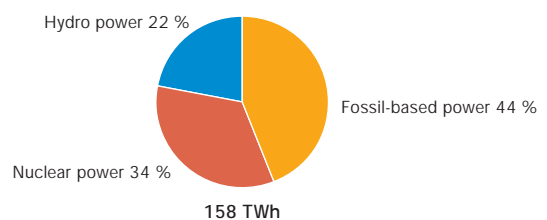
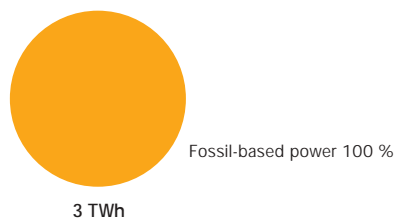
Vattenfall has a 69 per cent stake in the Polish CHP company, EW. The company has an annual production of 13 TWh of heat, corresponding to a market share of 27 per cent. Electricity generation amounts to about 3 TWh.

### Gornoslaski Zaklad Elektro- energetyczny S.A. (GZE) - Distribution and Sales

Distribution and sales are conducted through the associated company, GZE, which is Poland's largest network company with about 1.1 million customers. Vattenfall owns 32 per cent of the company but is responsible for managing the company and will become a majority owner in 2003, according to an agreement. 43 per cent of the total sales are to industrial customers within the region, 47 per cent are to household customers and companies in the region and 10 per cent to major customers outside the region.



## Vattenfall total

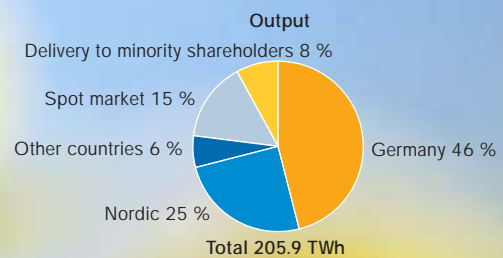
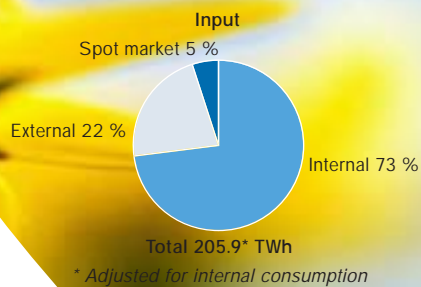






“Vattenfall’s market position is based on a high performance capability combined with responsible action”

Vattenfall’s Electricity Balance 2002





## Vattenfall's vision is to be a leading European energy company

Vattenfall focuses on the Nordic countries, Germany and Poland. In the Nordic region, Vattenfall is the leading electricity generator. Vattenfall's aim is to maintain and develop this position as the market evolves.

The deregulation process is leading to new consolidation in the energy industry. As a result, the largest companies will spearhead the movement towards both geographical and sector convergence in power, gas and heat. Vattenfall has a strong position on the Northern European energy market and many years of experience of operating in a deregulated market.



## Market Position

Vattenfall is the third largest electricity generator on the German market. In a European perspective, Vattenfall is the fifth largest generator and the largest district-heating company, with a firm foothold in Northern Europe.

	Sweden	Finland	Germany	Poland
Generation and sales	1	2	3	Among the 3 largest*
Electricity trading	Among the 3 largest		Among the 5 largest	N/a
Distribution	1	2	4	2nd after the Polish state
District-heating	2	Limited	1	1

\* Only within sales.

# The Electricity Market in Northern Europe

The liberalisation of electricity trading has sparked a new dynamism in the previously stagnant electricity industry. While the forms of deregulation in each country have differed, the objective has been the same - to achieve an efficient industry. Electricity market development has reached different stages in different countries. Vattenfall has established itself as a significant player on the Northern European market, applying its experience from the deregulation process in Sweden and Finland to the German and Polish markets which are undergoing rapid transformation.

## The Nordic Market

The total generation capacity in the Nordic countries in a normal year is about 410 TWh, of which Vattenfall's share is about 20 per cent. In addition, electricity can be imported via links with other countries. Energy consumption is currently at about 380 TWh per year. In the 1990's, the electricity industry in the Nordic countries was radically reformed in stages. Subscribers were previously charged a certain price based on the supplier's cost. This price was established in the form of a tariff. Nowadays, customers are free to choose their electricity supplier and their own mix of price and risk on an open market.

### The Value Chain

Following deregulation, the generation, distribution and sale of electricity are now carried out as independent businesses and the commercial risks have become considerably greater. Through well-designed market instruments and organised marketplaces, such as Nord Pool, risk in cross-border trading throughout Europe can be managed.

Deregulation has meant that the prices of bilateral contracts between suppliers and customers are also related to a common and transparent marketplace where price is determined by supply and demand.

The distribution of electricity to consumers is carried out by special network companies. Network services are a separate business transaction, where the customer pays a charge for using the high-voltage grid, the regional network and the local network.

Major players on the end-customer market can manage

price and volume risk by actively participating on the power exchange. However, for practical reasons, small electricity customers cannot themselves participate on the exchange and manage risk. Instead, the solution is for the electricity suppliers to take over both the price and volume risk from customers.

Large and small customers in the Nordic countries are free to buy electricity from any supplier. The total cost to the customers in different regions is different due to additional factors such as taxes and network charges.

### Which Factors Affect the Electricity Price?

Prices on the Nordic generation market are determined by the deregulation of supply and demand. The price is set by the Nordic power exchange - Nord Pool - which maintains two marketplaces: one for physical electricity trading and one for trading in standardised financial forward contracts, where the price of expected electricity generation and consumption can be "locked in" in advance.

In the Nordic region, the exchange spot prices vary considerably. The range of electricity available is highly dependent on the amount of precipitation, since hydro power is the largest energy source. Changes in precipitation are directly reflected in the market price for electricity. Demand

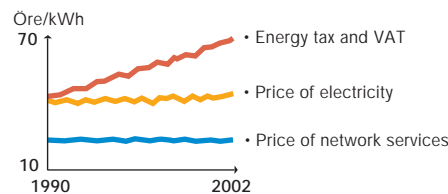
#### Price increases are caused by:

- Generation undercapacity
- Low water levels in the reservoirs
- High demand
- Cold winter days
- Economic boom
- Rising fossil fuel prices



#### Price decreases are caused by:

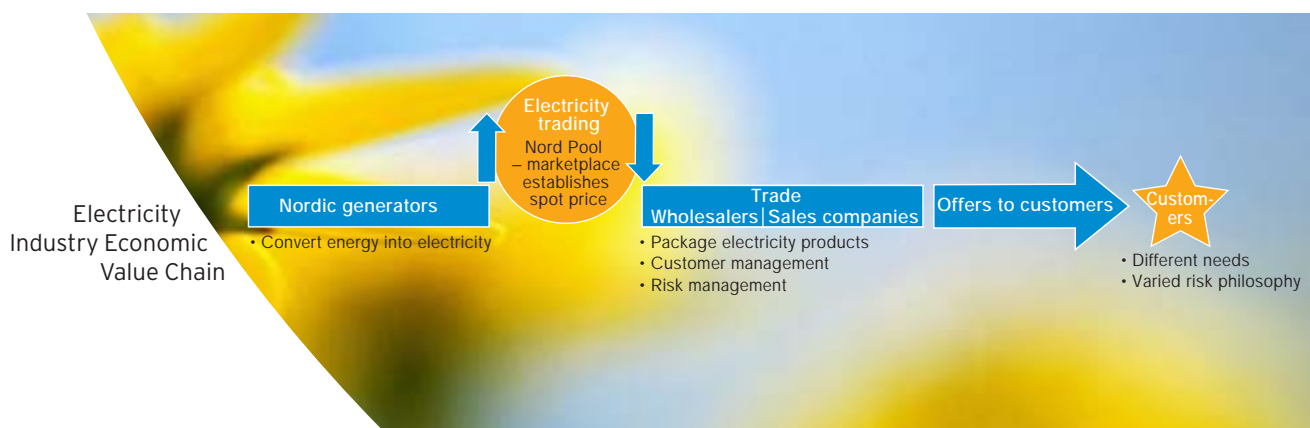
- Generation overcapacity
- Abundant precipitation
- Low demand
- July summer holiday season
- Economic recession
- Falling fossil fuel prices

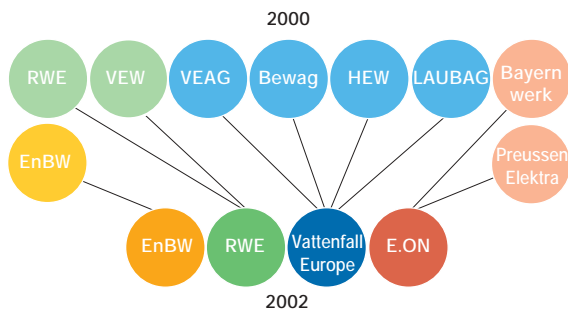


Tax (energy tax + VAT) accounts for a greater share of the total electricity price since the beginning of the nineties and is now 40 per cent.

is directly related to the winter temperature, since many dwellings in Norway and Sweden are electrically heated.

Being a leading company means taking a specific responsibility to ensure that the market is efficient and to ensure that the company's market position is not abused. Vattenfall's ambition is to actively work towards achieving market efficiency by promoting openness and transparency with respect to market mechanisms.





The German energy market has been consolidated over the past two years.

## The German Market

With a population of more than 80 million inhabitants, an electricity consumption exceeding 500 TWh and an installed power of more than 110,000 MW, Germany is Europe's largest electricity market. 51 per cent of the electricity generation is based on coal, 33 per cent on nuclear power, 7 per cent on gas, 5 per cent on hydro power and 2 per cent on other sources. Through deregulation in 1998, the sale of electricity was liberalised at a single stroke, for all customer segments. Unlike other countries, no independent government regulator was established for network operations. Instead, it was left to the industry players, via their trade associations, to formulate rules for the use of the electricity networks and the pricing of electricity transport services. The original agreement, "Verbändevereinbarung 1" (Association Agreement I) from 1998, has been further developed so that, nowadays, non-distance-related network tariffs based on the point of connection are applied, in much the same way as in Scandinavia.

Electricity market players must be able to distinguish generation, transmission, distribution and sales in their financial accounting. However, network operations do not have to be separated from other activities through the establishment of special legal units, unlike Sweden where this is a requirement.

Deregulation in 1998 immediately led to a sharp decline in the price of electricity, primarily for industrial customers (30–40 per cent), but even for household customers (10–20 per cent). New energy taxes meant that the price fall in the consumer segment did not have a full impact. A large number of new electricity trading companies launched aggressive sales tactics, but lack of profitability led to a subsequent shake-out. Few households have switched supplier because the established companies have responded with price reductions and new types of contracts.

Following several major mergers, competition on the German market changed radically. Even if the number of market players has been reduced, there is still a large number of players in network operations and sales. These can be grouped into three levels:

- Four major integrated companies, RWE, E.ON, Vattenfall and EnBW, all operating at all stages of the electricity value chain and each owning a stake in the German high-voltage network (380–220 kV).

- Forty regional energy companies mainly operating as resellers.
- About 800 Stadtwerke (municipal companies) which, apart from electricity, also provide other utility services such as heat, gas, water and local transportation.

Electricity trading was initially organised through two competing power exchanges: Frankfurt and Leipzig. However, insufficient liquidity and profitability resulted in the merger of the two and the concentration of exchange trading to Leipzig (EEX). The spot trading system is based on the same model as that used by the Nordic power exchange, Nord Pool, although EEX is considerably less liquid.

## The Polish Market

The Polish market is divided into three sectors – generation, distribution and sales. The total generation capacity in Poland is 146 TWh in a normal year, of which Vattenfall's share is 3 per cent. Consumption is considerably lower, 125 TWh, which means that at present, there is overcapacity in the market. Electricity consumption per capita in Poland is about 40 per cent lower than the average for the rest of Europe.

The energy sector is still mainly state-owned and the privatisation process is slow as a result of a halting economy. However, a change is predicted now that Polish membership of the EU seems likely from 2004.

The Polish power exchange, Gielda, only covers 2 per cent of the total electricity demand in spite of the fact that the physical electricity trading price is 7–10 per cent below the long-term contract price.

The extent of privatisation varies in the different segments of the value chain. On the generation side, the majority of the CHP plants have been privatised and about 30 per cent of the generation facilities. In the distribution segment, only 18 per cent of the organisations are privately owned.

### The Electricity Price in Poland

The energy sector is being deregulated. Customers who consume more than 10 GWh per year are free to choose their electricity supplier, while the electricity price for small customers with an annual consumption below 10 GWh is regulated by the Polish Energy Regulatory Authority (ERA). From 2005, all customers will be entitled by law to choose their electricity supplier.

The ERA is attempting to gradually adapt to the EC electricity market directive. From 2003, the setting of the tariffs for electricity distribution and CHP companies will be based on the return on equity. However, much remains to be done by the ERA before the transition is made to a fully deregulated market. For example, a different model for regulating network operations should be applied. The current "Cost Plus" model, whereby companies can cover their costs plus receive a margin, does not encourage cost-efficient network operations.

## Anticipated Market Development

### Energy, Environment and Factors Affecting Price

Several countries are discussing various systems for stimulating electricity generation from renewable energy sources. It is important that such systems should not distort competition.

As European energy markets become integrated, it is important that support systems should also be harmonised. International harmonisation is necessary to direct investment towards the areas that are optimal in economic terms, in other words, those areas where the investments are most cost-effective.

Renewable electricity certificate trading is a market-based support system that, in a suitable form, can meet these demands. A new act on electricity certificates will enter into force in Sweden on May 1, 2003. A quota-based Swedish certificate system is being introduced to stimulate electricity generation from renewable energy sources.

Sweden already has one of Europe's most stringent environmental legislations and very high energy taxes. The aim is to divert usage from fossil fuels to more sustainable sources. The greenhouse effect is identified as the most important environmental problem, even if all countries are not prepared to sign international agreements on emission restrictions.

It is reasonable to expect that, within the EU, policies will be introduced to reduce total carbon dioxide emissions. Such policies will increase the cost of electricity generation based on fossil fuels and will affect the price level for the entire market, since fossil-based electricity generation normally determines the marginal price.

### Long-term Development

In the long term, an increasingly integrated and liberalised electricity market will emerge in Europe. Market prices will become more transparent and correlated among the different countries and markets. The international commodity markets for electricity, natural gas, petroleum products and coal will converge and mixed-component products will increasingly be traded.

All electricity customers will be free to choose their electricity supplier. The need for new capacity will gradually emerge as a result of the closure of old facilities and growing demand. The electricity price will probably rise until it is on a par with the long-term marginal cost and new production facility construction has started.

The electricity market will provide sufficient incentives for the electricity generators to construct new facilities when necessary. However, this requires that policies and licensing processes are adapted to the needs of the competitive and international electricity market. The types of energy that will be added will depend on how the policies are formulated and on how the licensing processes are designed. The electricity market and the electricity price will also give the customer an incentive to conserve and rationalise energy use.

Providing that the market price is allowed to rise to the necessary levels, and that it is not unduly manipulated by governments and policies, the construction of biofuel-fired CHP plants and backpressure plants will increase. Coal-fired facilities that have reached the end of their operating lifetimes will be primarily replaced by natural gas which, in the case of new facilities, will be used in combined gas turbines.

Altogether, a deregulated and competitive electricity market will contribute to the positive development of renewable energy sources. Electricity generation will be adapted to customer needs in an entirely different way than was possible with a regulated market.





# Market Competition

Vattenfall's competitors are not primarily other Swedish power companies and municipal utilities but major international groups such as German E.ON and RWE, French EDF, Italian Enel and Spanish Endesa. Profitability, operational efficiency and risk management expertise are essential if a company aims to be ranked among the leading energy companies in Europe. By focusing on profitable growth, Vattenfall has created a strong position in Northern Europe and Vattenfall's current market positions are a solid platform for further value creation.

## Nordic Countries

On the Nordic electricity generation market, Vattenfall primarily competes with Norwegian Statkraft, Finnish Fortum and Sydkraft, in which German E.ON has a majority stake. There are other, major local players on the electricity network market, such as Gräninge in Sweden, Helsingfors Energi and Espoon Sähkö in Finland.

### Generation

Total market volume, about 380 TWh

Companies	Share in %
Vattenfall	20
Fortum	14
Statkraft	9
Sydkraft	8
Elsam	4
Other	45

### Distribution

Sweden Total number of customers, about 5.2 million

Companies	Share in %
Vattenfall	17
Fortum	17
Sydkraft	15
Göteborg Energi	5
Gräninge	4
Other	42

Finland Total number of customers, about 2.2 million

Companies	Share in %
Fortum	18
Vattenfall	16
Helsingfors Energi	14
Espoon Sähkö	7
Tammerfors	5
Other	40

## Germany

Deregulation in 1998 initiated the restructuring of the German market, where Vattenfall and its German subsidiaries have played a decisive role. The integration of the acquired companies, HEW, VEAG, Bewag and LAUBAG, into the Vattenfall Group is a process spanning several years which is progressing as planned. Through the acquisitions in Germany, Vattenfall is the number three electricity generator after RWE and E.ON. The fourth largest player in Germany is EnBW (Energie Baden-Württemberg), in which EDF (Electricité de France) has a 34.5 per cent stake.

### Generation

Total market volume, about 480 TWh

Companies	Share in %
RWE	38
E.ON	27
Vattenfall	17
EnBW	12
Other	6

### Distribution

Total number of customers, about 42 million

Companies	Share in %
E.ON	16
RWE	16
EnBW	12
Vattenfall	8
Other	48

## Poland

In Poland, Vattenfall holds a strong market position through its acquisition of the CHP producer, EW, in Warsaw and the electricity distribution company, GZE, in Upper Silesia. Vattenfall is a market leader in the CHP sector with a 27 per cent market share, followed by EDF with 24 per cent, and RWE with 4 per cent of the market.


In terms of electricity distribution and sales, Vattenfall (via GZE) is the largest non-state-owned electricity distributor with 10 per cent of the market.

## Heat

Total market volume, about 47.3 TWh

Companies	Share in %
Vattenfall	27
EDF	24
RWE	4
Polish state	45

Source: Interim reports

The image shows an industrial plant with several tall, white chimneys on the right side. A large, modern building with a corrugated metal facade and several windows is visible in the lower-left and center. The sky is bright blue with scattered white clouds. The entire image is framed by a blue decorative border at the top and bottom, featuring a lens flare effect.

“Focus on long-term value creation  
and profitable growth”

## Significant Events for Vattenfall in 2002

### Strong Growth in Net Sales and Profit

Net sales increased by 46 per cent to SEK 101 billion (69) and operating profit improved by 34 per cent to SEK 13.4 billion (10.0). Operating profit, excluding items affecting comparability, increased by 46 per cent to SEK 12.9 billion (8.8).

The increase in net sales is primarily due to the consolidation of Bewag into the Vattenfall Group from February 1, 2002. The substantial improvement in operating profit (SEK 4,094 million), excluding items affecting comparability, can be explained by:

- Increased profitability of the German operations through cost-cutting and improved prices (SEK 1,260 million).
- A strong increase in profit (SEK 757 million) in the Market Nordic Countries profit area, marking a turnaround in this business.
- The closure of non-core business activities within IT (SEK 1,111 million).
- Improved profit in Generation Nordic Countries (SEK 482 million).

### Streamlining Business Operations

During the year, business was streamlined through the divestiture of non-core assets. At the same time, Vattenfall increased its stake in the German power companies, Bewag and HEW.

### Vattenfall Launched in Germany

Vattenfall launched its brand in Germany in connection with the announcement of the name of the German holding company, Vattenfall Europe AG. The acquired German companies, HEW, VEAG and LAUBAG, were formally transferred during the autumn to Vattenfall Europe. The merger with Bewag was approved at the general meetings of shareholders of Vattenfall Europe and Bewag early in 2003.

### Financial Control, Focusing on Profitability

Vattenfall's financial control model, which is based on sustainable value creation and which was implemented in 2001, was fully applied during the year. This has contributed to an increased concentration on profitability and has resulted in a significant rationalisation of large parts of the organisation.

### Vattenfall's Credit Ratings Confirmed

Both of the credit rating agencies, Moody's and Standard & Poor's, confirmed Vattenfall's "Single A" credit rating.

Amounts in SEK m	Net sales		Operating profit	
	2002	2001	2002	2001
Generation Nordic Countries	25,667	22,266	6,459	6,099
Market Nordic Countries	21,275	19,492	286	-511
Heat Nordic Countries	2,761	2,590	343	162
Electricity Networks Nordic Countries	7,674	7,924	1,834	1,816
Services	2,974	2,938	118	187
Germany	60,696	29,510	4,733	3,886
Poland	3,167	3,242	5	97
Other business	1,830	2,903	-386	-1,730
Other and eliminations *	-25,019	-21,862	-29	-47
<b>Total</b>	<b>101,025</b>	<b>69,003</b>	<b>13,363</b>	<b>9,959</b>

\* Mainly concerns trade between Market Nordic Countries, Electricity Networks Nordic Countries and Generation Nordic Countries.

Myllykoski Paper in Myllykoski, Finland.

Employee at Vattenfall training center in Jokkmokk.

Travelling by train between Warsaw and Ostrow in Poland.



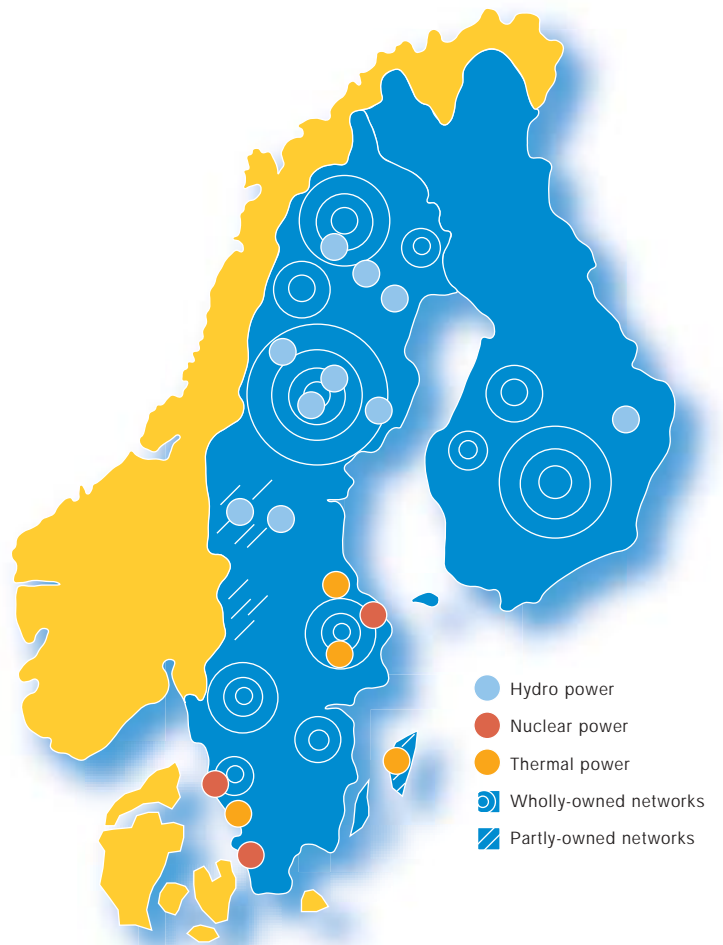


# The Nordic Countries - Leaders on the Energy Market

Vattenfall is the largest electricity generator in the Nordic countries, with a market share of about 20 per cent. Business is mainly concentrated to Sweden and Finland.

Vattenfall operates in all segments of the electricity value chain: generation, trading on the financial and physical markets and distribution and sales to corporate and household customers. Vattenfall also generates and sells district-heating and energy solutions as well as maintenance services and consulting. In the Nordic region, Vattenfall operates primarily in Sweden and Finland. The majority of the assets in Sweden focus on the generation and distribution segments, while the assets in Finland are predominantly electricity networks.

In 2002, Vattenfall's net sales in the Nordic countries amounted to about SEK 37 billion, electricity generation to 87 TWh and heat production to 8 TWh. Vattenfall distributes and sells electricity to about 1.3 million customers in the Nordic countries. Vattenfall has 8,550 employees.



400 kW overhead power lines at Närkes-Kil.



Forsmark nuclear power plant.



Olidan hydro power plant in Trollhättan.





## Generation Nordic Countries

Generation Nordic Countries is responsible for the generation business on the Nordic electricity market. Vattenfall generated a total of 87 TWh in 2002, which corresponds to almost 20 per cent of the total electricity consumption in the Nordic countries. This business unit also includes the following subsidiaries: SKB (Svensk Kärnbränslehantering AB), Vattenfall Bränsle AB and KSU (Kärnkraftsäkerhet och utbildning AB).

By far the dominant forms of power are nuclear power and hydro power.

### Generation volume during a normal year:

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54 TWh, nuclear power
33 TWh, hydro power
0.05 TWh, wind power
Standby power:
300 MW, gas turbine
1,000 MW, oil-fired condensing (shut down on a long-term basis)

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### Important Events in 2002

The improvement in profit was achieved primarily through plant overhauls, reduced operating costs and increased sales. Efficiency improvement measures have reduced variable electricity generation costs and thereby strengthened competitiveness.

In order to meet its profitability target, expressed as a return on net assets, Vattenfall is optimising plant availability to better meet the market demand for power. Earnings from generation operations are highly dependent on the weather, although variations in financial performance can be evened out to some extent through hedging on the power exchange.

The question of access to power on the Swedish electricity market has been highlighted during the past year. There is a risk of power shortages on isolated and particularly cold winter days. This issue will be resolved on market-adapted terms. Svenska Kraftnät, which owns and operates the national grid, is responsible for finding a solution and is cur-

rently conducting investigations. Vattenfall is actively participating in resolving this important issue.

The average price on the Nordic power exchange was 24.6 öre per kWh in 2002. In January, the Nordic water reservoirs were relatively well-filled and the price was 22.6 öre per kWh. The abundant supply of water to the reservoirs during the spring contributed to particularly well-filled reservoirs in May and the price for that month was 14.1 öre per kWh. From the beginning of July and throughout the rest of the year, the water supply was the lowest for more than 50 years. Due to the use of the increasingly costly fossil-based power in the Nordic power market, the monthly price of electricity successively rose from August to December, when the price for the month was 67.9 öre per kWh.

Due to the extremely low availability of water in the Nordic reservoirs in the latter part of the year, the energy supply situation in Sweden became the focus of discussion. Market mechanisms are working as intended. High production cost facilities have been brought online when there was an opportunity to find a profitable market for the power.

### Outlook

Efficient electricity generation requires efficient facilities. Extensive re-investment in nuclear power plants and hydro power plants is being planned in order to upgrade the technology and enhance safety. For example, just over SEK 1 billion will be invested in improving hydro power plant dam safety.

As far as nuclear power plant modernisation is concerned, a tax of 2.8 öre per kWh is levied on nuclear power production in accordance with a parliamentary resolution. The tax, which amounts to a total of SEK 1.4 billion for 2002, could well be used for efficiency-enhancing renewal investments in nuclear plants. Property tax is also a significant problem for the power industry.

In accordance with the latest energy bill, the Government has invited the power industry to participate in discussions on the future of nuclear power. Clarifying these issues is a key to obtaining a sound basis for decision-making on the renewal investments that the Swedish nuclear power plants are facing.

Ringhals nuclear power plant.



## Market Nordic Countries

Market Nordic Countries comprises the following business units: Sales Sweden, Sales Finland, Mega and Supply & Trading.

### Sales

Sales mainly comprise electricity and energy-related services as well as telecommunications. Vattenfall has about 1.2 million customers in the Nordic countries – retail customers, energy companies, industries and other companies. Sales in Denmark are handled by Sales Sweden. Mega is responsible for the energy-intensive industry in Norway.

### Supply & Trading

#### - Risk Management and Portfolio Management

Supply & Trading co-ordinates the Group's financial trading in electricity and other energy-related products in the Nordic countries, trading in eco-labelled electricity and electricity with environmental declarations as well as weather derivatives. In addition, Supply & Trading provides portfolio management services to internal and external customers through Vattenfall Power Management AB. Supply & Trading's mission is to be a service function where other units in generation and sales can hedge the risk in their volumes. The financial market for electricity, where Supply & Trading is a leading player, is characterised by substantial price variations. The prices follow the expected consumption and generation levels and reflect future production capacity. In turn, production capacity is determined by the availability of water and the expected consumption level. Supply & Trading is also responsible for the Group's commitments in the following international cables: KONTEK (between Denmark and Germany) and SwePol Link (between Sweden and Poland).

#### Mega - Specialising in Major Industrial Customers

The Mega business unit is responsible for the largest customers, most of whom operate in electricity-intensive industries. Mega provides customised electricity contracts and develops and delivers energy solutions. When providing energy solutions, Vattenfall assumes responsibility for the customer's energy needs in a customer facility, as well as for energy and process efficiency improvement. This allows the customer to focus on core business. SCA's heating plant in Munksund, which was inaugurated during the year, is an example of an energy solution.

## Important Events in 2002

During the year, there was a substantial improvement in profitability in electricity trading and sales to end-customers. Electricity sales must meet a return on operating margin requirement and the profitability of the electricity trading operations is measured as the return on trading mandate. The profitability of international cables is expressed as the return on net assets.

The improvement in profit is largely due to a reduction of price and volume risks in the sales activities, the introduction of a new and more efficient organisation, as well as simplified and improved internal procedures. In Finland, Vattenfall has developed new and improved customised solutions. In addition, administration has been rationalised through the co-ordination of the customer service for sales, networks and heat.

During the year, intensive efforts were made to improve customer service. The result of this work can already be seen and Vattenfall's customer service was ranked as the best in the energy industry in a survey conducted by the independent market research institute, Profitel.

In late autumn, Supply & Trading reached an agreement with PSE (Polskie Sieci Elektroenergetyczne) concerning "dry year" electricity deliveries, in other words, the possibility of importing electricity from Poland to Sweden via SwePol Link. Deliveries started in mid-December and will continue until the end of April 2003.

### Outlook

Discussions are in progress between Vattenfall AB Supply & Trading and other major stakeholders to find the most effective way of using the KONTEK cable in the long term. These discussions will continue during 2003.

Attractive offerings, an efficient and effective customer service, low administration costs and the skilled management of risks associated with business operations are the critical factors for success on the electricity market. Vattenfall implements deliberate and continuous improvement measures within the above areas to ensure sustainable value creation and enhance its competitive strength.

For some years, Vattenfall has also been providing telecommunications services. In 2002, the number of minutes of traffic per month increased from 30.8 million to 49.9 million. The positive experience gained from this area has allowed Vattenfall to extend its services to include mobile telecommunications.

## Vattenfall Focuses on Being Number One for the Customer

### Energy Co-operation between Holmen and Vattenfall

Holmen is one of the major manufacturers of newspaper and magazine paper in Europe. The company also manufactures cardboard for consumer packaging, and production is conducted primarily in Sweden. In Sweden, Holmen consumes about 4 TWh of electricity per year. Vattenfall has supplied electricity to Holmen's facilities in Sweden for many years.

"It's natural for us to have such an important contract with Vattenfall since we have had many years of fruitful co-operation behind us. We know that we can trust Vattenfall," says Åke Eklöf, Managing Director of Holmen Kraft.

### Energy Co-operation between Ovako Steel and Vattenfall

Vattenfall and Ovako Steel have worked together on energy issues for a long time. One of the outcomes of this co-operation is that Vattenfall owns and operates the internal electricity network in Hofors and Vattenfall has invested in electricity equipment to improve the performance of the electro-steel furnace plant.

During the past year, co-operation has continued through the development of a model for pricing deviations from estimates of variations in the plant's electricity consumption. Vattenfall and Ovako have also initiated a joint project with the aim of increasing energy efficiency. The entire operation at Hofors has now been reviewed and an initial estimate of the potential for energy saving projects has been made.

"We are really happy with the 'power', in the broad sense of the word, that the co-operation with Vattenfall has brought our company," says Sten Lykström, Ingot Manufacturing Manager, Ovako Steel AB.



Paper manufacturing at Holmen in Hallstaberuk.

### Major Investment in Customer Service

Vattenfall's vision to be a leading European energy company means making matters simple and easy for the customer and creating a more efficient electricity market. For this reason, starting in Sweden, Vattenfall has launched an extensive customer service programme designed to ensure that Vattenfall becomes number one for the customer. Over a three-year period, at least SEK 600 million will be invested in the programme.

All of Vattenfall's customers in Sweden will be offered the opportunity of simplified billing and payment procedures. The current system of preliminary charging will be abolished and the customer will only be charged for actual consumption in the future. Customers consuming more than 8,000 kWh a year, about 300,000 in all, will have remote-read meters that will be read once a month. Customers living in flats will be able to opt for a fixed cost per month with payment via autogiro. The fixed cost will be based on the size of the flat. Other customers will be given the opportunity to read the meters themselves and to report the readings through a simple procedure. This will make it possible for customers to be billed for an exact amount, and will give them full control over their own consumption and electricity costs. The programme also includes measures for the quality and efficiency assurance of Vattenfall's customer service routines.

Customer service operations in Umeå.

Information centre for visitors at Ringhals nuclear power plant.







## Electricity Networks Nordic Countries

Electricity Networks Nordic Countries comprises the following business units: Electricity Networks Sweden and Electricity Networks Finland. Electricity Networks Sweden conducts regional and local network operations in Sweden through a wholly-owned regional network company, as well as four wholly-owned and two majority-owned local network companies. In total, there are 905,000 local network customers, which corresponds to a market share of about 17 per cent. Of these customers, about two-thirds are located in rural areas. At the regional network level, Vattenfall has a market share of about 50 per cent, measured in terms of transmitted volume. In Finland, Vattenfall is the second largest market player with 356,000 customers, which corresponds to a market share of 16 per cent.

The network operations in Sweden are supervised by the Swedish Energy Agency. The Agency's task is to ensure that the network companies in Sweden conduct network operations efficiently. This includes the possibility of evaluating the extent to which the customer tariffs are reasonable. Vattenfall is actively working on developing both the technical and economic aspects of network operations.

### Important Events in 2002

The profitability of network operations in Sweden and Finland is measured as return on replacement value translated into operating profit.

In its Swedish network operations, Vattenfall has been able to completely avoid major service disruptions during the year. The extensive improvements implemented over the past two years, with improved clearing of power-line tracks and investment in network refurbishment, has

produced results, while operations were not subjected to the same type of pressure as that caused by the previous year's severe weather conditions.

Work on improving network operations will continue in 2003 and over the next few years. Vattenfall was the first to give its network customers a service interruption guarantee. In 2002, customers were also offered the option of receiving service interruption information by SMS. To support network monitoring and customer communications, work on developing a completely new operations monitoring system has been underway during the year. The system will be launched in 2003. Extensive work has also been conducted to improve customer service and this has resulted in shorter response times and a higher service level.

In Finland, the major disruptions that occurred during autumn 2001 led to extensive criticism of the entire electricity industry. To enhance the ability to deal with major service disruptions in the future, response plans have been established and major investments have been made in new technology. A completely new operations monitoring system and information system is therefore also being implemented in Finland in 2003 and this will provide improved customer service during both normal operation and major disruptions.

During the year, the six network companies that Vattenfall acquired in Finland were integrated. Operational activities are conducted through a single unit – Vattenfall Verkko.

### Outlook

The new Swedish Electricity Act from July 2002 stipulates that tariffs must be reasonable in relation to the actual performance of the network companies. The extent to which the tariff is reasonable is to be assessed by the Swedish Energy Agency, which is responsible for evaluating the network companies' performance.

The supervisory model, known as the "network utility model", will be applied for the first time in 2004 to evaluate network tariffs in 2003. This is a suitable model, providing that it is adapted to market conditions.

In Finland, a new electricity network regulation system will also be introduced early in 2003.

Successful network operations that yield a good return require continuous organisational improvement through efficient routines, high delivery reliability and good customer service. Further structural changes to develop business are also being given priority in order to enhance competitive strength.

Joining an underground cable in Svenljunga.





## Heat Nordic Countries

Heat Nordic Countries generates and distributes heat in Sweden and Finland, Estonia and Lithuania. Within the ready heat product area, 1.5 TWh per year is delivered in Sweden and Finland, making Vattenfall the third largest heat supplier in the Nordic region.

Vattenfall's annual district-heating production in Sweden is 3.9 TWh, in Finland 0.9 TWh and in the Baltic countries 0.2 TWh.

### Important Events in 2002

The purpose of this business unit is to create value by becoming the most attractive choice for the customer in terms of heat delivery. The profitability of heat operations in the Nordic countries is measured as the return on net assets.

To improve profitability, the return on investment requirement has been raised, unprofitable facilities have been sold and rationalisation measures have been implemented while heat prices have gradually been adapted to the market.

Sales dropped to record-low levels during the first three quarters of the year. However, delivery levels were high during the cold fourth quarter. To mitigate risk exposure to weather conditions, district-heating charges with a larger fixed component have been introduced.

In 2002, Vattenfall decided to expand its CHP plant in Uppsala by a fifth unit which will be fired by environmentally acceptable refuse-derived fuel. The investment represents just over SEK 1 billion and the plant will start operations in spring 2005.

During the year, Vattenfall became the sole owner of Härjedalens Mineral AB which supplies peat fuel to the plants in Uppsala and Drefviken. The aim is to develop the business to include other types of biofuels.

### Outlook

Transparent and sustainable rules for energy tax-related issues are important for sound decision-making on investment in plants. To ensure market efficiency, the tax system must be designed so that all players are treated equally.



Top picture: Vattenfall Värme Uppsala AB.  
Bottom picture: Drefviken Värmeverk.

Wood chips for biofuelled plants.

Engineer at Vattenfall Värme Uppsala AB.

Refuse-derived fuel incineration at Vattenfall Värme Uppsala AB.





## Services

This business unit provides consulting through two companies, SwedPower and SwedPower International, as well as contracting through Vattenfall Service Nord and Vattenfall Service Syd. Research and development work is conducted through Vattenfall Utveckling.

Both consulting and contracting target internal and external customers, while Vattenfall Utveckling is primarily a resource for strategic research and development in Vattenfall. The business unit has a total of 2,350 employees, most of whom work with contracting. Contracting in Finland is conducted by Empower, in which Vattenfall holds a 35 per cent stake.

About 50 per cent of consulting sales are realised outside Vattenfall. Within the contracting business, external sales increased to about 25 per cent.

### Important Events in 2002

The financial performance of Services was satisfactory in 2002. The business unit has shown a positive profit trend over the past few years and this trend was exceptionally strong in 2001 due to gains from the restructuring of the Finnish contracting business. The profitability is expressed and measured as operating margin.

During the year, SwedPower established itself on the Eastern European market through major contracts for the Ignalina nuclear power plant and in Kosovo. Co-operation between the consulting units in Vattenfall Europe also started during the year in order to take advantage of synergies.

In 2002, Vattenfall Service Syd established operations in the Malmö region.

## Outlook

The total size of the market for consulting and contracting services in the Nordic countries is expected to remain unchanged in the next few years. In order to develop the competitive strength of the business unit, work is continuing in order to rationalise the organisation and to enhance the unit's ability to create even more attractive services for customers. The Nordic market for consulting is currently undergoing a series of structural changes. Consequently, Services must ensure that it is positioned to advantage in a changing market.

## Other Business

The decision to focus on core business in the Nordic countries, Germany and Poland led to further streamlining of the business in 2002. In September, ownership of Arrowhead AB was transferred to Song Networks Holding AB and Vattenfall also participated with SEK 200 million in a directed new issue of shares. The transactions were completed in January 2003. Following these transactions, Vattenfall owns less than a 20 per cent stake in a completely restructured Song.

Other Business also includes the wholly-owned subsidiaries, Vattenfall Data, Vattenfall Support and Vattenfall Fastigheter, as well as companies in the Netherlands and the Baltic countries.



## Germany - Focus on Consolidation

Through extensive acquisitions over the past three years, Vattenfall has developed a strong position in Germany. Vattenfall is now the third largest electricity generator and the largest district-heating producer with SEK 60,696 million (29,510) in combined net sales for 2002.

Electricity generation amounted to 68 TWh, which corresponds to about 17 per cent of the total generation in Germany, and district-heating amounted to 14 TWh. Vattenfall also owns the transmission network (high-voltage grid) in the former East Germany and the electricity networks in Germany's two largest cities – Berlin and Hamburg. At the end of 2002, net assets amounted to SEK 60.5 billion and the number of employees was 22,305. Operating profit amounted to SEK 4.7 billion (3.9).

### Vattenfall Europe Formed

During the year, the integration of the German acquisitions progressed as planned. Dissolving the former complex owner-relationships and integrating four major energy companies from Eastern and Western Europe with different corporate cultures is a significant challenge. In connection with the acquisitions in Germany, Vattenfall undertook commitments for a period of several years in respect of the employees. Extensive action programmes include additional activities to support employees affected by downsizing.

The Vattenfall brand was launched in Germany with the announcement of the name of the German holding company, Vattenfall Europe AG. The company was formally founded in August through a merger between HEW and VEAG. Before this, the lignite producer, LAUBAG, had been taken over by HEW. The decision to merge Bewag with Vattenfall Europe was only made at the beginning of 2003. These mergers have established the legal structure. The headquarters of Vattenfall Europe are located in Berlin, although several important functions, including Trading, have been based in Hamburg. HEW and Bewag are well-established brands on the local market in Hamburg and Berlin and will therefore be retained. The number of customers in these cities is just under 3 million.

Both HEW and Bewag have been listed on the German stock exchanges for a long time. HEW, which has now been

absorbed and has changed its name to Vattenfall Europe, is still listed on the exchange, although the level of trading is low, since unrestricted shares only correspond to 1 per cent. Vattenfall AB directly and indirectly controls about 97 per cent of the total shares and EnBW about 2 per cent. After the merger, the former shareholders in Bewag will obtain shares in Vattenfall Europe as follows: 1 Bewag share in exchange for 0.5976 shares in Vattenfall Europe.

### New Organisation in Germany for Enhanced Competitiveness

Operations in Vattenfall are formally conducted through a number of subsidiaries. However, operational and financial control is carried out through the six business units: Generation, Trading, Transmission, Distribution, Sales and Heat. From 2003, the organisation has been divided up according to the value chain and follows the same principles that apply to Vattenfall's operations in the Nordic countries with respect to performance measurement and profitability requirements.

Extensive restructuring and rationalisation programmes are underway which will result in EUR 400–500 million in annual savings by 2005.

SEK m	2002	2001
Net sales	60,696*	29,510*
Operating profit	4,733	3,886
Net assets	60,468	43,223
Number of employees	22,305	11,055**

\* Including intragroup sales

\*\* Average number of employees 2001

Steam from the cooling towers at the thermal power plant in Jämschalde.



## Vattenfall Europe

### - Mining and Generation

The Mining and Generation business unit comprises the generation facilities in the former VEAG, HEW and Bewag, as well as lignite mining conducted by LAUBAG in Eastern Germany. In 2002, the total of Vattenfall Europe's own electricity generation amounted to 68 TWh and electricity obtained from partly-owned nuclear power plants amounted to just over 8 TWh.

The generation capacity is 11,909 MW; 58 per cent comprises large-scale thermal power plants fuelled by lignite, and 14 per cent comprises nuclear power. The variable costs of the production facilities are low, resulting in an operating economy that is stable in the long term. At the same time, the fuel supply from Vattenfall-owned plants secures the access to fuel. Several of the lignite-fired power plants also produce heat – a total of 3 TWh – which is distributed and sold to nearby communities and industries. The remaining 28 per cent of the generation capacity 16 per cent of pumped storage plants used during peak times and 12 per cent other fuel. The pumped storage plants are important for balancing power in the German system. The Goldisthal pumped storage plant will come online in 2003 and will increase the Group's generation capacity in pumped storage by about 60 per cent.

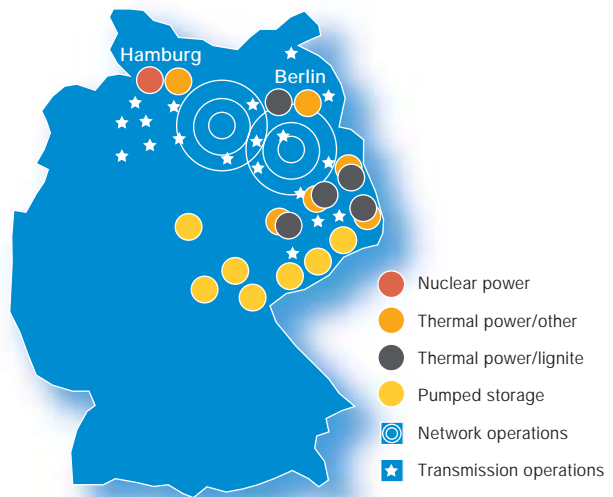
The large power plants, Schwarze Pumpe, Lippendorf and Boxberg 4, were brought online between 1997–2000, replacing the entire old plant capacity of the former East Germany. These facilities are the most modern fossil-fuelled power plants in the world and have a technical efficiency and environmental performance that is absolutely top class. The plants have helped to significantly reduce carbon dioxide emissions in Germany. Vattenfall's nuclear power production is conducted in four partly-owned nuclear power plants: Brunsbüttel, Krümmel, Stade and Brokdorf, which are all located near Hamburg. Brunsbüttel was shut down in February 2002 due to damage to a pipe system. The cost of the prolonged outage, including the delayed restart, is estimated at SEK 600 million.

### Important Events in 2002

In 2002, extensive legal and operational restructuring was carried out to integrate the acquired companies' generation operations. A significant potential for cost-cutting has been identified and an action programme was initiated in 2002 which is expected to continue over the next two years. Operating costs must be reduced for the business unit to be competitive and to attain the financial targets.

### Outlook

The demand for electricity on the German market is expected to increase by less than one per cent per year while the electricity generation mix will largely remain unchanged. Network operators will probably experience a greater need for balancing power. The planned increase in wind power in the German electricity system will also increase the need for balancing power which could create business opportunities for pumped storage plants.





## Vattenfall Europe - Trading

Trading operations in the German subsidiaries, Bewag, VEAG and Nordic Powerhouse, were combined during the year into a single new business unit – Vattenfall Europe Trading – with headquarters in Hamburg. The purpose of the unit is to co-ordinate all electricity trading, both physical and financial, within Vattenfall Europe.

Vattenfall Europe Trading participates in the power exchanges in Leipzig (EEX), Amsterdam (APX) and Paris (Powernext) and can optimise and hedge the risk in future volumes for the Generation and Sales business units. Vattenfall Europe Trading primarily targets internal customers, in other words, the business units within Vattenfall Europe. However, it also serves external customers through the subsidiary, Nordic Powermanagement GmbH.

### Important Events in 2002

During the summer, the power exchanges in Leipzig and Frankfurt merged into a single exchange – the power exchange in Leipzig (EEX). Vattenfall Europe is one of the largest players on the German market and by actively participating in the development of new instruments and contract types in risk management and trading, the unit is consolidating its position. The unit is also very involved in the development of environmental trading products such as green certificates.

### Outlook

In 2002, the volume of electricity trading on the financial market decreased substantially for products with long maturities. The main cause was the bankruptcy of Enron which resulted in the withdrawal of several US players from the market. However, total sales increased on the physical electricity market and the volume on the financial market is expected to grow again within the near future.

## Vattenfall Europe - Sales

Vattenfall Europe Sales is the third largest player on the German market with a sales volume in 2002 of 81 TWh, which corresponds to a 15 per cent market share. Of the total volume, 47 TWh was sold to resellers, 14 TWh to regional customers, 11 TWh to industrial customers and 9 TWh to household customers. This corresponds to a market share of 20 per cent of the reseller segment and 6 per cent of the mass market segment.

### Important Events in 2002

The sales strategy is focusing on maintaining a high customer loyalty by offering attractive products and by concentrating on profitability improvement. This means that work will continue to focus on enhancing cost-efficiency, effective processes and systems, as well as professional risk management in the sales process. For the fourth year in a row, HEW was ranked by Kundenmonitor Deutschland as the company that had the most satisfied customers on the German market.

During the year, the business unit signed new contracts with several important customers in the industrial customer segment. The volumes in existing contracts have increased, the unit has consolidated its position as a partner to resellers in Eastern Germany and has also expanded its co-operation with local energy companies.

### Outlook

In 2003, a new sales organisation will be introduced comprising three brands: Bewag, HEW and Vattenfall Europe Sales. Vattenfall Europe Sales will be responsible for sales activities directed at resellers, municipalities and industrial customers while the Bewag and HEW brands will be used for regional sales activities targeting the business unit's 2.7 million end-customers in Berlin and Hamburg. Vattenfall Europe Sales has also established itself as a player on the French market and, after EDF, is the largest player on the French end-customer market.

Internal rationalisation and the harnessing of synergies and economies of scale through the launch of a new sales organisation are expected to have a positive impact on profitability in 2003. Additional cost-efficiency programmes have been planned to improve competitiveness and to strengthen Vattenfall's position as the third largest market player.

Thermal plant Schwarze Pumpe.

Inside an office at HEW.

Thermal plant Boxberg.





Substation.

## Vattenfall Europe - Transmission

Vattenfall operates the third largest transmission business in Germany. Operations include the high-voltage grid in Eastern Germany and in the Hamburg area, with 10,500 kilometres of power lines, a number of transformers and substations and an ownership stake in the KONTEK cable link between Germany and Denmark.

After re-unification, the electricity supply system in Eastern Germany was radically transformed. Electricity consumption in Eastern Germany has decreased significantly over the past ten years, due to the fact that the population has moved to Western Germany and other factors. This has created a need to develop the transmission capacity of the high-voltage network in the direction of Western Germany. As large and old power plants have been closed down, the high-voltage network has been refurbished and adapted.

Vattenfall's high-voltage network is centrally located in Europe and is integrated with the rest of Germany which, in turn, has connections with Southern Europe, France and the Benelux countries. The network is also connected to the Nordic electricity market in the North, the Czech Republic in the South and Poland in the East. Together with the Polish high-voltage network, the network is a unique link between the major electricity power system in the Western part of Central Europe and the growing system in Eastern Europe.

### Important Events in 2002

During the year, a programme was initiated to reduce the costs of the business units. From December 2002, the network is being monitored and controlled from a single control centre in Berlin. The planning of the remote control of all of the stations is underway and, in 2003, the assets from Hamburg's and Berlin's high-voltage operations will be transferred to Vattenfall Europe Transmission.

A joint balancing area has been formed, which is a decisive step in the merger of the previous three separate network operators' activities.

In order to increase capital utilisation and improve operating efficiency, the business has been divided into two separate organisations. Asset Management, which focuses on technical operations, and Service Management, which focuses on the work conducted in the facilities.

During the year, Eastern Germany suffered from severe flooding, which also affected Vattenfall's facilities. Major damage was avoided through extensive rescue operations carried out by employees and volunteers.

### Outlook

The increasing wind power production in the German system increases the system operators' needs for balancing power. The installed power from wind power in the network area has increased to 4,200 MW, which is above the average for German network system operators. The increased power will lead to an increased transmission of wind power through the system to other regions in the country and the trend is expected to continue. In 2010, it is expected that wind power will be expanded to 10,000 MW installed power, resulting in a need to eliminate bottle-necks in the Southwestern direction of the network.

Thermal plant Lippendorf.





## Vattenfall Europe - Distribution

Vattenfall Europe has 3.4 million network customers and is the fourth largest player on the local network market, with a market share of about 8 per cent. Operations comprise the distribution of electricity in Northeastern Germany, Berlin and Hamburg as well as in the states of Mecklenburg-Vorpommern, Brandenburg and Niedersachsen. The voltage levels of the networks range from 110 kV to 0.4 kV and the total power line length is 75,000 kilometres. However, the network in Hamburg maintains a high technical standard, whereas parts of the network in Berlin are in need of refurbishment. The network in the Eastern parts of Berlin is currently being modernised.

In Germany, network operations are regulated by an agreement between the network companies and the customers. The agreement establishes how the network tariffs are to be calculated. A key success factor on a regulated market is an efficient structure and high-quality network operations.

### Important Events in 2002

During the year, a new organisation and controls were implemented. Many areas of Vattenfall Europe are undergoing a transformation process in order to achieve a Best Practice level in Europe. From 2003, the operational units in Vattenfall Europe Distribution will be controlled in the same way as profit areas. The split into Asset Management and Service Management will result in a greater focus on profitability and on the customer.

### Outlook

The current regulation of distribution in Germany with the application of the "Cost Plus" model, where the companies can cover their costs plus receive a margin, does not provide any incentive to improve cost efficiency. A system of regulation that is better adapted to market conditions, where companies can keep the greater share of the increase in profits generated by structural changes and efficiency improvement, is necessary if the business units are to meet and sustain a level profitability that is in line with the Group's requirement. How these issues will develop in Germany is largely determined by developments in the EU. Consequently, Vattenfall is actively participating in resolving issues concerning the EU's and Germany's development of systems for regulating network operations.



Krümme nuclear power plant.



Thermal plant Tiefstack.





Thermal plant Mitte.

## Vattenfall Europe - Heat

Vattenfall Europe Heat comprises district-heating operations in Berlin and Hamburg with generation, distribution and sales of heat and, to a lesser extent, cooling. The business is the largest district-heating operation in Western Europe, with a market share of 27 per cent in Berlin and 23 per cent in Hamburg.

Heat is mainly generated by CHP plants although hot-water boiler stations are also used. The production system has a capacity of 8,500 MW of heat and 3,100 MW of electricity, and uses natural gas, oil, coal and lignite as fuel. The CHP plants generate both electricity and heat at the same time, resulting in efficient fuel utilisation.

### Important Events in 2002

During the year, several long-term contracts for the delivery of heat have been signed with new customers.

A programme has been conducted during the year which aims at reducing costs and rationalising the organisation.

The programme comprises a raft of measures, including optimising production, upgrading the combustion technology, improving fuel logistics and co-ordinating fuel purchasing.

The district-heating operations in Berlin/Charlottenburg, which were acquired at the end of 2001, have been integrated into operations. During the year, a decision was also made to rebuild the old part of the distribution system in Hamburg which conducts energy in steam to a modern hot-water-based system. The investments are being implemented over a period of eight years and will result in a more efficient system with lower operating and maintenance costs.

### Outlook

Combustion technology and reduced emissions from energy production will be important issues for the future, as will the technology for using natural gas in energy production. The future development of the heat business will be mainly affected by the EU's and Germany's rules in the environmental area, natural gas price trends and the extent of competition from district-heating substitutes.



## Poland - Vattenfall, the Largest Foreign Energy Player

Vattenfall is the largest foreign player on the Polish energy market. Business comprises heat production, distribution and electricity sales.

Vattenfall produces energy through the subsidiary, Elektrociepłowni Warszawskie (EW) in Warsaw, in which it holds a 69 per cent stake. Electricity distribution and sales are conducted through the associated company, Gornoslaski Zaklad Elektroenergetyczny (GZE) in Upper Silesia in Southwestern Poland. Vattenfall owns 32 per cent of the company, is responsible for managing the company and will become the majority owner in 2003, in accordance with an agreement.

EW is a market leader in district-heating in Poland with an annual output of about 13 TWh of heat, which means a market share of 27 per cent. In connection with heat production, just over 3 TWh of electricity is also produced per year. GZE is Poland's largest network company with 1.1 million customers. GZE's market share is 7 per cent in terms of the number of customers, and 10 per cent in terms of transmitted volume. When large-scale privatisation is completed, Vattenfall will face competition from several major European players on the Polish market. The Polish companies are currently undergoing extensive rationalisation to ensure that they will be well-equipped to deal with tougher competition. In connection with the acquisitions in Poland, Vattenfall undertook commitments in respect of the employees for a period of several years. In Poland, a system of five-year employment or salary guarantees applies and various programmes are underway to manage the need for downsizing.

In addition to the ongoing rationalisation and environmental investment, the possibility of using other fuels besides coal in the plants is also being examined.

### Important Events in 2002

Altogether, the underlying business reports a profit improvement of almost SEK 150 million. The profitability of the Polish business is measured as the return on net assets.

The somewhat less than satisfactory performance of the business is primarily due to the economic recession in the country. The recession has resulted in lower sales volumes and difficulties for certain customers in paying their bills. Other problems include the fact that the planned deregulation is not progressing at the scheduled pace and the fact that regulations controlling distribution do not allow a market-adapted return on investment.

Business conducted by GZE at its former district offices has now been closed down. Maintenance operations are now conducted through two subsidiaries and electricity sales have been transferred to a separate sales company. During the year, IT activities at GZE and EW have been combined into a single service company – Infonet.

The business has been rationalised through the reorganisation of several areas. Employees have been trained and non-core activities have been outsourced. Considerable work has also been put into reducing unpaid customer bills, and these have now been significantly limited.

### Outlook

As the first foreign player on the Polish market, Vattenfall has had a headstart. To enhance its competitive advantage, Vattenfall will focus on management training and on upgrading its customer management and billing systems.

The Polish energy market is on the brink of radical change. A vital factor for Vattenfall's Polish business will be how the role of the Polish Energy Regulatory Authority changes if Poland joins the EU from 2004. The political and economic situation in Poland has slowed down the privatisation process. However, an imminent EU membership will probably increase the pace. In accordance with current plans, the energy market is expected to be fully deregulated by the end of 2005.

SEK m	2002	2001
Net sales	3,167	3,242
Operating profit	5**	97
Net assets	6,108	6,357
Number of employees	2,932	3,562*

\* Average number of employees 2001.

\*\* The decrease is due to the dissolution of SEK 130 million in reserves in 2001 and to the production tax on electricity that was introduced in 2002.

An employee in Warsaw.



The power plant in Sikierki.





Annual Accounts 2002



The Board of Directors and President of Vattenfall AB (publ) (556036–2138) hereby submit the annual accounts and consolidated accounts for 2002 (pages 32–73).

## Group

Net sales increased by 46 per cent to SEK 101 billion (69), mainly due to the acquisitions in Germany.

The operating profit increased by 34 per cent to SEK 13.4 billion (10.0). The operating profit excluding items affecting comparability increased by 46 per cent to SEK 12.9 billion (8.8).

The net profit for the year increased by 81 per cent to SEK 7.6 billion (4.2). The net profit for the year excluding items affecting comparability increased 98 per cent to SEK 7.2 billion (3.7).

The return on net assets came to 10.5 per cent (9.9) and the return on equity to 19.1 per cent (11.8). Adjusted for items affecting comparability, the corresponding values were 10.1 per cent (8.8) and 18.3 per cent (10.3) respectively.

Vattenfall's electricity sales increased by 26 per cent to 188.3 TWh (149.9) and heat sales increased by 32 per cent to 33.5 TWh (25.4). The improvement is mainly due to the German acquisitions.

## Key Structural Changes

In 2002, Vattenfall continued to restructure and streamline its core electricity and heat business in Finland, Germany, Poland and Sweden.

In Germany, Vattenfall became a majority shareholder in Bewag and acquired the City of Hamburg's remaining shares in HEW AG.

An agreement with BvS (the successor to the German Treuhandsanstalt) was concluded concerning an early final settlement of all claims for payment from the German state in connection with agreements concerning the privatisation of VEAG and LAUBAG. This paved the way for Vattenfall to implement the necessary structural changes to consolidate the new Vattenfall Europe AG.

In Poland, two of the smaller heat companies were sold, while the stake in the EW heat company in Warsaw was increased. In Denmark and Norway, Vattenfall sold its shares in NESAs and Hafslund respectively.

Ownership of Arrowhead AB was transferred to Song Networks Holding AB and Vattenfall also participated with SEK 200 million in a directed new share issue. The transactions were completed in January 2003. Following these transactions, Vattenfall now owns less than 20 per cent of the shares in a fully reconstructed Song.

Details of key structural transactions in 2002 are set out in the tables below:

## Acquisitions

Month	Company	Change, %	Current holding, %	Comments
February	Bewag	44.8	89.5 of the capital 92.1 of the votes	Acquisition via HEW AG
April	EW, Polen	14.2	69.2	Purchase from personnel
June	EBH	25 + 25	100	From EnBW and RWE resp. EBH owned a minority stake of 25 % in VEAG
July	Härjedalens Mineral AB	19	100	From Härjedalen Municipality
August	HEW	25.1	96.8	From the City of Hamburg

## Divestments

Month	Company	Change, %	Current holding, %	Comments
March	Ostrow Wielkopolski, Poland	23.2	0	To Sydkraft
March	Ustka, Poland	34	0	To Sydkraft
April	Hafslund ASA	5.8	0	To Sydkraft
June	NESA	11.5	0	To DONG
June	Nässjö Kraftvärmeverk	100	0	To Nässjö Municipality

## Personnel

During the year, the average number of employees was 34,248 (23,814). Salaries and remuneration amounted to SEK 12,455 million (8,842). At the end of the year, the number of employees, expressed in terms of full-year employees, came to 33,927, of whom 8,029 in Sweden, 535 in Finland, 22,305 in Germany, 2,932 in Poland and 126 in other countries. Additional information concerning employees, salary costs and benefits paid to senior management is provided in Note 32.

## Research and Development (R&D)

Vattenfall's business units conduct R&D as an integral part of their operations. As a supplement to these activities, a more long-term R&D work programme for the Group is also being implemented. The Group Function Strategies is responsible for this programme, as well as for co-ordinating all R&D for the Group.

In 2002, R&D work totalled SEK 481 million (564), of which work for SEK 283 million (357) was conducted within Svensk Kärnbränslehantering AB. R&D costs represented 0.5 per cent (0.9) of net sales.

## Environmental Impact within the Group and Parent Company

The parent company conducts operations that require a permit under the Swedish Environmental Code. These operations mainly comprise hydro power, wind power and combustion facilities for electricity and heat generation.

The parent company has 52 combustion facilities for electricity and heat generation that require a permit, as well

as 112 heat generation plants that must be reported under the Environmental Code. Of the combustion facilities for electricity that require a permit, 2 power plants are shut down on a long-term basis, while 8 are gas turbine plants that are only used for reserve power. The parent company has a total of 42 wind power turbines located both separately and in groups. Of these wind power plants, 10 require permits and the rest must be reported. The parent company also has hydro power plants with accompanying water regulation operations which are subject to special legal procedures that fall outside the stipulations of the Environmental Code.

The Group's Swedish subsidiaries also conduct operations that require a permit under the Swedish Environmental Code. Forsmarks Kraftgrupp AB and Ringhals AB, as well as Ringhals AB's subsidiary Barsebäck Kraft AB, use nuclear power plants to generate electricity. SKB runs a facility for the final disposal of low- and intermediate-level nuclear waste in Forsmark, as well as an intermediate storage facility for spent fuel in Oskarshamn. A number of subsidiaries, including Vattenfall Värme Uppsala AB, use combustion facilities to generate electricity and heat. Through its Swedish subsidiaries, the Group conducts network operations for the distribution and transmission of electricity under concession. The Group also has subsidiaries that extract peat in Sweden.

As with network operations, the generation of electricity in nuclear and hydro power plants is an essential part of the operations, unlike other operations that require a permit. Power generation in hydro power plants is mainly conducted within the parent company. Other activities that are an



essential part of the operations are mainly conducted within subsidiaries.

The nuclear power plants at Ringhals and Barsebäck are subject to special legal procedures prior to receiving permission to conduct environmentally hazardous operations in accordance with the interim regulations brought in when the Environmental Code was introduced.

The main environmental impact of nuclear power plants is the generation of radioactive waste. The main environmental impact of combustion facilities consists of emissions of carbon dioxide and acidifying substances. The main environmental impact of hydro power and network activities, as well as peat extraction, is land use.

The Group conducts operations in non-Swedish subsidiaries which require a permit under non-Swedish national legislation. Heat and power generation in fossil-fuelled combustion facilities in Germany and Poland, and in the case of Germany, electricity generation in nuclear power plants and lignite mining as well, are significant operations of this type.

## Parent Company

Net sales for the parent company amounted to SEK 23,383 million (21,875). The net profit for the year was SEK 4,514 million (2,002). Investments amounted to SEK 9,262 million (19,275). Liquid assets came to SEK 3,313 million (124), while funds in the Group account managed by Vattenfall Treasury AB (publ) amounted to SEK 12,852 million (6,978).

Vattenfall AB is wholly owned by the Swedish state.

## Board of Directors

Vattenfall AB's Board of Directors comprises 13 members and three alternates, of whom three members and three alternates are appointed by the trade unions. The Board secretary is employed by Vattenfall AB. In 2002, the Board held nine meetings, including the statutory meeting following the general meeting of shareholders. The work of the Board follows an annual plan designed to ensure that the requisite decisions are made and that the Board's information requirements are met. The Board's work is also influenced by its rules of procedure. The Board meets with the company's auditors every year.





## Organisation

The Group's risk management and reporting processes are co-ordinated by a risk management committee, led by the Chief Financial Officer.

The purpose of the risk committee's work is to ensure first-class risk management within the Group. This work focuses on identifying the risks involved in Vattenfall's operations throughout the value chain and on developing suitable models and measurement methods for managing them. The risk committee also examines the policies and mandates that are subsequently allocated throughout the organisation to the business units' control functions.

### Risk Control

A special unit within the Group Function Risk Control ensures that the business units follow the established policies and mandates. Each business unit has local risk control departments that monitor the portfolio limits and report back to the Group Function. Vattenfall's combined risks are calculated by an independent group within the risk

control function, which also ensures that these risks fall within the scope of the Group's risk mandate.

### Risk Measurement

The risk measurement model used for the majority of the portfolios is Value at Risk (VaR), which indicates how the risks in different areas and markets interact with each other. This model is supplemented by other risk measurements and various types of simulations.

### Mandates and Policies

Each year, the Board of Directors gives the President a mandate specifying how much risk is acceptable within its operations. This mandate is allocated throughout the organisation in the form of policies specifying the rules applying to each individual business unit. This policy regulates which risks may be taken and who is responsible for these risks, as well as supervision and reporting methods. The unit taking the risk in question is also responsible for managing it and bears responsibility for the results.

## The Risk Management Process

Vattenfall's risk management is a continuous process designed to define, identify, measure, report and follow up risks.

The risk management process consists of the following steps:

- Defining the current risks
- Identifying where in the organisation these risks arise
- Measuring the risks in a reliable manner
- Managing the risks
- Reporting in accordance with established reporting routines
- Managing these processes in accordance with established strategies and written rules.

## Risks within the Group

### Plant Risk

Vattenfall's largest insurable risks are associated with the operation of power and heat generation plants.

The Swedish nuclear power companies have insurance cover for property damage through EMANI, a European mutual insurance company. ONEIL, a subsidiary of the US mutual nuclear power insurance company, NEIL, handles the insurance programme in Sweden. Nuclear power liability insurance cover is issued by an international consortium led by ACE European Markets. The German nuclear power liability insurance cover is handled by the German Mutual Atomic Energy Reinsurance Pool, as well as the mutual undertakings applying to German nuclear power plant operators.

In Sweden, the liability for damage to third parties as a result of dam accidents is strictly unlimited. Vattenfall and other hydro power producers have therefore taken out dam liability insurance.

Vattenfall Insurance, a captive company, provides the non-nuclear facilities of the Swedish Group's units with insurance cover against property damage and business interruptions. Insurance cover against similar risks in Finland, Poland and Germany is provided by local insurance companies active in each market.

In Germany, the liability of players operating nuclear plants is unlimited. The mandatory insurance amount for all these players combined is EUR 2,500 million. Claims up to EUR 250 million are covered by the German Mutual Atomic Energy Reinsurance Pool. Claims over EUR 250 million and up to a maximum of EUR 2,500 million are covered via a joint liability insurance agreement (Solidarvereinbarung) between the German nuclear power plant operators. This agreement entails one undertaking for two claims in one and the same year. The Vattenfall Group's share of this joint liability insurance is EUR 185.94 million per claim or EUR 371.88 million in total, which is equivalent to SEK 3,419 million.

Vattenfall Reinsurance S.A. in Luxembourg reinsures part

of Vattenfall Insurance's commitments. Economies of scale and direct access to the international reinsurance market mean that overall insurance costs can be kept low.

### Environmental Risk

The companies acquired in Germany and Poland have led to the inclusion in the Vattenfall Group of partially new operations with new environmental profiles and risks. Vattenfall's combined environmental risks are handled in the same way as the Group's other risks, and are analysed and followed up on an ongoing basis. Vattenfall's most significant environmental risks involve emissions of greenhouse gases such as carbon dioxide, and the management of land contaminated by previous operations.

The emissions of climate-affecting carbon dioxide from fossil-fuelled power plants constitute one of the key challenges facing both Vattenfall and the energy sector. Society's elected representatives have put the issue firmly on their agenda, and Vattenfall is addressing this issue by adopting an integrated risk perspective that includes both technical and political aspects. Among other things, Vattenfall has been the driving force behind a project, partly financed by the EU, for large-scale carbon dioxide separation and storage. This project is being conducted in collaboration with some of Vattenfall's major international competitors, including RWE.

Vattenfall owns property contaminated by previous operations which must be decontaminated. An inventory of these sites in Sweden, Germany and Finland has been drawn up. In the German companies, provisions have been made for decontaminating contaminated land and remedial plans have been drawn up in consultation with the authorities concerned. In Poland, site decontamination is included in the investment programme negotiated in conjunction with the acquisition of EW. In 2003, the land surrounding all five plants in Warsaw is to be surveyed for the purpose of identifying contaminated areas. In Sweden, sites exist that were contaminated in connection with the expansion of hydro power in the 1950's and 1960's. A remedial programme for all contaminated land that surrounds the hydro power plants is due to be completed by 2010 at the latest. Vattenfall makes systematic efforts to identify any signs of new environmental discoveries at an early stage with a view to making advance plans for implementing the appropriate measures.

### Political Risk

Political risk is defined as the business risk that may arise as a result of political decisions. This may include uncertainty arising whenever there is a new political majority or a change in monetary or finance policy. In connection with acquisitions and other investments, this type of risk is managed by adjusting the cost of capital in accordance with the prevailing interest rate and country risk trends. There is also another type of political risk involving changes in



the rules applying to the energy sector. Examples include changes to taxes and environmental fees, as well as the regulation of natural monopolies. This type of risk is harder to predict and it is thus harder to protect oneself from such risks. Vattenfall is therefore actively engaged in monitoring trends and keeping in touch with key decision-makers in all relevant markets. Vattenfall is also a member of national and international trade organisations.

## Electricity Trading Risk

### Electricity Price Risk

The price of electricity is governed by supply and demand, as are prices on any other competitive market. The supply of water in the Nordic region is crucial to power production and thus has a major impact on the price of electricity. Demand – and thus the price – is also determined to a considerable extent by outdoor temperatures, since less power is needed to heat homes when the weather is warm.

In Germany and Poland, the price of electricity is highly dependent on the price of coal, partly because coal is used as raw material in the electricity generation process, and partly because access to production is an important factor. As in the Nordic region, demand is determined by the weather.

In order to manage price trend uncertainties, Vattenfall hedges its production and sales with the help of electricity forward contracts or futures, which 'lock in' the price of anticipated production and sales in advance. Electricity futures can be traded on exchanges such as Nord Pool in the Nordic region, EEX in Germany, as well as via bilateral contracts in Poland.

### Area Risk

The Nordic region is divided into different price areas. Limitations in electricity transmission capacity between the various areas lead to discrepancies in supply and demand quotients in the different areas. This in turn leads to price differences between these areas.

A system price is used for trading futures on Nord Pool. This is a weighted price for the various price areas. The hedging of production and sales in Sweden with the

help of futures using a system price results in an area risk.

There are two ways to manage this risk: through area swaps to handle the price difference between the various geographic areas, and through special contracts (STOSEK) for electricity supplied in Sweden in Swedish kronor. Volumes that are hedged through such contracts have no area risk for volumes produced or sold in Sweden in Swedish kronor. In Germany and Poland, this problem does not arise, since there is only one price area.

### Profile Risk

Futures traded on Nord Pool are priced in accordance with an assumed evenness in the level of power consumed during the period in question. Customer consumption patterns, however, do not follow this assumption. Instead, they are characterised by consumption peaks and troughs which make it difficult to hedge the exact level. This phenomenon is known as profile risk. To manage this risk, Vattenfall uses sophisticated measurement methods to estimate customer consumption as accurately as possible. In Germany, there are contracts for regulating both peaks and troughs in consumption, which simplifies the price hedging procedure.

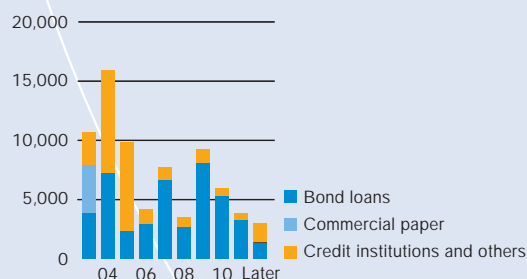
## Financial Risk

### Refinancing Risk

To minimise the refinancing risk, the aim is to achieve an even spread of maturities and a long average remaining maturity in the loan portfolio. The maturity profile of Vattenfall's loans is shown in the diagram below. On December 31, the average remaining maturity was 4 years (3.9). The aim is for the average remaining maturity to exceed 5 years.

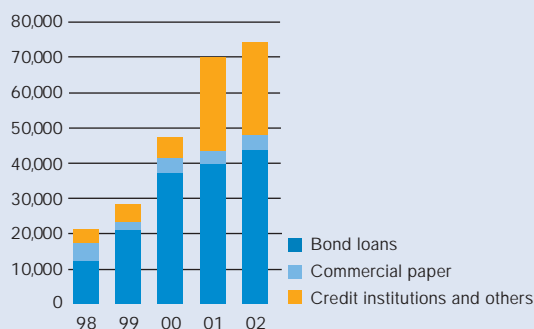
To safeguard the availability of funds and maintain considerable flexibility in the selection of financing periods and forms, the Group has access to a number of different credit lines. There are currently three commercial paper programmes, comprising two Medium Term Note (MTN) programmes and one Polish bond programme. In addition, Vattenfall has more than SEK 27 billion in committed credit lines that partly served as back-up for the commercial

Maturity Profile, SEK million\*



\* Excl. loans from associated companies and minority shareholders.

Total Borrowings, SEK million\*



\* Excl. loans from associated companies and minority shareholders.

paper loan of SEK 4 billion. The distribution of the total borrowings per type of loan is shown in the diagram below.

The Group's target for short-term liquidity is always to have no less than 10 per cent of the Group's sales in the form of liquid assets or committed credit lines.

For long-term and short-term borrowing, Vattenfall has an A-/A-2 rating from Standard & Poor's and an A3/P-2 rating from Moody's. Vattenfall is committed to maintaining a rating in the Single A category.

## Interest Rate Risk

Interest rate risks relating to the Group's long-term borrowings are measured by the average fixed interest rate term. The average fixed interest rate term is not allowed to fluctuate more than 12 months on either side of a certain norm of 2.5 years.

On December 31, 2002, the average fixed interest rate term was 1.8 years.

## Currency Risk

The Group's exposure to currency risk is related to the effects on future cash flows of exchange rate fluctuations (transaction exposure), and to the value of the net assets of non-Swedish subsidiaries (translation exposure).

In the Nordic operations, the greater part of the transaction exposure in NOK arises in connection with the hedging of electricity prices, for example on Nord Pool. As of 2003, new futures will also be listed in EUR. In the German subsidiaries, transaction exposure is primarily in USD and is attributable to fuel purchases. Transaction exposure in the Group's units is hedged by or through Vattenfall Treasury. Vattenfall Treasury, in turn, manages the currency risk within a fixed risk limit for interest rates and currencies. Equity in foreign currency is hedged, the aim being to hedge 100 per cent after tax. The Group's operating income and expenses, broken down by currency, are shown in the table below.

The Group's goal when it comes to managing transaction exposure is to minimise foreign exchange losses while taking into account hedging costs and tax aspects.

Consolidated Operating Income/Expenses per Currency, (%)

Currency	Income	Expenses
EUR	63	67
SEK	32	23
PLN	3	3
NOK	1	1
Other	1	6
<b>Total</b>	<b>100</b>	<b>100</b>

The figures were calculated on the basis of a statistical compilation of external operating income/expenses. Inventory changes and investments are not included.

## Counterparty Risk

Vattenfall is exposed to counterparty risks in connection with electricity trading, investments and derivative contracts. Counterparty risks are managed within the limits set on the basis of external credit ratings. They are monitored on a daily basis and are constantly quantified through mark-to-market valuations, plus a standard mark-up for future value changes.

During the year, several US companies have withdrawn from the European and Nordic markets for a variety of reasons. This has led to a reduction in the number of counterparties on the different markets but has had no impact on Vattenfall's operations,

## Operational Risk

Operational risk is defined as the risk of incurring both financial damage and losses and loss of confidence due to errors or shortcomings in the company's administrative routines. Operational risks can be divided into the following categories:

- Administrative risks that entail a risk of losses due to shortcomings in the company's organisation, unclear or overlapping areas of responsibility and work allocation procedures, and lack of competence, reporting routines, risk measurement and valuation models, as well as control and follow-up routines.
- Legal risks that entail a risk of losses arising from the non-fulfilment of contracts due to shortcomings in documentation, counterparties lacking the right to conclude contracts or uncertainties regarding the contract's validity.
- IT risks that entail a risk of losses due to shortcomings in the IT systems.

Each business unit is responsible for limiting and managing operational risk within Vattenfall by ensuring that well-documented routines, reliable IT systems and satisfactory internal controls are in place.

## Consolidated Income Statement

SEK million	Note	2002	2001
Net sales	1, 2	101,025	69,003
Cost of products sold	4, 5	-77,339	-52,408
<b>Gross profit</b>		<b>23,686</b>	<b>16,595</b>
Selling expenses		-4,386	-3,564
Administrative expenses		-7,179	-5,133
Research and development costs		-486	-616
Other operating income		4,254	5,104
Other operating expenses		-1,869	-2,938
Participations in the results of associated companies	6	-657	511
<b>Operating profit</b>	7	<b>13,363</b>	<b>9,959</b>
Result from other long-term securities held	9	229	259
Other interest income and similar profit/loss items	10	2,781	1,973
Interest expenses and similar profit/loss items,	11	-6,386	-4,737
<b>Profit before tax and minority interest</b>		<b>9,987</b>	<b>7,454</b>
Tax	13	-1,763	-2,167
Minority interest in the profit for the year	14	-658	-1,097
<b>Net profit for the year</b>		<b>7,566</b>	<b>4,190</b>
<b>Earnings per share</b>			
No. of shares (in thousands)		131,700	131,700
Earnings per share, SEK		57.45	31.81
Earnings per share excluding items affecting comparability, SEK		54.91	27.72

## Profit Areas

SEK million	Net sales		Operating profit/loss		Operating profit/loss (EBIT), excluding items affecting comparability			
	2002	2001	2002	2001	Full-year 2002	Full-year 2001	Oct - Dec 2002	Oct - Dec 2001
Generation Nordic Countries	25,667	22,266	6,459	6,099	6,465	5,983	2,652	1,721
Market Nordic Countries	21,275	19,492	286	-511	285	-472	-64	85
Heat Nordic Countries	2,761	2,590	343	162	326	129	215	103
Electricity Networks								
Nordic Countries	7,674	7,924	1,834	1,816	1,828	1,783	658	586
Services	2,974	2,938	118	187	117	151	46	45
Germany	60,696	29,510	4,733	3,886	4,747	3,487	960	1,681
Poland	3,167	3,242	5	97	5	97	47	83
Other business	1,830	2,903	-386	-1,730	-828	-2,290	-271	-940
Other and eliminations*	-25,019	-21,862	-29	-47	-29	-46	5	-22
<b>Total</b>	<b>101,025</b>	<b>69,003</b>	<b>13,363</b>	<b>9,959</b>	<b>12,916</b>	<b>8,822</b>	<b>4,248</b>	<b>3,342</b>

\* Mainly concerns trade between Market Nordic Countries, Electricity Networks Nordic Countries and Generation Nordic Countries.



## Comments

### Net Sales and Performance

Net sales increased by 46 per cent to SEK 101,025 million (69,003). The net sales figure does not include financial trading. The increase in net sales is mainly attributable to the acquisitions in Germany. Bewag was consolidated as of February 1, 2002, VEAG as of May 16, 2001 and LAUBAG as of July 1, 2001.

Operating expenses amounted to SEK 89,390 million, an increase of SEK 27,669 million that is mainly attributable to acquired companies. The cost of products sold increased by SEK 24,931 million, while selling expenses, research and development costs and administrative expenses increased by SEK 2,738 million to SEK 12,051 million. Depreciation totalled SEK 15,118 million (10,830). The dissolution of negative goodwill corresponding to losses and restructuring costs was reported in the gross profit for 2002 in the amount of SEK 3,626 million (2,539), which relates to acquired companies in Germany.

The operating profit increased to SEK 13,363 million (9,959). Excluding items affecting comparability, the operating profit came to SEK 12,916 million (8,822). The operating margin fell to 13.2 per cent (14.4). Excluding items affecting comparability, it remained unchanged at 12.8 per cent. The operating result was positively affected by SEK 447 million (1,137) in items affecting comparability, which constitutes the net of capital gains of SEK 838 million and capital losses of SEK 391 million resulting from assets sold.

Financial income amounted to SEK 3,010 million (2,232) and financial expenses to SEK 6,386 million (4,737).

Net financial income/expenses amounted to SEK -3,376 million (-2,505). The deterioration in net financial income/expenses is due to higher interest expenses as a result of increased borrowing. Net financial income/expenses was also negatively affected by the fall in value of German investment assets. The interest coverage ratio was 2.6 times (2.6).

Profit before tax and minority interest increased by 34 per cent to SEK 9,987 million (7,454) and to SEK 9,521 million (6,327) after items affecting comparability.

Taxes amounted to SEK 1,763 million (2,167).

Net profit for the year increased by 81 per cent to SEK 7,566 million (4,190). Excluding items affecting comparability, these figures were 98 per cent and SEK 7,231 million (3,651) respectively.

The return on net assets was 10.5 per cent (9.9) and the return on equity was 19.1 per cent (11.8). Excluding items affecting comparability, these figures were 10.1 per cent (8.8) and 18.3 per cent (10.3) respectively.

### Profit Areas

#### Generation Nordic Countries

Net sales amounted to SEK 25,667 million (22,226) and operating profit to SEK 6,459 million (6,099). Items affecting comparability amounted to SEK -6 million (116).

The increase is mainly due to higher market prices. A total of 34.5 TWh of hydro power (39.2) and 52.1 TWh of nuclear power (52.3) was generated in the Nordic countries. Sales to the Nord Pool power exchange totalled 27.4 TWh (26.0).

#### Market Nordic Countries

Net sales amounted to SEK 21,275 million (19,492) and the operating profit totalled SEK 286 million (-511). Items affecting comparability amounted to SEK 1 million (-39).

The substantial improvement in the operating profit is primarily due to increased efficiency and improved profits in Swedish electricity trading. The volume sold in accordance with bilateral contracts amounted to 54.5 TWh of electricity (65.5).

#### Heat Nordic Countries

Net sales amounted to SEK 2,761 million (2,590) and the operating profit totalled SEK 343 million (162). Items affecting comparability amounted to SEK 17 million (33). The volume sold amounted to 4.8 TWh of district-heating (4.9) and 1.5 TWh of ready heat (1.4). The improved profit is attributable to high availability in the electricity generation facilities, improved prices and cost reductions.

#### Electricity Networks Nordic Countries

Net sales amounted to SEK 7,674 million (7,924) and the operating profit totalled SEK 1,834 million (1,816). Items affecting comparability amounted to SEK 6 million (33). The transmission volume amounted to 106.9 TWh in Sweden (111.5) and 5.6 TWh in Finland (5.6). The electricity network operations are stable and network availability was good during the year.

#### Services

Services comprise contracting and consulting services, as well as R&D services. Net sales amounted to SEK 2,974 million (2,938) and the operating profit totalled SEK 118 million (187). Items affecting comparability amounted to SEK 1 million (36).

#### Germany

Net sales for Germany amounted to SEK 60,696 million (29,510) and the operating profit totalled SEK 4,733 million (3,886). Items affecting comparability amounted to SEK -14 million (399). The increase is due to the fact that Bewag was consolidated as of February 1, 2002, while the VEAG and LAUBAG companies were only included in the Group as of May 16 and July 1, 2001 respectively. In Germany, the volume of electricity sold amounted to 93.9 TWh (51.7) and the volume of heat sold to 14 TWh (5.1). In Germany own electricity generation amounted to 68.2 TWh (45.0), of which 1 per cent was hydro power, 1 per cent nuclear power and 98 per cent fossil-based power.

#### Poland

Net sales for Poland amounted to SEK 3,167 million (3,242) and the operating profit totalled SEK 5 million (97). In Poland, the volume of electricity sold amounted to 3.3 TWh (3.5) and the volume of heat sold to 11.8 TWh (12.8).

#### Other Business

Other Business comprises Vattenfall's non-core business activities, service companies, Group functions and companies in the Netherlands and the Baltic countries. An agreement regarding the sale of the broadband business, Arrowhead AB, was reached during the year. Net sales amounted to SEK 1,830 million (2,903) and the operating profit totalled SEK -386 million (-1,730). Items affecting comparability amounted to SEK 442 million (560). The substantial negative result in 2001 is mainly due to the wind-up of "intelligent services", as well as to provisions made in respect of the broadband business.

## Consolidated Balance Sheet

SEK million	Note	Dec. 31, 2002	Dec. 31, 2001
<b>Assets</b>			
<b>FIXED ASSETS</b>			
<b>Intangible assets</b>			
Concessions, patents, licences, trademarks and similar rights	15	3,568	546
Renting and similar rights	15	1,856	1,159
Goodwill	15	826	973
Total intangible assets		6,250	2,678
<b>Tangible assets</b>			
Land and buildings	16	35,107	29,970
Plants and machinery	16	141,826	118,726
Equipment, tools, fixtures and fittings	16	1,925	1,637
Construction in progress	16	5,869	8,479
Advance payments for tangible assets	17	245	172
Total tangible assets		184,972	158,984
<b>Financial assets</b>			
Participations in associated companies	18,19	18,042	23,021
Receivables from associated companies	17	1,978	2,184
Other securities held as fixed assets	18,19	1,354	19,449
Other long-term receivables	17	5,054	8,681
Total financial assets		26,428	53,335
Total fixed assets		217,650	214,997
<b>CURRENT ASSETS</b>			
Inventories, etc.	20	7,112	6,567
Current receivables	21	36,041	27,139
Current investments		8,958	6,202
Cash and bank balances		6,515	4,138
Total liquid assets		15,473	10,340
Total current assets		58,626	44,046
<b>Total assets</b>		<b>276,276</b>	<b>259,043</b>
<b>Equity, provisions and liabilities</b>			
<b>Equity</b>			
23			
<b>Restricted equity</b>			
Share capital		6,585	6,585
Equity method reserve		1,077	157
Other restricted reserves		15,218	19,154
<b>Non-restricted equity</b>			
Non-restricted reserves		14,683	9,492
Net profit for the year		7,566	4,190
Total equity		45,129	39,578
Minority interests in equity		9,960	19,080
<b>Provisions</b>			
Long-term interest-bearing liabilities	24	97,578	90,956
Long-term non-interest-bearing liabilities	25	67,158	58,420
Long-term non-interest-bearing liabilities	26	1,588	1,599
Total long-term liabilities		68,746	60,019
<b>Current interest-bearing liabilities</b>			
Current non-interest-bearing liabilities	27	27,582	30,113
Current non-interest-bearing liabilities	28	27,281	19,297
Total current liabilities		54,863	49,410
<b>Total equity, provisions and liabilities</b>		<b>276,276</b>	<b>259,043</b>
Pledged assets	29	3,453	285
Contingent liabilities	30	11,354	10,733
Commitments under consortium agreements	See note 31		

## Comments

### Financial Position

#### Assets

*Tangible assets* increased by SEK 25,998 million to SEK 184,972 million. The increase is largely due to the acquisition of Bewag.

*Participations in associated companies* amounted to SEK 18,042 million, a decrease of SEK 4,979 million. This decrease is mainly attributable to the sale of minority holdings in Denmark and Norway, and to the fact that Bewag, in consequence of the acquisition, has gone from an associated company to a fully consolidated Group company.

*Financial assets* decreased by SEK 26,907 to SEK 26,428 million. This decrease is mainly due to the fact that German investment assets were sold to repay external interest-bearing loans.

*Liquid assets* amounted to SEK 15,473 million (10,340), which corresponds to 15.3 per cent (15.0) of net sales. SEK 4,158 million (22,647) in investment assets at Vattenfall Europe must be added. In 2002, investment assets were reclassified as liquid assets (see Accounting Policies). Liquid assets include investments of SEK 980 million (966) relating to interest arbitrage transactions with refinancing risk, as well as SEK 3,419 million, which is Vattenfall Europe's share of the liability insurance agreement between the German nuclear power plant operators with regard to their commitment pursuant to the German Nuclear Liability Act.

During the year, the average volume of liquid assets was around SEK 23,897 million (8,600). Of this amount, SEK 968 million (1,200) comprised investments relating to interest arbitrage transactions.

#### Equity, Provisions and Liabilities

*Risk capital for the Group*, namely equity including minority interest, amounted to SEK 55,089 million (58,658), which is a decrease of SEK 3,569 million. *Equity* increased by SEK 5,551 million to SEK 45,129 million, while *minority interests in equity* decreased by SEK 9,120 to SEK 9,960, which is mainly due to reduced minority holdings in Vattenfall Europe AG. The equity/assets ratio amounted to 20.0 per cent (22.7). Compared with the third quarter of 2002, this is an improvement of 1.6 per cent.

*Provisions* increased by SEK 6,622 million to SEK 97,578 million (see also Note 24).

*Interest-bearing liabilities* increased by SEK 6,207 to SEK 94,740 million. The increase is mainly attributable to increased borrowing to finance the German acquisitions. SEK 20,693 million of total interest-bearing liabilities relates to liabilities to minority shareholders and associated companies. Net borrowing for the Group amounted to SEK 75,207 million (55,736). Net borrowing fell in the fourth quarter by SEK 4,018 million from SEK 79,225 million.

*Current non-interest-bearing liabilities* increased by SEK 7,984 million to SEK 27,281 million.



## Consolidated Cash Flow Statement

SEK million	2002	2001
<b>Operating activities</b>		
Funds from operation (FFO)**	17,106	13,148
Changes in operating assets and operating liabilities	2,997	-2,706
<b>Cash flow from operating activities</b>	<b>20,103</b>	<b>10,442</b>
<b>Investing activities</b>		
Investments***	-39,932	-43,443
Divestments****	3,683	20,459
<b>Cash flow from investing activities</b>	<b>-36,249</b>	<b>-22,984</b>
<b>Cash flow before financing activities</b>	<b>-16,146</b>	<b>-12,542</b>
<b>Financing activities</b>		
Acquired/sold liquid assets and interest-bearing liabilities, net	-1,373	2,351
Minority share of Group contribution paid	-22	-
Dividend paid	-1,364	-1,784
<b>Cash flow after dividend*</b>	<b>-18,905</b>	<b>-11,975</b>
Net borrowing at the beginning of the year	-55,736	-43,311
Cash flow after dividend	-18,905	-11,975
Exchange rate differences for net borrowing	-566	-450
<b>Net borrowing at the end of the year*****</b>	<b>-75,207</b>	<b>-55,736</b>

### \* Supplementary information

Cash flow after dividend	-18,905	-11,975
Change in interest-bearing receivables and liabilities, net*****	6,914	14,532
Translation differences	-728	240
Reclassification of investment assets as liquid assets	17,852	-
Change in liquid assets	5,133	2,797

\*\* Funds from operation, namely the net profit for the year adjusted for the following items not included in the cash flow.

	2002	2001
Net profit for the year	7,566	4,190
<i>Non-cash items:</i>		
Depreciation	15,118	10,830
Dissolution of negative goodwill	-3,626	-2,539
Unpaid participation in the results of associated companies	739	-903
Unrealised foreign exchange gains	-39	-211
Unrealised foreign exchange losses	15	171
Capital gains	-860	-2,232
Capital losses	394	1,318
Reversal of write-downs/write-downs of shares	-13	113
Change in interest receivable	-124	-53
Change in interest payable	374	120
Change in provisions	-3,224	179
Change in income tax liability	128	-738
Minority interest in profit for the year	658	1,097
	<b>17,106</b>	<b>13,148</b>

Interest paid amounted to SEK 5,822 million (4,468) and interest received amounted to SEK 2,239 million (1,826). Taxes paid amounted to SEK 1,635 million (2,905).

### \*\*\* Investments

	2002	2001
Acquisition of Group companies	24,045	16,675
Investments in associated companies and other long-term securities held	4,574	19,085
Investments in tangible fixed assets	7,975	7,454
Investments in intangible fixed assets	3,338	229
	<b>39,932</b>	<b>43,443</b>

Assets in acquired Group companies primarily comprise fixed assets. See also notes 15, 16 and 18.

### \*\*\*\* Divestments

	2002	2001
Divestment of tangible and intangible fixed assets	1,143	1,938
Divestment of shares and participations	2,540	18,521
	<b>3,683</b>	<b>20,459</b>

## Comments

### Operating Activities

Cash flow from operating activities before changes in operating assets and liabilities increased by SEK 3,958 million to SEK 17,106 million. Cash flow from operating activities amounted to SEK 20,103 million (10,442).

### Investing Activities

The Group's investments amounted to SEK 39,932 million (43,443), of which growth investments, namely company acquisitions and expansion investments in fixed assets, amounted to SEK 30,650 million (38,478). Company acquisitions amounted to SEK 28,619 million (35,760). Acquisitions of Group companies accounted for SEK 24,045 million (16,675), associated companies for SEK 4,176 million (18,186) and other long-term securities for SEK 398 million (899).

SEK 7,975 million (7,454) was invested in tangible fixed assets.

SEK 2,071 million (1,935) was invested in electricity generation facilities and SEK 2,306 million (1,885) in electricity network facilities. Within the heat area – district-heating, ready heat and combined heat and power –

investments amounted to SEK 1,152 million (2,051).

The remaining investments primarily concerned investments in equipment, tools and fixtures and fittings.

Expansion investments in fixed assets amounted to SEK 2,031 million (2,719). Germany and Heat Nordic Countries accounted for the greater part of these.

The Market Nordic Countries, Electricity Networks Nordic Countries and Other Business profit areas mainly accounted for the divestment of tangible fixed assets.

SEK 3,338 million (229) was invested in intangible assets, and the greater part of this amount involves investments in new mining rights in Germany.

### Financing Activities

The net debt, namely interest-bearing debt and provisions minus financial assets and liquid assets, increased by SEK 19,471 million to SEK 75,207 million. The increase is mainly due to borrowing to finance the purchase of US company Mirant's stake in Bewag (44.76 per cent for USD 1,163 million) and the purchase of the City of Hamburg's remaining shares in HEW (25.1 per cent for EUR 869 million).

All public borrowing is handled via Vattenfall Treasury AB under guarantee from Vattenfall AB.

#### \*\*\*\*\* Net borrowing

	Dec. 31, 2002	Dec. 31, 2001
Interest-bearing liabilities and provisions	-94,838	-88,723
Current investment assets (see Note 21)	4,158	4,951
Liquid assets	15,473	10,340
	-75,207	-55,736

#### \*\*\*\*\* Change in interest-bearing receivables and liabilities, net

	2002	2001
Increase in borrowing	26,656	55,193
Repayment of debt	-21,806	-18,014
Acquired interest-bearing liabilities	2,064	-22,647
	6,914	14,532

## Parent Company Income Statement

SEK million	Note	2002	2001
Net sales	1, 3	23,383	21,875
Cost of products sold	4	-16,650	-15,501
<b>Gross profit</b>		<b>6,733</b>	<b>6,374</b>
Selling expenses		-708	-772
Administrative expenses		-1,254	-1,257
Research and development costs		-119	-156
Other operating income		248	790
Other operating expenses		-101	-352
<b>Operating profit</b>	7	<b>4,799</b>	<b>4,627</b>
Result from participations in Group companies	8	-409	-2,626
Result from participations in associated companies	6	21	272
Result from other long-term securities held	9	439	-32
Other interest income and similar profit/loss items	10	1,293	1,152
Interest expenses and similar profit/loss items	11	-2,185	-2,039
Group contributions		2,090	2,646
<b>Profit before appropriations and tax</b>		<b>6,048</b>	<b>4,000</b>
Appropriations	12	115	-874
<b>Profit before tax</b>		<b>6,163</b>	<b>3,126</b>
Tax		-1,649	-1,124
<b>Net profit for the year</b>		<b>4,514</b>	<b>2,002</b>



# Parent Company Income Statement and Balance Sheet

## Parent Company Balance Sheet

SEK million	Note	Dec. 31, 2002	Dec. 31, 2001
<b>Assets</b>			
<b>FIXED ASSETS</b>			
<b>Intangible assets</b>			
Concessions, patents, licences, trademarks and similar rights	15	34	96
Renting and similar rights	15	569	593
Goodwill	15	—	1
<b>Total intangible assets</b>		<b>603</b>	<b>690</b>
<b>Tangible assets</b>			
Land and buildings	16	11,640	11,676
Plants and machinery	16	6,795	5,798
Equipment, tools, fixtures and fittings	16	49	52
Construction in progress	16	221	825
<b>Total tangible assets</b>		<b>18,705</b>	<b>18,351</b>
<b>Financial assets</b>			
Participations in Group companies	18,19	38,093	31,659
Receivables from Group companies	17	4,187	2,525
Participations in associated companies	18,19	2,687	2,692
Receivables from associated companies	17	1,932	1,837
Other securities held as fixed assets	18,19	82	802
Other long-term receivables	17	173	850
<b>Total financial assets</b>		<b>47,154</b>	<b>40,365</b>
<b>Total fixed assets</b>		<b>66,462</b>	<b>59,406</b>
<b>CURRENT ASSETS</b>			
Inventories, etc.	20	65	49
Current receivables	21	16,077	17,029
Cash and bank balances	22	3,313	124
<b>Total current assets</b>		<b>19,455</b>	<b>17,202</b>
<b>Total assets</b>		<b>85,917</b>	<b>76,608</b>
<b>Equity, provisions and liabilities</b>			
<b>Equity</b>			
23			
<b>Restricted equity</b>			
Share capital (131,700,000 shares at a par value of SEK 50 each)		6,585	6,585
Statutory reserve		1,317	1,316
<b>Non-restricted equity</b>			
Profit brought forward		5,197	6,367
Net profit for the year		4,514	2,002
<b>Total equity</b>		<b>17,613</b>	<b>16,270</b>
<b>Untaxed reserves</b>	12	<b>11,320</b>	<b>11,065</b>
<b>Provisions</b>	24	<b>142</b>	<b>139</b>
<b>Long-term interest-bearing liabilities</b>			
Long-term interest-bearing liabilities	25	35,926	25,937
Long-term non-interest-bearing liabilities	26	3,690	3,514
<b>Total long-term liabilities</b>		<b>39,616</b>	<b>29,451</b>
<b>Current interest-bearing liabilities</b>			
Current interest-bearing liabilities	27	8,071	4,725
Current non-interest-bearing liabilities	28	9,155	14,958
<b>Total current liabilities</b>		<b>17,226</b>	<b>19,683</b>
<b>Total equity, provisions and liabilities</b>		<b>85,917</b>	<b>76,608</b>
Pledged assets	29	3,273	—
Contingent liabilities	30	82,934	77,918
Commitments under consortium agreements	31		

## Parent Company Cash Flow Statement

SEK million	2002	2001
<b>Operating activities</b>		
Net profit for the year	4,514	2,002
Adjustments for the effects of items not included in the cash flow	-482	6,187
Cash flow from operating activities before changes in operating assets and liabilities (FFO)	4,032	8,189
Cash flow from changes in operating assets and liabilities	-1,291	3,701
<b>Cash flow from operating activities</b>	<b>2,741</b>	<b>11,890</b>
<b>Investing activities</b>		
Investments in Group companies, associated companies and other long-term securities	-7,611	-18,411
Investments in tangible and intangible fixed assets	-512	-809
Divestment of tangible fixed assets	96	353
Divestment of shares and participations	1,422	4,565
<b>Cash flow from investing activities</b>	<b>-6,605</b>	<b>-14,302</b>
<b>Cash flow before financing activities</b>	<b>-3,864</b>	<b>-2,412</b>
<b>Financing activities</b>		
Loans raised	8,083	3,403
Dividend paid	-1,030	-990
<b>Cash flow from financing activities</b>	<b>7,053</b>	<b>2,413</b>
<b>Cash flow for the year</b>	<b>3,189</b>	<b>1</b>
<b>Liquid assets</b>		
Liquid assets at the beginning of the year	124	123
Cash flow for the year	3,189	1
<b>Liquid assets at the end of the year</b>	<b>3,313</b>	<b>124</b>

Interest paid amounted to SEK 2,086 million (2,015) and interest received amounted to SEK 1.011 million (1,116).  
Tax paid amounted to SEK 1,215 million (1,385).

## Accounting Policies and Valuation Principles

### General

The consolidated accounts have been prepared in accordance with the Swedish Annual Accounts Act and the Swedish Financial Accounting Standards Council's recommendations have been applied.

From 2002, the following new recommendations, issued by the Swedish Financial Accounting Standards Council, are being applied: RR1:00 Consolidated Financial Statements, RR15 Intangible Assets, RR16 Provisions, Contingent Liabilities and Contingent Assets, RR17 Write-downs, RR19 Winding up Operations, RR21 Loan Costs and RR23 Details concerning Close Associates. None of the new recommendations have led to any significant impact on Vattenfall's accounting policies compared with the previous year.

During 2003, six new recommendations issued by the Swedish Financial Accounting Standards Council will be coming into effect. These recommendations (RR22 Formulation of Financial Reports, RR24 Buildings Held for Investment Purposes, RR25 Reporting for Segments – Lines of Business and Geographic Areas, RR26 Events after the Balance Sheet Date, RR27 Financial Instruments: Information and Classification, and RR 28 Government Support) are not expected to have any significant impact on the Vattenfall Group's balance sheet or income statement.

Investment assets in German Group companies reported on December 31, 2001 under Current receivables (SEK 377 million) and Other long-term securities held (SEK 17,475 million), were reclassified as of June 30, 2002 as Current investments.

### Consolidated Accounts

The consolidated accounts include the parent company and companies in which Vattenfall held more than 50 per cent of the voting power or in any other way had a controlling influence at the end of the year.

The consolidated accounts have been prepared using the purchase accounting method. This means that the Group's equity only includes that portion of the subsidiary's equity earned after the acquisition date. In connection with acquisitions, a market valuation is made of the acquired company's assets and liabilities. Deferred tax is taken into account in the surplus values except for water rights, which are also not amortised. Remaining differences in relation to the acquisition price are reported as goodwill or negative goodwill. Negative goodwill relates to anticipated losses, restructuring costs and other expenses that cannot be reported as identifiable liabilities at the time of acquisition. Negative goodwill

is attributable to the acquired business operations in Germany. Extensive restructuring work is currently under way in Germany and is due to be completed in 2005. Negative goodwill is dissolved as and when restructuring costs arise. Vattenfall's assessment is that remaining restructuring costs can be accommodated within the reported negative goodwill. Negative goodwill is reported as a provision in the consolidated balance sheet.

During the year, acquired companies were included in the consolidated income statement from the time of acquisition. Divested companies are included in the consolidated income statement up to the time of divestment.

Inter-company profits on sales between Group companies are eliminated, taking into account deferred tax.

Holdings in associated companies are accounted for in accordance with the equity method, which means that in the consolidated balance sheet, the book value of the shareholding is adjusted by Vattenfall's participation in the company's result after tax minus the amortisation of surplus values.

For practical reasons, the results of associated companies are in certain cases included in Vattenfall's accounts after a slight delay.

### Foreign Currencies

When preparing the consolidated accounts, all items in the income statements of non-Swedish subsidiaries are translated into SEK at the average exchange rate for the financial year (average rates). All subsidiaries conduct independent business activities. All balance-sheet items, apart from the net profit/loss for the year, are therefore translated at the exchange rates prevailing at year-end (closing rates). The differences arising from the translation of balance sheets are reported directly against equity. The difference arising in the consolidated balance sheet from the translation of a non-Swedish subsidiary's net profit/loss into SEK on the basis of the average exchange rate affects the Group's non-restricted reserves. From time to time, Vattenfall raises loans and performs currency swaps in foreign currencies to protect the Group's net investments in non-Swedish companies. Exchange rate differences relating to these loans are handled in the same way as translation differences and transferred to the Group's equity.

Receivables and liabilities (including provisions) in foreign currencies are valued at the closing rate in the accounts of the individual Group companies, as well as in the consolidated accounts. When hedging, the spot exchange rate on the date that the currency was hedged is used in the valuation of the underlying receivable or liability.



## Key Exchange Rates Applied in the Consolidated Accounts

Country	Currency	Average rates		Closing rates	
		2002	2001	Dec. 31, 2002	Dec. 31, 2001
Euro	EUR	9.1552	9.2629	9.1930	9.4190
Denmark	DKK	1.2320	1.2432	1.2375	1.2665
Norway	NOK	1.2180	1.1489	1.2595	1.1835
Poland	PLN	2.3923	2.5069	2.3000	2.6900
USA	USD	9.7232	10.3467	8.8250	10.6680

## Net Sales - Accounting for Income

Operating income is reported at the time of delivery, excluding value-added tax and indirect taxes, primarily energy tax. Connection fees, namely the fee paid by a customer when he or she is connected to the electricity network, are carried as revenue at the time of connection. Consulting and contracting services are performed on a cost plus and fixed price basis. The percentage of completion method is applied to fixed price work. Where losses are anticipated, provisions for such losses are made in the accounts, valued at the company's cost price.

## Energy Derivatives

Vattenfall is an active participant on the energy derivative market in Scandinavia through its trading on Nord Pool, in Northern Europe through the marketplaces in Leipzig and Amsterdam and on the European OTC market through bilateral contracts. Trading conducted for the purpose of hedging price risks in generation or sales volumes is reported as a gross figure in accordance with the delivery periods of the underlying physical contract.

Other trading transactions are reported in accordance with the prudence principle, whereby gains are reported when realised and losses are reported when incurred. Financial instruments held for trading purposes are reported as a net figure in the income statement. The value of concluded agreements is monitored via daily "mark - to market" valuations.

## Depreciation and Amortisation

Depreciation is based on the acquisition value and is calculated on a straight-line basis over the estimated useful life of an asset. Depreciation is distributed according to function in the income statement. Furthermore, accelerated depreciation is reported by the parent company under appropriations and under untaxed reserves.

## Depreciation Rates (years)

	Machinery and equipment	Buildings	Land improvements
Properties	30	25-50	25
Hydro power plants	40	50	25
Thermal power plants*	25	25	25
Gas pipelines	20	-	-
Power lines and transformer stations**	30	30	30
Machinery, etc. for mining	5-20	-	-
Equipment, etc.	3-10	-	-

\* 15 years for maintenance investments in nuclear power plants.

\*\* 25-35 years for local distribution networks.

Intangible fixed assets are amortised over the estimated useful life of each asset, and taking account, where relevant, of the length of the underlying contract. Goodwill acquired before 1997 is amortised over no more than 10 years while goodwill acquired in 1997 and after is amortised over no more than 5 years.

## Intangible Fixed Assets

Intangible fixed assets include concessions, patents, licences, trademarks, renting rights and goodwill. These assets are valued at cost (acquisition value) less accumulated depreciation. The need for write-downs is assessed on an ongoing basis.

The Group's expenses for development do not meet the criteria for writing off intangible assets. These development expenses are written off as they arise in a manner similar to research expenses.

## Tangible Fixed Assets

Tangible fixed assets are valued at cost (acquisition value) adjusted for revaluation less accumulated depreciation. The need for write-downs is assessed on an ongoing basis. Revaluations are reported taking into account deferred tax.

With regard to the leasing of assets via finance leases/rental agreements that are of significant value, the assets are written off and reported as acquisitions of tangible fixed assets. The corresponding liabilities are reported under Other current liabilities and Other long-term liabilities.

## Inventories, etc.

Inventories are valued at the lower of cost or net realisable value in accordance with the first-in/first-out principle. The consumption of nuclear fuel is calculated as a depletion of the energy content of the fuel rods and is based on the cost of each batch of fuel loaded into the core. The value of the energy stored in the form of water in reservoirs is not reported as an asset.

## Work in Progress

Work in progress is valued as the direct costs actually incurred, plus a reasonable proportion of indirect costs. Bad debts are immediately written off in their entirety irrespective of the degree of completion of the contract in question.

## Receivables

Receivables are reported in the amount likely to be received.

## Current Investments

Current investments include bonds, commercial paper and other interest-bearing financial instruments. These investments are valued at the lower of cost and market on the balance sheet date. Unrealised losses are set off against unrealised gains. Where losses exceed gains, the net amount is reported in the income statement. Where gains exceed losses, the surplus is not included in income.

## Provisions for Pensions

Pension commitments with regard to pensions in Swedish Group companies are calculated in accordance with standard Swedish actuarial methods. The provision reported in the balance sheet corresponds to these commitments reported as a net figure against available capital in a special pension fund.

The majority of the pension commitments for the companies acquired in Germany in 2001 and 2002 are benefit-based. There are also premium-based commitments in the German companies. The provision reported in the balance sheet for German Group companies is reported as a net figure against available capital in a separate so-called Superannuation Fund (Pensionkasse).

The pension provisions for the German companies were calculated on an actuarial basis in accordance with the Projected Unit Credit Method, IAS 19.

## Other Provisions

Other provisions are liabilities where the maturity or size of the amount is uncertain. Provisions are made for known commitments or probable risks based on an assessment in each case. Provisions are made according to the estimated present value of the commitments on the balance sheet date. In addition to provisions for pension commitments, provisions are, for example, made in Germany by the companies themselves for future nuclear waste management expenses. The Swedish power plants do not make corresponding provisions. Instead, they pay a fee to the Nuclear Waste Fund for future nuclear waste management expenses.

## Taxes

The Group's tax expense is estimated as the sum of the year's current tax and the year's change in deferred tax assets and liabilities. Deferred tax means that the temporary differences that sometimes exist with respect to the time of taxation and the measurement of certain events between tax legislation and generally accepted accounting principles must be taken into account. Temporary differences may thus arise between taxable profit and reported profit, as well as between the value of assets and liabilities for tax assessment purposes and their reported value. A deferred tax liability is reported in cases where recovery or settlement of the amount will lead to future tax payments. A deferred tax asset is reported in cases where recovery or settlement will lead to a reduction in future taxes. Deferred tax assets and liabilities are valued at the tax rate applying on the balance sheet date in the relevant country without discounting. Temporary differences attributable to loss carry-forwards are only taken into account in cases where it is likely that such loss carry-forwards can be used within the foreseeable future.

Tax legislation in Sweden and in certain other countries allows companies to defer tax payment by making provisions to untaxed reserves. In the Vattenfall AB parent company, untaxed reserves are reported as a separate item in the balance sheet that includes deferred tax. In the parent company's income statement, provisions to untaxed reserves and dissolution of untaxed reserves are reported under the heading Appropriations. The reported tax expense to the Vattenfall AB parent company consists of tax on the profit after appropriations.

## Notes

Amounts are stated in SEK million unless otherwise specified.

### Note 1 - Net sales

	Group		Parent company	
	2002	2001	2002	2001
Sales including indirect taxes	106,248	71,570	25,056	22,880
Indirect taxes	-5,223	-2,567	-1,673	-1,005
<b>Net sales</b>	<b>101,025</b>	<b>69,003</b>	<b>23,383</b>	<b>21,875</b>

#### Net sales by profit area

	Group		Parent company	
	2002	2001	2002	2001
Generation Nordic Countries	25,667	22,266	22,704	19,665
Market Nordic Countries	21,275	19,492	24,410	25,596
Heat Nordic Countries	2,761	2,590	1,264	891
Electricity Networks Nordic Countries	7,674	7,924	65	24
Services	2,974	2,938	29	27
Germany	60,696	29,510	—	—
Poland	3,167	3,242	—	—
Other Business	1,830	2,903	86	855
Other and eliminations	-25,019	-21,862	-25,175	-25,183
<b>Total</b>	<b>101,025</b>	<b>69,003</b>	<b>23,383</b>	<b>21,875</b>

Of the Group's net sales, sales in Sweden accounted for 33 per cent (42), in Germany for 60 per cent (43), in Poland for 3 per cent (5) and in the rest of the world for 4 per cent (10).

### Note 2 - Income from contracting

During the year, income from contract work amounted to SEK 586 million (503). Total expenditure for contract work and reported gains (less deductions for reported losses) for work in progress on the balance sheet date amounted to SEK 416 million (66). Related advance payments amounted to SEK 16 million (17).

SEK 243 million (20) in expenditure for contract work and reported gains (less deductions for reported losses) is reported as an asset in the balance sheet.

### Note 3 - Intra-Group transactions

Of the parent company's total income from sales and total purchase costs, transactions with Group companies accounted for 13 per cent (14) of sales and 48 per cent (47) of purchase costs.

### Note 4 - Cost of products sold

Direct costs include SEK 4,672 million (3,312) in production taxes and duties for the Group and SEK 155 million (229) for the parent company, as well as SEK 327 million (555) in property taxes for the Group and SEK 275 million (275) for the parent company. The costs also include a total of SEK 1,529 million (1,400) in interest relating to annual pension costs, nuclear power provisions and other provisions in the German companies.

### Note 5 - Cost of nuclear waste management

	Group	
	2002	2001
Fees to Nuclear Waste Fund		
– own high-level waste*	479	525
– SVAFO**	79	79
Provisions for future expenses of managing low- and intermediate-level waste	70	69
<b>Total</b>	<b>628</b>	<b>673</b>

\* According to the Act (1995:1544) on the Financing of Future Expenses of Spent Nuclear Fuel etc., the holder of a licence to own or operate a nuclear reactor in Sweden must, as long as the reactor is in operation, pay an annual fee to finance the management of spent nuclear fuel and other radioactive waste. The fee is paid into the Nuclear Waste Fund and is based on the energy delivered by the reactor. The Fund reimburses these fees as and when the nuclear power company incurs costs for (a) the treatment and final disposal of spent fuel and radioactive waste from its reactors, after the fuel and waste have been removed from the reactors, (b) the decommissioning and dismantling of the unit, and (c) the research and development necessary in order to fulfil the obligations in (a) and (b).

During 2002, SEK 740 million (588) was disbursed from the Fund in respect of costs for which the Vattenfall Group is liable. On December 31, the market value of the Vattenfall Group's share of the Fund was SEK 23,011 million (20,676).

\*\* According to the Act (1988:1597, latest amendment, 1995:1545) on the Financing of the Management of Certain Radioactive Waste etc., the holder of a licence to own and operate a nuclear reactor in Sweden must pay a fee as a contribution to the activities conducted at Studsvik AB relating to the development of the Swedish nuclear power programme. This fee is also based on the energy delivered from the reactor and is paid into and administered by the Nuclear Waste Fund.

### Note 6 - Participations in the results of associated companies

	Group		Parent company	
	2002	2001	2002	2001
Share of profits	-657	264	—	—
Dividends	—	—	13	15
Capital gains/losses on divestments	—	247	8	257
<b>Total</b>	<b>-657</b>	<b>511</b>	<b>21</b>	<b>272</b>



## Note 7 - Depreciation

	Group		Parent company	
	2002	2001	2002	2001
Cost of products sold	14,662	10,374	706	617
Selling expenses	86	179	17	10
Administrative expenses	366	271	2	2
Research and development costs	4	6	–	–
<b>Total</b>	<b>15,118</b>	<b>10,830</b>	<b>725</b>	<b>629</b>

## Note 8 - Result from participations in Group companies

	Parent company	
	2002	2001
Dividends*	523	4,719
Write-downs*	–935	–5,113
Capital gains/losses on divestments	3	–2,232
<b>Total</b>	<b>–409</b>	<b>–2,626</b>

\* The amount includes a repaid shareholder's contribution of SEK 0 million (3,612), which was previously reported as an asset.

## Note 9 - Result from other long-term securities held

	Group		Parent company	
	2002	2001	2002	2001
Dividends	104	227	5	10
Yield from German investment funds	–	129	–	–
Write-downs	–17	–89	–	–26
Reversal of write-downs	24	2	–	–
Capital gains/losses on divestments	118	–10	434	–16
<b>Total</b>	<b>229</b>	<b>259</b>	<b>439</b>	<b>–32</b>

## Note 10 - Other interest income and similar profit/loss items

	Group		Parent company	
	2002	2001	2002	2001
Interest income	2,363	1,880	1,011*	1,116*
Foreign exchange gains	418	93	282	36
<b>Total</b>	<b>2,781</b>	<b>1,973</b>	<b>1,293</b>	<b>1,152</b>

\* Interest income from subsidiaries amounts to SEK 680 million (481). Operations-related foreign exchange gains for the Group amount to SEK 478 million (537).

## Note 11 - Interest expenses and similar profit/loss items

	Group		Parent company	
	2002	2001	2002	2001
Interest expenses	6,196	4,588	2,086*	2,015*
Foreign exchange losses	190	149	99	24
<b>Total</b>	<b>6,386</b>	<b>4,737</b>	<b>2,185</b>	<b>2,039</b>

See also Note 4 concerning interest relating to provisions in the German companies.

\* Interest expenses to subsidiaries amount to SEK 1,958 million (1,848). Operations-related foreign exchange losses for the Group amount to SEK 111 million (348).

## Note 12 - Appropriations and untaxed reserves

Parent company 2002	Opening balance	Transfer to /from (–)	Merged companies	Closing balance
Accelerated depreciation	6,368	–147	361	6,582
1997 tax allocation reserve	931	–931	–	0
1998 tax allocation reserve	715	–	–	715
1999 tax allocation reserve	382	–	1	383
2000 tax allocation reserve	841	–	1	842
2001 tax allocation reserve	463	–	1	464
2002 tax allocation reserve	1,365	–	6	1,371
2003 tax allocation reserve	–	963	–	963
<b>Total</b>	<b>11,065</b>	<b>–115</b>	<b>370</b>	<b>11,320</b>

The following changes occurred in untaxed reserves in 2002: SEK –128 million in accelerated depreciation was dissolved, SEK –363 for the 1996 tax allocation reserve was dissolved and SEK 1,365 million was transferred to the 2002 tax allocation reserve.

## Note 13 - Taxes

Profit before taxes and minority interest in profit for the year amounted to:

	Group	
	2002	2001
Sweden, Group companies	6,537	3,889
Sweden, associated companies	33	-289
Other countries, Group companies	4,107	3,054
Other countries, associated companies	-690	800
<b>Total</b>	<b>9,987</b>	<b>7,454</b>

The reported tax expense is allocated as follows:

	Group	
	2002	2001
<b>Current tax</b>		
Sweden	1,089	1,221
Other countries	-1,891	1,881
<b>Deferred tax</b>		
Sweden	250	-373
Other countries	2,315	-562
<b>Total</b>	<b>1,763</b>	<b>2,167</b>

The year's current tax expense attributable to profit for previous years amounts to SEK -1,508 million (-138).

The difference between the nominal Swedish tax rate and the effective tax rate is explained as follows:

Per cent	Group	
	2002	2001
Swedish income tax rate	28.0	28.0
Difference in tax rate in non-Swedish operations	4.1	13.5
Adjustment of tax for previous periods	-9.4	-1.9
Value adjustment of loss carry-forwards	-0.6	5.8
Non-deductible expenses and non-taxable income, net	6.0	-0.1
Dissolutions of negative goodwill and depreciation of goodwill, net	-12.9	-14.8
Other	2.5	-1.4
<b>Effective tax rate*</b>	<b>17.7</b>	<b>29.1</b>
<b>Tax rate, current tax**</b>	<b>-8.0</b>	<b>41.6</b>

\* Tax expense in accordance with the consolidated income statement in relation to profit before tax and minority interest.

\*\* Tax expense in accordance with the consolidated income statement excluding reported deferred tax in relation to profit before tax and minority interest.

Accumulated tax loss carry-forwards are allocated as follows:

	Group	
	2002	2001
Sweden	395	1,000
Other countries	341	7,016
<b>Total</b>	<b>736</b>	<b>8,016</b>

The reduction in the reported amounts is due to the fact that it has been possible to use tax loss carry-forwards in 2002.

The deferred tax liability and deferred tax assets refer to the following balance sheet items:

	Group	
	2002	2001
<b>Deferred tax liability</b>		
Fixed assets	32,881	27,819
Current receivables	51	11
Provisions and long-term liabilities	1,199	1,115
Current liabilities	279	-20
Loss carry-forwards, etc.	-	-33
<b>Total</b>	<b>34,410</b>	<b>28,892</b>

	Group	
	2002	2001
<b>Deferred tax assets</b>		
Fixed assets	272	864
Current receivables	855	153
Provisions and long-term liabilities	1,939	2,079
Current liabilities	94	124
Loss carry-forwards, etc.	122	2,915
<b>Total</b>	<b>3,282</b>	<b>6,135</b>

## Note 14 - Minority interest in profit before tax

	Group	
	2002	2001
Minority interest in profit before tax	720	1,375
Minority interest in tax	-62	-278
<b>Total</b>	<b>658</b>	<b>1,097</b>

## Note 15 - Intangible fixed assets

	Concessions and similar rights		Renting and similar rights		Goodwill		Total	
	2002	2001	2002	2001	2002	2001	2002	2001
<b>GROUP</b>								
<b>Acquisition values</b>								
Acquisition values brought forward	2,489	1,050	1,878	1,688	2,264	2,389	6,631	5,127
Companies acquired	501	1,447	2,508	183	248	1,215	3,257	2,845
Investments	3,330	62	8	76	—	90	3,338	228
Sales/Disposals	-103	-92	-203	-2	-338	-188	-644	-282
Reclassifications	12	-4	-150	-9	-12	140	-150	127
Companies sold	—	—	—	-69	—	-1,497	—	-1,566
Translation difference	-8	26	-3	11	-124	115	-135	152
<b>Accumulated acquisition values carried forward</b>	<b>6,221</b>	<b>2,489</b>	<b>4,038</b>	<b>1,878</b>	<b>2,038</b>	<b>2,264</b>	<b>12,297</b>	<b>6,631</b>
<b>Accumulated depreciation according to plan</b>								
Depreciation brought forward	-1,943	-538	-719	-597	-1,291	-999	-3,953	-2,134
Companies acquired	-351	-373	-1,548	-44	—	-32	-1,899	-449
Depreciation for the year	-346 *	-1,038 *	-124 **	-86 **	-315	-492	-785	-1,616
Sales/Disposals	99	13	197	—	338	162	634	175
Companies sold	—	—	—	3	—	105	—	108
Translation difference	-112	-7	12	5	56	-35	-44	-37
<b>Accumulated depreciation carried forward</b>	<b>-2,653</b>	<b>-1,943</b>	<b>-2,182</b>	<b>-719</b>	<b>-1,212</b>	<b>-1,291</b>	<b>-6,047</b>	<b>-3,953</b>
<b>Residual value according to plan carried forward</b>	<b>3,568</b>	<b>546</b>	<b>1,856</b>	<b>1,159</b>	<b>826</b>	<b>973</b>	<b>6,250</b>	<b>2,678</b>
<b>PARENT COMPANY</b>								
<b>Acquisition values</b>								
Acquisition values brought forward	340	198	789	789	13	—	1,142	987
Merged plants	—	—	26	—	—	—	26	—
Investments	1	142	—	—	—	13	1	155
Sales/Disposals	—	—	-2	—	—	—	-2	—
<b>Accumulated acquisition values carried forward</b>	<b>341</b>	<b>340</b>	<b>813</b>	<b>789</b>	<b>13</b>	<b>13</b>	<b>1,167</b>	<b>1,142</b>
<b>Accumulated depreciation according to plan</b>								
Depreciation brought forward	-244	-197	-196	-165	-12	—	-452	-362
Merged plants	—	—	-16	—	—	—	-16	—
Accumulated depreciation of fixed assets purchased from Group companies	—	-44	—	—	—	-11	—	-55
Depreciation for the year	-63	-3	-34	-31	-1	-1	-98	-35
Sales/Disposals	—	—	2	—	—	—	2	—
<b>Accumulated depreciation carried forward</b>	<b>-307</b>	<b>-244</b>	<b>-244</b>	<b>-196</b>	<b>-13</b>	<b>-12</b>	<b>-564</b>	<b>-452</b>
<b>Residual value according to plan carried forward</b>	<b>34</b>	<b>96</b>	<b>569</b>	<b>593</b>	<b>0</b>	<b>1</b>	<b>603</b>	<b>690</b>
Accumulated accelerated depreciation	-34	—	-569	-590	—	—	-603	-590
<b>Book value</b>	<b>0</b>	<b>96</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>100</b>

\* Including write-downs of SEK 117 million (587).

\*\* Including write-downs of SEK 0 million (2).



## Note 16 - Tangible fixed assets

	Land and buildings		Plants and machinery		Equipment, tools, fixtures and fittings		Construction****		Total	
	2002	2001	2002	2001	2002	2001	2002	2001	2002	2001
<b>GROUP</b>										
<b>Acquisition values</b>										
Acquisition values brought forward**	49,941	30,964	246,887	92,676	8,255	4,085	8,493	2,958	313,576	130,683
Companies acquired	15,677	19,417	66,082	148,746	1,734	4,588	922	5,331	84,415	178,082
Investments***	353	207	2,309	1,023	630	383	4,771	5,122	8,063	6,735
Transfer from construction in progress	570	417	7,340	4,660	98	70	-8,008	-5,147	0	0
Sales/Disposals	-689	-1,113	-5,446	-3,219	-516	-612	-98	-39	-6,749	-4,983
Reclassifications	-451	-295	282	50	-100	-1	-9	117	-278	-129
Companies sold	-	-40	-	-1,802	-	-46	-	-39	-	-1,927
Translation differences	-973	384	-4,988	4,753	-415	-212	-201	190	-6,577	5,115
<b>Accumulated acquisition values carried forward</b>	<b>64,428 *</b>	<b>49,941 *</b>	<b>312,466</b>	<b>246,887</b>	<b>9,686</b>	<b>8,255</b>	<b>5,870</b>	<b>8,493</b>	<b>392,450</b>	<b>313,576</b>
<b>Accumulated depreciation according to plan</b>										
Depreciation brought forward	-18,987	-11,750	-126,830	-48,701	-6,581	-3,148	-	-	-152,398	-63,599
Companies acquired	-8,499	-6,124	-37,787	-71,161	-1,333	-3,551	-	-	-47,619	-80,836
Depreciation for the year	-1,619	-1,105	-10,639	-7,377	-745	-596	-	-	-13,003	-9,078
Sales/Disposals	290	370	4,619	1,781	481	530	-	-	5,390	2,681
Reclassifications	18	13	-132	-127	75	4	-	-	-39	-110
Companies sold	-	14	-	1,399	-	28	-	-	-	1,441
Translation differences	430	-405	2,789	-2,644	392	152	-	-	3,611	-2,897
<b>Accumulated depreciation carried forward</b>	<b>-28,367</b>	<b>-18,987</b>	<b>-167,980</b>	<b>-126,830</b>	<b>-7,711</b>	<b>-6,581</b>	<b>-</b>	<b>-</b>	<b>-204,058</b>	<b>-152,398</b>
<b>Revaluations</b>										
Revaluations brought forward	154	150	14	795	-	-	-	-	168	945
Write-downs for the year of previous revaluations	-	-1	-	-26	-	-	-	-	-	-27
Other changes	-	-4	-1	1	-	-	-	-	-1	-3
Companies sold	-	-	-	-756	-	-	-	-	-	-756
Translation differences	-4	9	-	-	-	-	-	-	-4	9
<b>Accumulated revaluations carried forward, net</b>	<b>150</b>	<b>154</b>	<b>13</b>	<b>14</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>163</b>	<b>168</b>
<b>Write-downs</b>										
Write-downs brought forward	-1,138	-	-1,345	-	-37	-	-14	-	-2,534	-
Companies acquired	-	-1,024	-	-964	-	-36	-	-1	-	-2,025
Write-downs for the year	-27	-162	-1,297	-369	-6	-1	-	-12	-1,330	-544
Sales/Disposals	35	70	-72	8	1	-	-	-	-36	78
Other changes	1	-	16	-	-9	-	13	-1	21	-1
Translation differences	25	-22	25	-20	1	-	-	-	51	-42
<b>Write-downs carried forward</b>	<b>-1,104</b>	<b>-1,138</b>	<b>-2,673</b>	<b>-1,345</b>	<b>-50</b>	<b>-37</b>	<b>-1</b>	<b>-14</b>	<b>-3,828</b>	<b>-2,534</b>
<b>Residual value according to plan carried forward</b>	<b>35,107</b>	<b>29,970</b>	<b>141,826</b>	<b>118,726</b>	<b>1,925</b>	<b>1,637</b>	<b>5,869</b>	<b>8,479</b>	<b>184,727</b>	<b>158,812</b>

\* Includes an acquisition value for land and water rights amounting to SEK 15,446 million (13,032), which cannot be depreciated.

\*\* Government grants received, opening balance: SEK 4,426 million (3,416).

\*\*\* Government grants received during the year: SEK 256 million (1,009).

\*\*\*\* During the year, interest during the construction period has been reported as an asset in the amount of SEK 271 million (130).

# Notes to the Accounts

Cont'd

	Land and buildings		Plants and machinery		Equipment, tools, fixtures and fittings		Construction in progress		Total	
	2002	2001	2002	2001	2002	2001	2002	2001	2002	2001
<b>PARENT COMPANY</b>										
<b>Acquisition values</b>										
Acquisition values brought forward**	16,434	16,447	11,262	11,117	198	230	825	560	28,719	28,354
Merged plants	41	–	994	–	8	–	26	–	1,069	–
Investments	33	2	148	16	29	13	420	678	630	709
Transfer from construction in progress	178	88	845	325	–	–	–1,023	–413	0	0
Sales/Disposals	–25	–103	–244	–196	–43	–45	–	–	–312	–344
Reclassifications	–	–	–	–	–	–	–27	–	–27	–
<b>Accumulated acquisition values carried forward</b>	<b>16,661 *</b>	<b>16,434 *</b>	<b>13,005</b>	<b>11,262</b>	<b>192</b>	<b>198</b>	<b>221</b>	<b>825</b>	<b>30,079</b>	<b>28,719</b>
<b>Accumulated depreciation according to plan</b>										
Depreciation brought forward	–4,758	–4,576	–5,464	–5,259	–146	–169	–	–	–10,368	–10,004
Merged plants	–11	–	–482	–	–8	–	–	–	–501	–
Depreciation for the year	–243	–239	–370	–339	–14	–16	–	–	–627	–594
Sales/Disposals	11	57	166	134	41	39	–	–	218	230
Accumulated depreciation of fixed assets purchased from Group companies	–20	–	–60	–	–16	–	–	–	–96	–
<b>Accumulated depreciation brought forward</b>	<b>–5,021</b>	<b>–4,758</b>	<b>–6,210</b>	<b>–5,464</b>	<b>–143</b>	<b>–146</b>	<b>–</b>	<b>–</b>	<b>–11,374</b>	<b>–10,368</b>
<b>Residual value according to plan carried forward</b>	<b>11,640</b>	<b>11,676</b>	<b>6,795</b>	<b>5,798</b>	<b>49</b>	<b>52</b>	<b>221</b>	<b>825</b>	<b>18,705</b>	<b>18,351</b>
Accumulated accelerated depreciation	–	–	–5,930	–5,726	–49	–52	–	–	–5,979	–5,778
<b>Book value</b>	<b>11,640</b>	<b>11,676</b>	<b>865</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>221</b>	<b>825</b>	<b>12,726</b>	<b>12,573</b>

\* Includes an acquisition cost for land and water rights amounting to SEK 6,785 million (6,773), which cannot be depreciated.

\*\* Government grants received, opening balance: SEK 0 million (0).

## Tax assessment values (Swedish real-estate)

	Group		Parent company	
	2002	2001	2002	2001
Buildings	79,682	73,115	34,475	33,839
Land	30,499	28,147	21,065	20,676
<b>Total</b>	<b>110,181</b>	<b>101,262</b>	<b>55,540</b>	<b>54,515</b>

Transmission lines and transformer stations are not subject to tax assessment values.

## Note 17 - Advances and long-term receivables

	Advance payments to suppliers, tangible fixed assets		Receivables from Group companies		Receivables from associated companies		Other long-term receivables	
	2002	2001	2002	2001	2002	2001	2002	2001
<b>GROUP</b>								
Balance brought forward	172	60	—	—	2,184	1,654	8,681	3,173
Companies acquired	121	110	—	—	—	252	772	757
New advances/receivables	147	111	—	—	1	461	356	111
Deferred tax asset	—	—	—	—	—	—	-3,452	6,135
Payments received	—	—	—	—	-254	-181	-487	-714
Write-downs/Write-offs	—	—	—	—	-40	—	—	-24
Companies sold	—	—	—	—	—	—	—	-5
Exchange rate differences	—	2	—	—	-7	—	-174	6
Reclassifications	-195	-111	—	—	94	-1	-642	-758
<b>Balance carried forward</b>	<b>245</b>	<b>172</b>	<b>—</b>	<b>—</b>	<b>1,978</b>	<b>2,184</b>	<b>5,054</b>	<b>8,681</b>
<b>PARENT COMPANY</b>								
Balance brought forward	—	—	2,525	2,447	1,837	1,397	850	1,510
New advances/receivables	—	—	1,662	28	97	440	74	12
Payments received	—	—	—	-23	—	—	-97	-672
Reclassifications	—	—	—	73	-2	—	-654	—
<b>Balance carried forward</b>	<b>—</b>	<b>—</b>	<b>4,187</b>	<b>2,525</b>	<b>1,932</b>	<b>1,837</b>	<b>173</b>	<b>850</b>

## Note 18 - Participations in Group companies, associated companies and other securities held as fixed assets

	Participations in Group companies		Participations in associated companies		Other fixed asset securities	
	2002	2001	2002	2001	2002	2001
<b>GROUP</b>						
Balance brought forward	—	—	23,021	13,267	19,449	1,019
Companies acquired	—	—	4,478	19,029	398	27,972
Investments	—	—	4,126	3,269	107	1,524
New issues and shareholders' contributions	—	—	10	15	—	168
Divestments	—	—	-423	-11,906	-736	-7,839
Reclassifications	—	—	-12,346	-995	-17,813	-3,109
Change in value, associated companies	—	—	-110	-297	—	—
Write-downs	—	—	-6	-74	-6	-266
Companies sold	—	—	—	—	—	-22
Translation differences	—	—	-708	713	-45	2
<b>Balance carried forward</b>	<b>—</b>	<b>—</b>	<b>18,042</b>	<b>23,021</b>	<b>1,354</b>	<b>19,449</b>
<b>PARENT COMPANY</b>						
Balance brought forward	31,659	26,481	2,692	1,513	802	443
Investments/purchases	629	2,357	—	2,149	4	774
New issues	—	1,307	—	—	—	—
Shareholder's contributions made*	7,001	11,824	—	—	—	—
Divestments*	-232	-5,197	-5	-970	-724	-389
Mergers of shareholdings	-22	—	—	—	—	—
Write-downs	-942**	-5,113**	—	—	—	-26
<b>Balance carried forward</b>	<b>38,093</b>	<b>31,659</b>	<b>2,687</b>	<b>2,692</b>	<b>82</b>	<b>802</b>

\* Shareholder's contributions made and divestments mainly refer to restructuring within the Group.

\*\* The amount includes a repaid shareholder's contribution of SEK 0 million (3,612) which was previously reported as an asset.



**Note 19** - Shares and participations

The following is a list of the main shares and participations held directly or indirectly by the parent company.

**GROUP COMPANIES**

	Corporate ID no.	Reg. office	% holding	Number	Book value
Abonnera i Sverige AB	556572-9869	Stockholm	100	50,000	5
Arrowhead AB	556528-4816	Sundsvall	100	2,500	2
Arrowhead Services AB	556463-7683	Östersund	100	161,433,752	0
Elektrociepownie Warszawskie S.A.	38 440	Warsaw	69	14,280,739	2,684
Energibolaget Botkyrka-Salem Försäljn. AB	556014-7406	Botkyrka	100	24,000	35
Forsaströms Kraft AB	556010-0819	Åtvidaberg	100	400,000	91
Forsmarks Kraftgrupp AB	556174-8525	Östhammar	66	198,000	198
Försäkrings AB Vattenfall Insurance	516401-8391	Stockholm	100	200,000	200
Gestrikekraft AB	556476-9858	Stockholm	100	100,000	37
Gotlands Energi AB	556008-2157	Gotland	75	112,500	13
Kraftbyggarna Entreprenad AB	556333-2468	Luleå	100	38,000	46
Kraftbyggarna Invest AB	556497-6917	Stockholm	100	1,000	25
Nordic Power Invest AB	556377-2861	Stockholm	100	218,000	134
Produktionsbalans PBA AB	556425-8134	Stockholm	100	4,800	5
Ringhals AB	556558-7036	Varberg	74	300,000	457
Svensk Kärnbränslehantering AB *	556175-2014	Stockholm	36	360	0
SwedPower AB	556383-5619	Stockholm	100	12,500	15
SwedPower International AB	556192-6212	Stockholm	100	4,000	12
Säffle Årjäng Energi AB	556499-8689	Säffle	100	8,000	22
Vattenfall Bråviken AB	556507-8572	Nyköping	100	200	55
Vattenfall Bränsle AB	556440-2609	Stockholm	100	100	96
Vattenfall Danmark A/S	250526	Gentofte	100	80,000	24
Vattenfall Data AB	556439-0614	Stockholm	100	100	10
Vattenfall Deutschland GmbH **	(HRB) 62659	Hamburg	100	2	18,412
Vattenfall Engineering AB	556383-5643	Stockholm	100	160,000	199
Vattenfall Estonia OÜ	10142764	Tallinn	100	100	6
Vattenfall Fastigheter AB	556438-5952	Sundsvall	100	100	120
Vattenfall Norrnät AB	556437-8502	Luleå	100	100	283
Vattenfall Oy	1071366-1	Helsinki	100	10,000	1,483
Vattenfall Power Management AB	556573-5940	Stockholm	100	6,570	7
Vattenfall Regionnät AB	556417-0800	Stockholm	100	8,000	11
Vattenfall Reinsurance S.A.	(B) 49528	Luxembourg	100	12,999	13
Vattenfall Service Syd AB	556417-0859	Trollhättan	100	16,000	18
Vattenfall Support AB	556438-6026	Stockholm	100	100	1
Vattenfall Sveanät AB	556438-0268	Sollentuna	100	100	1,943
Vattenfall Treasury AB (publ)	556439-0606	Stockholm	100	500	6
Vattenfall Utveckling AB	556390-5891	Älvkarleby	100	14,000	17
Vattenfall Värme Uppsala AB	556117-9929	Uppsala	100	110,000	977
Vattenfall Västnät AB	556022-0369	Trollhättan	100	10,000	626
Vattenfall Östnät AB	556215-7494	Linköping	100	1,000	579
VGS AB	556013-1574	Stockholm	100	150,000	16
VGS Hydro International AB	556417-0750	Stockholm	100	8,000	10
Västerbergslagens Energi AB	556565-6872	Ludvika	51	7,590	8
Västerbergslagens Kraft AB	556194-9784	Ludvika	58	89,726	19
Västerbergslagens Värme AB	556565-6856	Fagersta	51	5,566	6
Österede Kraft AB **	556362-8469	Stockholm	100	1,000	9,142
Other companies					25
<b>Total parent company</b>					<b>38,093</b>

\* The Group owns a further 20 per cent via Forsmarks Kraftgrupp AB.

\*\* The company owns shares in Vattenfall Europe AG.

### Major shareholdings held by Group companies

	Reg. office	% holding
Barsebäck Kraft AB	Malmö	74
Bewag AG	Berlin	87
Hamburgische Electricitäts-Werke AG	Hamburg	97
HEW Power Venture Hanfeng GmbH	Hamburg	97
Hämeenlinnan Energia Oy	Tavastehus	100
LAUBAG Lausitzer Braunkohle AG	Cottbus	97
Pamilo Oy	Eno	100
Vattenfall Europe AG	Berlin	97

	Reg. office	% holding
Vattenfall Europe Generation GmbH	Berlin	97
Vattenfall Europe Sales GmbH	Berlin	97
Vattenfall Europe Transmission GmbH	Berlin	97
Vattenfall Indalsälven AB	Bispgården	74
Vattenfall Verkko Oy	Tammerfors	100
VEAG Kraftwerke Schwarze Pumpe GmbH	Vetschau	97
WEMAG AG	Schwerin	77

### ASSOCIATED COMPANIES

	Corporate ID Number	Reg. office	% holding	Book value	
				Number	Group Parent company
<b>Direct holdings</b>					
i/s Avedøreværket 2	(LEV) 221005	Gentofte	40	14	14
Bodens Energi AB	556200-9117	Boden	40	20	51
Gornoslaski Zakład Elektroenergetyczny S.A.	RHB 9861	Gliwice	32	350,000	2,040
Gulsele AB	556001-1800	Sollefteå	35	84,000	332
Luleå Energi AB	556139-8255	Luleå	30	54,000	176
PiteEnergi AB	556330-9227	Piteå	50	70,000	179
Plusenergi AB	556572-4696	Gothenburg	50	50,000	103
Preem Gas AB	556037-2970	Stockholm	30	750	8
SwePol Link AB	556530-9829	Stockholm	48	288,000	6
Other					2
<b>Indirect holdings</b>					
A-Train AB	556500-3745	Stockholm	20	1,000,000	45
Compania Electricia de Sochagota	46782	Colombia	25		166
EHA Energie Handels GmbH & Co KG	HRA 92729	Hamburg	50		13
Empower Oy	0659323-0	Helsinki	34	73,731	109
ESAG Energieversorgung Sachsen Ost AG	HRB 965	Dresden	29		1,019
GESAB Berliner Gaswerke AG	HRB 44343	Berlin	32		3,875
Kernkraftwerk Krümmel GmbH	HRB 15033	Hamburg	50		4,914
Kernkraftwerk Stade GmbH	HRB 12163	Hamburg	33		1,227
Kernkraftwerk Brokdorf GmbH	HRB 17623	Hamburg	20		1,402
KOROS GmbH & Co KG	HRA 17858	Cologne	95		1,527
Päijät-Hämeen Voima Oy	1000864-7	Heinola	29	18,698	28
Städtische Werke Kassel AG	HRB 2150	Kassel	25		538
Stadtwerke Eilenburg GmbH	HRB 12673	Leipzig	49		51
Stadtwerke Wittenberg GmbH	HB 2407	Wittenberg	23	22,700	28
Terki Oy	0953-041-1	Helsinki	50	500	12
TVF GmbH	HRB 3506	Lübbenau	50	2,500	13
Åtvidabergs Fjärrvärme AB	556543-1607	Åtvidaberg	50	10,000	10
Other					154
<b>Total</b>					<b>18,042</b>
					<b>2,687</b>

# Notes to the Accounts

## Other securities held as fixed assets

	Country	% holding	Number	Book value	
				Group	Parent company
<b>Direct holdings</b>					
Eutilia	Netherlands	8	7,830	32	32
Jämtkraft AB	Sweden	20 *	13,000	23	23
Leksand-Rättvik Energi AB	Sweden	8	11,763	23	23
Other				5	4
<b>Indirect holdings</b>					
AO Mosenergo	Germany	1		28	–
GNS Gesellschaft für Nuklearservice GmbH	Germany	6		23	–
HanseNet Telekommunikation GmbH	Germany	20		252	–
HHPGC China	China	16		407	–
KOM-Strom AG	Germany	10		17	–
Stadtwerke Parchim GmbH	Germany	15		27	–
Stadtwerke Rostock AG	Germany	12		369	–
VEAG Beteiligungsgesellschaft mbH	Germany	55		69	–
Other				79	–
<b>Total</b>				<b>1,354</b>	<b>82</b>

\* The share of the voting power is 16 per cent.

## Note 20 - Inventories, etc.

	Group		Parent company	
	2002	2001	2002	2001
<b>Raw materials and consumables</b>				
Nuclear fuel	3,986	3,941	–	–
Oil	269	168	55	40
Coal, etc.	1,027	913	8	3
Materials and spare parts	1,830	1,545	2	6
<b>Total</b>	<b>7,112</b>	<b>6,567</b>	<b>65</b>	<b>49</b>

## Note 21 - Current receivables

	Group		Parent company	
	2002	2001	2002	2001
Accounts receivable – trade	17,833	10,654	3,599	1,642
Receivables from Group companies	–	–	5,285	10,071
Receivables from associated companies	4,319	4,074	2,454	2,461
Investment assets in German companies	4,158	4,951	–	–
Other receivables	5,506	4,422	2,266	1,356
Prepaid expenses and accrued income	4,225	3,038	2,473	1,499
<b>Total</b>	<b>36,041</b>	<b>27,139</b>	<b>16,077</b>	<b>17,029</b>

## Specification of prepaid expenses and accrued income:

	Group		Parent company	
	2002	2001	2002	2001
Prepaid insurance premiums	74	21	–	–
Prepaid expenses, other	1,091	1,569	464	6
Prepaid expenses and accrued income, electricity	427	636	246	362
Accrued income, other	2,633	812	1,763	1,131
<b>Total</b>	<b>4,225</b>	<b>3,038</b>	<b>2,473</b>	<b>1,499</b>

## Note 22 - Cash and bank balances

The parent company's cash and bank balances are administered by the subsidiary Vattenfall Treasury AB. Funds in the Group account amounted to SEK 12,852 million (6,978), which are reported in the balance sheet as Current receivables from Group companies.

## Note 23 - Equity

	Share capital	Equity method reserve	Other restricted reserves	Non-restricted equity	Total
<b>GROUP</b>					
Opening balance, 2002	6,585	157	19,154	13,682	39,578
Dividend	–	–	–	–1,030	–1,030
Transfers between restricted and non-restricted equity	–	1,028	–2,859	1,831	0
Translation differences	–	–108	–1,077	231	–954
Hedging	–	–	–	–31	–31
Net profit for the year	–	–	–	7,566	7,566
<b>Closing balance, 2002</b>	<b>6,585</b>	<b>1,077</b>	<b>15,218</b>	<b>22,249</b>	<b>45,129</b>

Accumulated translation differences in equity amounted to SEK 344 million, of which SEK –31 million was for hedging. SEK 10 million of the non-restricted equity at year-end is due to be transferred to restricted reserves as proposed by the Boards of the Group companies.

	Share capital	Statutory reserve	Non-restricted equity	Total
<b>PARENT COMPANY</b>				
Opening balance, 2002	6,585	1,316	8,369	16,270
Transfer from non-restricted equity to statutory reserve	–	1	–1	–
Dividend	–	–	–1,030	–1,030
Group contribution	–	–	–2,986	–2,986
Tax effect of Group contribution	–	–	836	836
Result of merger	–	–	9	9
Net profit for the year	–	–	4,514	4,514
<b>Closing balance, 2002</b>	<b>6,585</b>	<b>1,317</b>	<b>9,711</b>	<b>17,613</b>

Vattenfall AB's share capital comprises 131,700,000 shares with a par value of SEK 50.

## Note 24 - Provisions

Provisions are made for known commitments or anticipated risks on the basis of individual assessments.

	Group		Parent company	
	2002	2001	2002	2001
Pension provisions	16,643	12,722	13	26
Provisions for deferred tax liability	34,410	28,892	12	12
Provisions for future expenses of nuclear waste management	6,517	6,984	–	–
Provisions for future expenses of mining operations and other environmental measures/undertakings	10,898	9,371	–	–
Negative goodwill	15,479	18,132	–	–
Other provisions	13,631	14,855	117	101
<b>Total</b>	<b>97,578</b>	<b>90,956</b>	<b>142</b>	<b>139</b>

### Pensions:

Pension commitments relating to pensions in Swedish Group companies are based on standard Swedish actuarial methods. The provision reported in the balance sheet corresponds to these pension commitments, which are reported as net figures against the available capital in Vattenfall's Pension Fund.

At the end of 2002, Vattenfall's Pension Fund had 17 Group companies as co-owners, and they had dissolved their pension liabilities under the Pension Liabilities Act through payments into the Pension Fund. During the year, the return on the Pension Fund was 2.5 per cent (1.9). The majority of the pension commitments in the companies acquired in Germany in 2001 and 2002 comprised benefit-based commitments. Bewag AG has both benefit-based commitments and premium-based commitments. The benefit-based commitments are partly financed via Bewag's Superannuation Fund (Pensionkasse der Bewag), while the premium-based commitments are entirely financed via the above-mentioned Superannuation Fund.

The pension provisions for the German companies were calculated on an actuarial basis in accordance with the Projected Unit Credit Method, IAS 19. A provision for these commitments is therefore made in the balance sheet and an annual cost is calculated on the basis of the current value of the future benefits earned.

The pension provisions made in the balance sheet for employees in Sweden are calculated in accordance with standard actuarial methods in Sweden and amount to SEK 4,285 million (3,919). The corresponding benefit-based commitments for employees in Sweden, calculated on an actuarial basis in accordance with the Projected Unit Credit Method, IAS 19, amount to SEK 4,637 million (4,137).



# Notes to the Accounts

	Group		Parent company	
	2002	2001	2002	2001
Pension commitments	30,332	16,638	2,492	2,482
Less: Capital in pension funds	-13,824	-4,109	-2,492	-2,482
Other pension commitments	135	193	13	26
<b>Total provisions for pensions at the end of the year</b>	<b>16,643</b>	<b>12,722</b>	<b>13</b>	<b>26</b>
Information registered by PRI	3,001	2,447	1,335	1,225

	Group
<b>Provisions for pensions (changes in 2002)</b>	
Balance brought forward	12,722
Companies acquired	4,349
Provisions for the period	1,633
Utilised provisions	-1,643
Reversed provisions	-120
Translation differences	-298
<b>Balance carried forward</b>	<b>16,643</b>

#### Provisions for deferred tax liabilities:

These relate to deferred tax in untaxed reserves, the provision for deferred tax that is made when acquisition analyses are approved in connection with company acquisitions, as well as other provisions for deferred tax liabilities attributable to so-called temporary differences.

#### Provisions for deferred tax liabilities (changes in 2002)

Balance brought forward	28,892
Companies acquired	218
Provisions for the period	5,739
Translation differences	-439
<b>Balance carried forward</b>	<b>34,410</b>

#### Provisions for the future costs of nuclear power:

In Germany, provisions are made in the balance sheet by the companies themselves for the future management of nuclear waste. The Swedish power companies do not make corresponding provisions. Instead, they pay a fee to the Nuclear Waste Fund for the future management of nuclear waste.

#### Provisions for nuclear power (changes in 2002)

Balance brought forward	6,984
Provisions for the period (including effects of discounting)	339
Utilised provisions	-175
Reclassified provisions	-465
Translation differences	-166
<b>Balance carried forward</b>	<b>6,517</b>

#### Provisions for mining operations and other environmental provisions:

Provisions are made for site restoration and other commitments associated with the Group's permission to conduct lignite mining operations in Germany. Provisions are also made for corresponding environmental measures/undertakings in other operations conducted by the Group.

#### Provisions for mining, etc. (changes in 2002)

Balance brought forward	9,371
Companies acquired	1,561
Provisions for the period (including effects of discounting)	1,017
Utilised provisions	-816
Reversed provisions	-11
Translation differences	-224
<b>Balance carried forward</b>	<b>10,898</b>

#### Negative goodwill:

The provision concerns anticipated future losses and expenses identified in Vattenfall's acquisitions in Germany, but which it was not possible to report as identifiable liabilities at the time of acquisition. During 2002, negative goodwill corresponding to losses and restructuring costs was dissolved by SEK 3,626 million (2,539).

#### Provisions for negative goodwill

Value at time of acquisition, 2001	20,671
Utilised provisions, 2001	-2,539
Balance brought forward, 2002	18,132
Companies acquired	1,417
Utilised provisions, 2002	-3,626
Translation differences	-444
<b>Balance carried forward</b>	<b>15,479</b>

#### Other provisions:

These mainly concern provisions made in conjunction with ongoing or future legal and tax-related disputes, as well as provisions for personnel-related measures/commitments. Other provisions also include provisions for guarantee commitments.

#### Other provisions (changes in 2002)

Balance brought forward	14,855
Companies acquired	2,360
Provisions for the period (including effects of discounting)	2,148
Utilised provisions	-2,765
Reversed provisions	-2,393
Reclassified provisions	-155
Translation differences	-419
<b>Balance carried forward</b>	<b>13,631</b>

## Note 25 - Long-term interest-bearing liabilities

	Group		Parent company	
	2002	2001	2002	2001
Bond loans	39,679	30,185	–	–
Liabilities to credit institutions	18,171	19,752	–	–
Liabilities to associated companies and minority owners	3,775	4,040	–	–
Liabilities to Group companies	–	–	35,925	25,936
Other liabilities	5,533	4,443	1	1
<b>Total</b>	<b>67,158</b>	<b>58,420</b>	<b>35,926</b>	<b>25,937</b>

Of the above liabilities for the Group, the following amounts fall due after more than five years: Bond loans SEK 20,579 million (21,630), Liabilities to credit institutions SEK 4.495 million (5,617), Liabilities to minority owners SEK 3,103 million (2,345), Other long-term borrowings SEK 625 million (194).

In respect of the parent company, SEK 619 million (619) in liabilities to Group companies falls due after more than five years.

Liabilities to Group companies mainly comprise long-term borrowings from Vattenfall Treasury AB.

Virtually all borrowings in foreign currencies are hedged.

## Note 26 - Long-term non-interest-bearing liabilities

	Group		Parent company	
	2002	2001	2002	2001
Liabilities to Group companies	–	–	3,334	3,131
Other liabilities	1,588	1,599	356	383
<b>Total</b>	<b>1,588</b>	<b>1,599</b>	<b>3,690</b>	<b>3,514</b>

Of the above liabilities for the Group, the following amount falls due after five years: Other liabilities SEK 713 million (855). For the parent company, the following amount falls due after five years: Other liabilities SEK 356 million (124).

Liabilities to Group companies mainly comprise long-term liabilities to Forsmarks Kraftgrupp AB and others for power charges. In the case of Forsmarks Kraftgrupp, no interest is payable on the amount in accordance with an agreement between the shareholders.

## Note 27 - Current interest-bearing liabilities

	Group		Parent company	
	2002	2001	2002	2001
Bond loans	3,850	9,363	–	–
Commercial paper	4,084	3,914	–	–
Liabilities to credit institutions	2,340	6,132	–	–
Liabilities to minority owners	234	185	–	–
Liabilities to associated companies	16,684	9,906	–	–
Liabilities to Group companies	–	–	8,045	4,724
Other liabilities	390	613	26	1
<b>Total</b>	<b>27,582</b>	<b>30,113</b>	<b>8,071</b>	<b>4,725</b>

## Note 28 - Current non-interest-bearing liabilities

	Group		Parent company	
	2002	2001	2002	2001
Advance payments from customers	359	–	4	2
Accounts payable – trade	10,406	8,211	957	573
Liabilities to Group companies	–	–	5,430	12,596
Liabilities to associated companies	98	125	14	36
Tax liabilities	752	1,463	154	403
Other liabilities	4,083	3,414	673	328
Accrued expenses and deferred income	11,583	6,084	1,923	1,020
<b>Total</b>	<b>27,281</b>	<b>19,297</b>	<b>9,155</b>	<b>14,958</b>

Specification of accrued expenses and deferred income:

	Group		Parent company	
	2002	2001	2002	2001
Accrued personnel costs	2,426	1,330	182	158
Accrued nuclear-related fees and taxes	171	186	–	–
Accrued interest expenses	957	678	–	–
Other accrued expenses	6,810	2,560	1,721	816
Deferred income and accrued expenses, electricity	327	503	20	41
Other deferred income	892	827	–	5
<b>Total</b>	<b>11,583</b>	<b>6,084</b>	<b>1,923</b>	<b>1,020</b>

## Note 29 - Pledged assets

	Group		Parent company	
	2002	2001	2002	2001
<b>GROUP</b>				
<b>For own liabilities and provisions</b>				
Liabilities to credit institutions:				
Floating charges	83	165	–	–
Real-estate mortgages	11	37	–	–
Blocked bank funds as security for trading on Nord Pool	3,273	–	3,273	–
Other	86	83	–	–
<b>Total</b>	<b>3,453</b>	<b>285</b>	<b>3,273</b>	<b>–</b>

**Note 30** - Contingent liabilities

	2002	2001
<b>GROUP</b>		
Guarantees	687	456
Other contingent liabilities	6,994	6,329
Nuclear Waste Fund	3,673	3,948
<b>Total</b>	<b>11,354</b>	<b>10,733</b>
<b>PARENT COMPANY</b>		
Guarantees		
of which:		
for Vattenfall Treasury's lending:		
to subsidiaries	21,533	22,337
to associated companies	37	56
external borrowing for subsidiaries	51,233	46,555
external borrowing for other companies	136	215
subordinated guarantees	74	93
Nuclear Waste Fund	3,673	3,948
Contract guarantees	2,417	1,792
Other guarantees	3,831	2,922
<b>Total</b>	<b>82,934</b>	<b>77,918</b>
Other contingent liabilities		
Compensatory and free power supplied:		
Wholesale power supplied		
– Number of commitments	14	14
– Capacity, MW	226	226
– Energy supplied, TWh/year	1.0	0.9

SEK 82,363 million (74,632) of the parent company's contingent liabilities relates to its subsidiaries. Vattenfall AB has guaranteed Vattenfall Treasury AB's commitments.

On some rivers, several hydro power plants share regulation facilities. The owners of the plants are each liable for their share of the regulation costs.

Under Swedish law, Vattenfall has a strictly unlimited liability for third party losses resulting from dam accidents. Together with other hydro power producers in Sweden and Norway, Vattenfall has taken out liability insurance cover which will pay out a maximum of NOK 5,000 million for this kind of loss.

As a natural part of the Group's business and in addition to those specified above, guarantees are put up for the fulfilment of various contractual commitments.

Within its German operations, Vattenfall has conducted a number of leasing transactions for power plants. The basis for the transactions is the right of use of power plants leased to US counterparties as part of so-called main leases lasting a maximum of 75 years, and thereafter leased back for 24 years as part of a so-called subordinated lease. Rent from the US counterparties has been received in advance and has been deposited in financial institutions with high credit ratings for the payment of sums due in accordance with the subordinated leases.

The net difference between rental payments received and deposits made has been reported as a net figure and the transaction gain was reported at the time that the lease contracts were concluded.

Should the lessees or other parties/stakeholders fail to meet their obligations under the leasing contracts, this will result in costs incurred by Vattenfall. On the balance sheet date, these costs amounted to SEK 933 million, which is included in the reported contingent liabilities.

In Germany, players operating nuclear power plants have an unlimited liability. The mandatory insurance amount for all these players combined is EUR 2,500 million. Claims up to EUR 250 million are covered by the German Mutual Atomic Energy Reinsurance Pool. Claims over EUR 250 million and up to a maximum of EUR 2,500 million are covered by a joint liability insurance agreement (Solidarvereinbarung) between the German nuclear power plant operators. This agreement entails one undertaking for two claims during one and the same year. The Vattenfall Group's share of this joint liability insurance agreement is EUR 185.94 million per claim, or EUR 371.88 million in total, which is equivalent to SEK 3,419 million.

**Note 31** - Commitments under consortium agreements

Power plants are often built on a joint venture basis. Under the consortium agreements, each owner is entitled to electricity in proportion to its share of ownership, and each owner is liable, regardless of output, for an equivalent proportion of all the joint venture's costs.

Vattenfall's investments in heat and other companies often entail a liability for costs in proportion to its share of ownership.

Vattenfall bears full financial responsibility for the SwePol Link up to July 2020.

## Note 32 - Average number of employees and personnel costs

Average number of employees	2002 Men	Women	Total	2001 Men	Women	Total
<b>GROUP</b>						
Sweden	6,279	1,704	7,983	6,387	1,760	8,147
Finland	353	214	567	503	226	729
Poland	2,519	651	3,170	2,809	753	3,562
Germany	17,262	5,142	22,404	8,585	2,470	11,055
Other countries	97	27	124	235	2,295	321
<b>Total</b>	<b>26,510</b>	<b>7,738</b>	<b>34,248</b>	<b>18,519</b>	<b>5,295</b>	<b>23,814</b>
<b>PARENT COMPANY</b>						
Sweden	659	395	1,054	632	417	1,049
Other countries	8	4	12	11	–	11
<b>Total</b>	<b>667</b>	<b>399</b>	<b>1,066</b>	<b>643</b>	<b>417</b>	<b>1,060</b>

Personnel costs	Group		Parent company	
	2002	2001	2002	2001
Salaries and other remuneration	12,455	8,842	497	474
Social security expenses	4,461	3,390	378	352
(of which pension costs)	(1,464)	(1,156)*	(171)	(137)**
<b>Total</b>	<b>16,916</b>	<b>12,232</b>	<b>875</b>	<b>826</b>

\* SEK 21 million (24) of the Group's pension costs concerns presidents, deputy presidents, and former presidents and deputy presidents. The Group's outstanding pension commitments in respect of these officers total SEK 373 million (198)

\*\* The parent company's pension costs include SEK 5 million (4) for existing and former presidents and deputy presidents. The company's outstanding pension commitments in respect of these officers total SEK 58 million (52).

None of the Board members receive any pension benefits in connection with Board duties.

Salaries and other remuneration	2002			2001		
	Board members and presidents*	Other employees	Total	Board members and presidents*	Other employees	Total
<b>GROUP</b>						
Sweden	47	3,012	3,059	47	2,968	3,015
Finland	4	133	137	7	285	292
Poland	12	425	437	13	493	506
Germany	104	8,699	8,803	45	4,915	4,960
Other countries	2	17	19	7	62	69
<b>Total</b>	<b>169**</b>	<b>12,286</b>	<b>12,455</b>	<b>119**</b>	<b>8,723</b>	<b>8,842</b>
<b>PARENT COMPANY</b>						
Sweden	11	483	494	9	462	471
Other countries	–	3	3	–	3	3
<b>Total</b>	<b>11***</b>	<b>486</b>	<b>497</b>	<b>9***</b>	<b>465</b>	<b>474</b>

\* Board members and presidents also include alternates, deputy presidents and former Board members, alternates, presidents and deputy presidents.

\*\* Includes bonuses of SEK 26 million (16).

\*\*\* Includes bonuses of SEK 1.6 million (0.5).



### Note 32 - Cont'd - Remuneration to the senior management of Vattenfall AB

In 2002, Dag Klackenbergh, who is the Board's Chairman, received a fixed fee of SEK 270 thousand.

In 2002, Lars G Josefsson, who is Chief Executive Officer and President of Vattenfall AB, received a salary and other emoluments, including the value of a company car, amounting to SEK 6,254 thousand, of which the bonus for 2001 was SEK 1,100 thousand.

Lars G Josefsson, who was born in 1950, is entitled to retire at the age of 60. A retirement pension of 65 per cent of his salary at that time will be paid up to the age of 65. After this, a retirement benefit will be paid corresponding to the applicable ITP benefit plan plus 32.5 per cent of the portion of his salary exceeding 30 basic amounts (a basic amount is a standard amount used for Swedish social security purposes). The latter retirement benefit has a time limit, and is payable up to the age of 80. After the age of 76, it decreases by one-fifth for each consecutive year and ceases completely at the age of 80. Bonuses are not in any way a basis for the pension.

In the event of termination of employment by Vattenfall, the Chief Executive Officer is entitled to severance pay corresponding to a maximum of 24 months' salary. However, severance pay may only be paid until the contractual retirement age. The size of the severance pay will be calculated on the basis of the fixed salary applying at the time of termination of employment, plus one-third of the aggregate of the variable portion of the salary/bonus for the past three years. In the event of new employment or income from another source, the severance pay will be reduced by an amount corresponding to the new income or other benefits received during the period in question. Severance pay is paid monthly.

For other members of senior management who are part of the executive Group management or are heads of Group Functions and are employed by Vattenfall AB, a total of eight people, the total sum of remuneration and benefits amounts to SEK 17,240 thousand, of which bonuses for 2001 came to SEK 2,042 thousand.

In the case of the First Senior Executive Vice President, a premium-based pension solution applies with a retirement age of 60.

The other officers of the executive Group management and certain heads of Group Functions are entitled to receive a pension from the age of 60–65 corresponding to 70 per cent of their fixed salary. Bonuses are not in any way a basis for the pension between the ages of 60 and 65. The ITP plan applies from the age of 65. In the case of certain specified officers, it has been decided, in order to adapt pension terms to market conditions, to reinforce the ITP pension in the form of an extension of the salary components exceeding 20 basic amounts. The extension consists of 32.5 per cent of the fixed salary upon which the pension is based.

In the case of the above-mentioned members of senior management, if employment is terminated by the company, they are entitled to their salary during the contractual period of notice (6 months), plus severance pay of 18 months' salary, which is paid monthly with a deduction for the amount corresponding to new income during the period in question. It is the Board as a whole that decides on the remuneration paid to the Chief Executive Officer following proposals by the Chairman of the Board. For other members of senior management, the Chief Executive Officer decides on remuneration following consultations with the Chairman of the Board, after which the Board is informed.

#### Bonus and incentive programmes

A bonus system for managers is applied in the Swedish part of the Vattenfall Group.

Furthermore, incentive programmes or bonus programmes are applied within a number of business units and companies in the Swedish part of the Group.

#### Management bonuses

Under his employment contract, the Chief Executive Officer is entitled to a special performance-related variable salary/bonus of a maximum of 33.3 per cent of his fixed annual salary. In 2002, this came to SEK 1,665 thousand.

A bonus of no more than 25 per cent of the fixed salary is applied to the executive Group management and heads of Group Functions. In the case of certain managers/key individuals within the Group Functions, a maximum amount of 10–15 per cent applies.

A bonus of a maximum of 20 per cent of the fixed salary is applied to heads of business units.

Within business units, a bonus of a maximum of 15 per cent applies to the management groups, primarily presidents of large companies and managers of large operational units. A bonus of a maximum of 8–10 per cent is applied to staff members of the management groups.

A bonus of a maximum of 15 per cent is applied to heads of service companies, while a maximum of 8 per cent applies to the management group of the service company.

In 2001, management bonuses were based on financial targets, growth in cash flow and return on equity at Group level, as well as on strategic business projects, growth in cash flow and strategic projects at business unit level, and other business targets at unit and company levels. Within business units, bonuses were also, to a lesser extent, based on leadership targets.

From 2002–2004, the bonus programme will be directly linked to value creation\*. Within the programme's framework, a long-term (3-year) component ("long-term incentive") for the executive Group management and the heads of Group Functions, as well as heads of business units, will in addition be effective after 2004 if the Group exceeds its financial targets. The maximum size of the long-term incentive is equivalent to two annual bonuses. This long-term incentive is not a basis for the pension, while for the annual bonuses, ITP's rules for calculating pensions apply. The value creation for Vattenfall's owner is expected to be very high if the Group attains or exceeds its three-year targets.

Within the business units' management groups, the goal for value creation is used at Group level, as well as the business unit goal that is derived from it. In addition, the unit's own goals and management goals that help to enhance value creation are used.

The above applies to a total of around 100 managers.

#### Bonuses and incentives for other employees

Within the Swedish part of the Group, different types of incentives or bonus programmes exist at the majority of business units and companies. They are designed to suit the particular unit's targets and needs. The maximum level averages around SEK 15 thousand per year.

The company has taken a decision regarding guidelines for a new joint incentive programme for all employees in Sweden. Finland is also included in the programme. The programme will be run on a trial basis for two years starting in 2004. The maximum level is 6 per cent of the fixed annual salary. One-tenth should relate to the Group's value-creation goal. In other respects, the focus should be on goals broken down to business unit level and on business unit results, as well, in particular, as on the employee's own unit and own work. Deviations from the programme are acceptable wherever motivated for market or business-related reasons.

The Board of Directors supports the programmes described above.

\* Value creation = the positive change in operating profit minus the required return on average net assets, where the required return is 11 per cent.

## Note 33 - Leasing

### Leasing expenses

Equipment leased by the Group through finance leases and reported as a tangible fixed asset comprises:

	2002	2001
Machinery/Equipment		
Acquisition value	506	8
Accumulated depreciation according to plan	101	1
Write-downs	89	–
<b>Residual value according to plan</b>	<b>316</b>	<b>7</b>

Future payment commitments within the Group on December 31, 2002 for lease contracts and rental contracts are distributed as follows:

	Group		Parent company
	Finance leases	Operating leases	Operating leases
2003	107	436	7
2004	76	420	4
2005	34	374	1
2006	15	336	–
2007	9	329	–
2008 and beyond	288	2,565	–
<b>Total</b>	<b>529</b>	<b>4,460</b>	<b>12</b>

The year's leasing expenses in respect of Group assets amounted to SEK 350 million. For the parent company, the corresponding figure was SEK 7 million.

### Leasing income

Certain Group companies own and operate energy facilities on behalf of customers. Income from customers breaks down into two parts: a fixed part to cover capital expenses, and a variable part based on the quantity delivered.

Facilities are classified in accordance with standard leasing principles, based on the fixed income part.

On December 31, 2002, the acquisition value of assets reported under Operating leases amounted to SEK 339 million. Accumulated depreciation amounted to SEK –143 million and accumulated write-downs to SEK –15.

Future lease payments for this type of leasing are distributed as follows:

	Group	
	Finance leases	Operating leases
2003	13	103
2004	11	90
2005	10	78
2006	9	69
2007	8	63
2008 and beyond	28	170
Less: Financial income	–24	–
<b>Total</b>	<b>55</b>	<b>573</b>

## Note 34 - Reimbursement of auditors, etc.

	Group		Parent company	
	2002	2001	2002	2001
<b>Statutory audit</b>				
Ernst & Young *	13	11	5	6
Swedish National Audit Office	0	0	0	0
PricewaterhouseCoopers**	17	14	–	–
KPMG (Germany)	11	1	–	–
BDO (Germany)	8	6	–	–
Other	1	2	–	–
<b>Total</b>	<b>50</b>	<b>34</b>	<b>5</b>	<b>6</b>
<b>Other fees ***</b>				
Ernst & Young	6	3	2	2
PricewaterhouseCoopers	16	12	1	2
KPMG	3	2	–	–
Arthur Andersen	3	2	–	1
Other	1	1	–	–
<b>Total</b>	<b>29</b>	<b>20</b>	<b>3</b>	<b>5</b>

\* In addition to the parent company's audit costs totalling SEK 5 million (6), these costs relate to audits of Polish, Finnish and German companies.

\*\* SEK 3 million (4) concerns the audit of the network operations in Sweden, and the remaining amount is for audits of German companies.

\*\*\* The amounts specified for the Group relate mainly to investigation expenses, etc., for the Polish and German operations.

## Proposed Distribution of Profits

According to the consolidated balance sheet, the Group's non-restricted equity amounts to SEK 22,248,966 thousand (13,681,553). Of this amount, SEK 9,702 thousand is expected to be transferred to restricted reserves. The total profit at the disposal of the general meeting of shareholders is thus SEK 9,710,319,128. The Board of Directors and the President propose that the profits be distributed as follows:

- dividend to the shareholder	SEK 1,485,000,000
- transferred to the statutory reserve	SEK 0
- to be carried forward	<u>SEK 8,225,319,128</u>
	SEK 9,710,319,128

This is equivalent to a dividend of SEK 11.28 per share.

Stockholm  
February 20, 2003

Dag Klackenberg  
*Chairman*

Johnny Bernhardsson

Annette Brodin Rampe

Christer Bådholm

Lars Carlberg

Ronny Ekwall

Peter Fallenius

Jan Grönlund

Göran Johansson

Peter Lindell

Elisabet Salander Björklund

Kent Ögren

Lars G Josefsson  
*President and Chief Executive Officer*

## Audit Report

To the general meeting of the shareholders of Vattenfall AB

Corporate identity number 556036-2138

We have audited the annual accounts and the consolidated accounts, together comprising pages 32-73, the accounting records and the administration of the Board of Directors and the President of Vattenfall AB for the financial year 2002. These accounts and the administration of the company are the responsibility of the Board of Directors and the President. Our responsibility is to express an opinion on the annual accounts, the consolidated accounts and the administration based on our audit.

We conducted our audit in accordance with generally accepted auditing standards in Sweden. Those standards require that we plan and perform the audit to obtain reasonable assurance that the annual accounts and the consolidated accounts are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the accounts. An audit also includes assessing the accounting principles used and their application by the Board of Directors and the President, as well as evaluating the overall presentation of information in the annual accounts and the consolidated accounts. As a basis for our opinion concerning discharge from liability, we examined significant decisions, actions taken and circumstances of the company in order to be able to determine the liability, if any, to the company of any Board member or the President. We also examined whether any Board member or the President has in any other way acted in contravention of the Swedish Companies Act, the Swedish Annual Accounts Act or the Articles of Association. We believe that our audit provides a reasonable basis for our opinion as set out below.

The annual accounts and the consolidated accounts have been prepared in accordance with the Swedish Annual Accounts Act and thereby give a true and fair view of the company's and the Group's financial position and results of operations in accordance with generally accepted accounting principles in Sweden.

We recommend to the general meeting of shareholders that the income statements and balance sheets of the parent company and the Group be adopted, that the profit of the parent company be dealt with in accordance with the proposal in the annual accounts, and that the members of the Board of Directors and the President be discharged from liability for the financial year.

Stockholm  
February 20, 2003

Ernst & Young AB  
*Lars Träff*  
*Authorised Public Accountant*

Filip Cassel  
*Authorised Public Accountant*  
*Swedish National Audit Office*



## Definitions and Calculations of Key Ratios

Figures for the Group in 2002 (SEK million).

### Operating margin, per cent

EBIT in relation to net sales.

EBIT	13,363
Net sales	101,025
	<b>13.2</b>

### Operating margin excluding items affecting comparability, per cent

EBIT excluding items affecting comparability in relation to net sales.

EBIT excluding items affecting comparability	12,916
Net sales	101,025
	<b>12.8</b>

### Pre-tax profit margin, per cent

Profit before tax and minority interest in relation to net sales.

Profit before tax and minority interest	9,987
Net sales	101,025
	<b>9.9</b>

### Pre-tax profit margin excluding items affecting comparability, per cent

Profit before tax and minority interest excluding items affecting comparability in relation to net sales.

Profit before tax and minority interest excluding items affecting comparability	9,521
Net sales	101,025
	<b>9.4</b>

### Return on equity, per cent

Net profit for the year in relation to equity at the beginning of the year.

Net profit	7,566
Equity at the beginning of the year	39,578
	<b>19.1</b>

### Return on equity excluding items affecting comparability, per cent

Net profit for the year excluding items affecting comparability in relation to equity at the beginning of the year.

Net profit excluding items affecting comparability	7,231
Equity at the beginning of the year	39,578
	<b>18.3</b>

### Return on net assets, per cent

EBIT in relation to a weighted average of the balance sheet totals for the period less non-interest-bearing liabilities and provisions, interest-bearing receivables and liquid assets.

EBIT	13,363
Net assets	127,479
	<b>10.5</b>

### Return on net assets excluding items affecting comparability, per cent

EBIT excluding items affecting comparability in relation to a weighted average of the balance sheet totals for the period less non-interest-bearing liabilities and provisions, interest-bearing receivables and liquid assets.

EBIT excluding items affecting comparability	12,916
Net assets	127,479
	<b>10.1</b>

### Pre-tax interest coverage ratio, times

EBIT plus financial income in relation to financial expenses.

EBIT plus financial income	16,373
Financial expenses	6,386
	<b>2.6</b>

### Pre-tax interest coverage ratio excluding items affecting comparability, times

EBIT plus financial income excluding items affecting comparability in relation to financial expenses excluding items affecting comparability.

EBIT plus financial income excluding items affecting comparability	15,907
Financial expenses excluding items affecting comparability	6,386
	<b>2.5</b>

### FFO interest coverage, times

FFO plus financial expenses in relation to financial expenses.

FFO plus financial expenses	23,492
Financial expenses	6,386
	<b>3.7</b>

### FFO net interest coverage, times

FFO plus net financial items in relation to net financial items.

FFO plus net financial items	20,482
Net financial items	3,376
	<b>6.1</b>

**Equity/assets ratio, per cent**

Equity including minority interest in equity in relation to the balance sheet total at the end of the year less interest arbitrage transactions.

Equity including minority interest	55,089
Balance sheet total less interest arbitrage transactions	275,296
	<b>20.0</b>

**Net debt/equity ratio, times**

Interest-bearing debt minus investment assets and liquid assets in relation to equity including minority interest in equity.

Net debt	75,207
Equity including minority interest	55,089
	<b>1.4</b>

**Net debt/net debt plus equity, per cent**

Interest-bearing debt and provisions minus investment assets and liquid assets in relation to interest-bearing debt and provisions minus investment assets and liquid assets plus equity including minority interest in equity.

Net debt	75,207
Net debt plus equity including minority interest	130,296
	<b>57.7</b>

**FFO/interest-bearing debt, per cent**

FFO in relation to interest-bearing debt and provisions.

FFO	17,106
Interest-bearing debt and provisions	94,838
	<b>18.0</b>

**FFO/net debt, per cent**

FFO in relation to interest-bearing debt and provisions minus investment assets and liquid assets.

FFO	17,106
Net debt	75,207
	<b>22.7</b>

**EBITDA/net financial items, times**

EBITDA in relation to net financial items.

EBITDA	24,855
Net financial items	3,376
	<b>7.4</b>

**EBITDA/net financial items excluding items affecting comparability, times**

EBITDA excluding items affecting comparability in relation to net financial items excluding items affecting comparability.

EBITDA excluding items affecting comparability	24,408
Net financial items excluding items affecting comparability	3,395
	<b>7.2</b>

**Interest-bearing debt/interest-bearing debt plus equity including minority share in equity, per cent**

Interest-bearing debt	94,740
Interest-bearing debt plus equity including minority share	149,829
	<b>63.2</b>

## Six-year Review

SEK million	2002	2001	2000	1999	1998	1997
<b>P&amp;L items</b>						
Net sales	101,025	69,003	31,695	27,754	27,957	28,458
EBITDA	24,855	18,250	12,165	9,866	9,860	11,169
EBIT	13,363	9,959	6,688	5,515	6,067	7,376
Financial income	3,010	2,232	1,037	542	288	561
Financial expenses	-6,386	-4,737	-2,536	-1,760	-1,907	-2,498
Profit before tax and minority interest	9,987	7,454	5,189	4,297	4,448	5,439
Net profit for the year	7,566	4,190	2,970	2,538	2,664	3,399
<b>Cash flow items</b>						
FFO	17,106	13,148	5,830	6,224	6,758	7,869
<b>Balance sheet items</b>						
Liquid assets	15,473	10,340	7,543	4,860	4,439	3,961
Equity	45,129	39,578	35,374	33,347	32,325	31,158
Minority interest in equity	9,960	19,080	4,985	2,472	2,213	2,304
Interest-bearing liabilities and provisions	94,838	88,723	50,854	32,275	27,876	26,311
Net debt	75,207	55,736	43,311	27,415	23,437	22,350
Non-interest-bearing liabilities and provisions	126,349	111,662	24,046	18,569	20,942	19,099
Net assets, weighted average value	127,479	100,701	74,968	60,395	57,253	54,500
Balance sheet total	276,276	259,043	115,259	86,663	83,356	78,872
<b>Key financial ratios (in per cent unless otherwise specified)</b>						
Operating margin	13.2	14.4	21.1	19.9	21.7	25.9
Operating margin excluding items affecting comparability	12.8	12.8	15.7	19.9	21.7	25.4
Pre-tax profit margin	9.9	10.8	16.4	15.5	15.9	19.1
Pre-tax profit margin excluding items affecting comparability	9.4	9.2	10.5	15.4	15.9	18.5
Return on equity	19.1	11.8	8.9	7.9	8.5	11.9
Return on equity excluding items affecting comparability	18.3	10.3	4.2	7.8	8.6	11.5
Return on net assets	10.5	9.9	8.9	9.1	10.6	13.5
Return on net assets excluding items affecting comparability	10.1	8.8	6.6	9.1	10.6	13.2
Pre-tax interest coverage ratio, times	2.6	2.6	3.0	3.4	3.3	3.2
Pre-tax interest coverage ratio excluding items affecting comparability, times	2.5	2.3	2.3	3.4	3.4	3.1
FFO interest coverage, times	3.7	3.8	3.3	4.5	4.5	4.2
FFO net interest coverage, times	6.1	6.3	4.9	6.1	5.2	5.1
Equity/assets ratio	20.0	22.7	35.4	42.3	42.2	43.3
Net debt/equity ratio, times	1.4	1.0	1.1	0.8	0.7	0.7
Net debt/net debt plus equity	57.7	48.7	51.8	43.4	40.4	40.0
FFO/interest-bearing debt	18.0	14.8	11.5	19.3	24.2	29.9
FFO/net debt	22.7	23.6	13.5	22.7	28.8	35.2
EBITDA/net financial items, times	7.4	7.3	8.1	8.1	6.1	5.8
EBITDA/net financial items excluding items affecting comparability, times	7.2	6.9	6.4	7.9	6.1	5.7
Total debt/total debt plus equity	63.2	60.1	55.8	46.4	41.0	40.4
<b>Other information</b>						
Dividends *	1,485 *	1,030	990	1,500	1,500	1,500
Investments	39,932	43,443	23,840	7,916	4,528	4,877
Electricity sales, TWh	188.3	149.9	83.1	86.9	83.8	78.7
Average number of employees	34,248	23,814	13,123	7,991	7,996	7,847

\* Proposed dividend.

## Board of Directors



**Dag Klackenber**

Born 1948

Chairman of the Board since 2001. President of the Swedish Federation of Trade. Board member of Handelsbanken, Central Sweden Region.



**Johnny Bernhardsson**

Born 1952

Board member since 1995. Employee representative, Sif.



**Annette Brodin Rampe**

Born 1962

Board member since 2001. President of Senea AB. Board member of Peab AB and Posten AB.



**Christer Bådholm**

Born 1943

Board member since 2002. Board member of Green Cargo AB. Chairman of Bombardier Transportation Sweden AB and Chalmers Tekniska Högskola AB. Board member of Icomera AB.



**Lars Carlberg**

Born 1943

Board member since 1998. Employee representative, CF.



**Ronny Ekwall**

Born 1953

Board member since 1999. Alternate since 1998. Employee representative, SEKO.



**Peter Fallenius**

Born 1951

Board member since 2001. Board member of SJ AB and the European Institute for Japanese Studies and member of the Royal Swedish Academy of Engineering (IVA).



**Jan Grönlund**

Born 1960

Board member since 2002. Alternate since 2000. Permanent under-secretary at the Swedish Ministry of Industry, Employment and Communications since 1999.



**Göran Johansson**

Born 1945

Board member of the public utility 1982-91 and of Vattenfall AB since 1995, alternate 1992-94. Chairman of the Municipal Executive Board in Gothenburg. Board member of SKF AB, Liseberg AB and Svenska Mässan AB.



**Lars G Josefsson**

Born 1950

Board member since 2001. President and Chief Executive Officer of Vattenfall AB. Chairman of Vattenfall Europe AG, Board member of Böhler-Uddeholm AG, member of IVA's Industry Committee. Board member of ESKOM.



**Peter Lindell**

Born 1972

Board member since 2002. Expert advisor to the Swedish Ministry of Industry, Employment and Communications. Board member of SOS Alarm Sverige AB.



**Elisabet Salander Björklund**

Born 1958

Board member since 2002. Senior Vice President. Board member of Clas Ohlson AB, Vägverket, Svenskt Trä AB and Stora Enso AB, as well as of a number of subsidiaries in the Stora Enso Group.



**Kent Ögren**

Born 1955

Board member since 2002. Alternate since 1995. Member of the County Administrative Board in Jokkmokk. Chairman of Jokkmokks Värmeverk AB. Member of the local Police Board, Norrbotten County.



**Lars Carlsson**

Born 1951

Alternate since 1991. Employee representative, SIF.



**Stig Lindberg**

Born 1946

Alternate since 1998. Co-opted 1992-1998. Employee representative, Ledarna.



**Per-Ove Lööv**

Born 1961

Alternate since 1999. Employee representative, SEKO.

## Auditors

### Ernst & Young AB

Lars Träff  
Authorised Public  
Accountant.

### Filip Cassel

Authorised Public  
Accountant  
Swedish National  
Audit Office.

### Alternate

### Staffan Nyström

Authorised Public  
Accountant  
Swedish National  
Audit Office



# Board of Directors, Auditors and Executive Group Management

## Executive Group Management



**Lars G Josefsson**

Born 1950  
President and Chief Executive Officer.



**Matts Ekman**

Born 1946  
First Senior Executive Vice President  
and Chief Financial Officer.



**Klaus Rauscher**

Born 1949  
Senior Executive Vice President  
of Vattenfall AB and President of  
Vattenfall Europe AG.



**Lennart Billfalk**

Born 1946  
Executive Vice President,  
Group Function Strategies.



**Mats Fagerlund**

Born 1950  
Executive Vice President,  
Group Function Legal Affairs and M&A.



**Alf Lindfors**

Born 1946  
Executive Vice President,  
Generation Nordic Countries.

### Co-opted to the Executive Group Management:

### Other Group Function Managers:



**Ann-Charlotte Dahlström**

Born 1952  
Senior Vice President,  
Group Function Human Resources.



**Knut Leman**

Born 1950  
Senior Vice President,  
Group Function Communications.



**Magnus Groth**

Born 1963  
Senior Vice President,  
Business Development.



**Lars Segerstolpe**

Born 1941  
Senior Vice President, Internal Audit.

## GLOSSARY

**Availability:** Actual electricity generation capability in relation to the maximum possible generation.

**CHP plant:** Combined heat and power plant. Plant which supplies both electricity and district-heating. Often known as a backpressure plant if linked directly to an industrial process.

**Compensatory power:** Power supplied from the owners of one power plant to the owners of another plant on the same river pursuant to a Water Rights Court ruling.

**Consortium power:** Output from a power plant to which several parties have rights.

**Deep repository:** Underground facility for the final disposal of spent nuclear fuel, see also SKB's web site <http://www.skb.se>

**Derivative:** Financial instrument where the value or change in value is related to an underlying instrument. Examples of derivatives include options, futures and swaps. They are often used for risk management (hedging).

**EBIT:** Earnings Before Interest and Tax (operating profit).

**EBITDA:** Earnings Before Interest, Taxes, Depreciation and Amortisation of goodwill (operating profit before depreciation).

**EDF:** The largest power company in France and Europe.

**EEX:** European Energy Exchange, the Leipzig power exchange.

**Electrabel:** The Benelux countries' largest power company.

**EMAS:** Eco Management and Audit Scheme. European Commission regulations for environmental management and auditing.

**EnBW:** One of Germany's four largest power companies.

**Endesa:** Spain's largest power company.

**Enel:** Italy's largest power company.

**E.ON:** One of Germany's four largest power companies and the main shareholder of Sydkraft.

**EPD:** Environmental Product Declaration. A system based on Type III declarations in ISO TR 14025 which aims at providing objective, credible and comparable information on the environmental impact of products and services, see [www.environdec.com/eng](http://www.environdec.com/eng)

**EW:** Elektrociepownie Warszawskie S.A.

**FFO:** Funds From Operation.

**Fortum:** Finland's largest power company.

**Green Certificates:** Tradable certificates issued for renewable electricity generation.

**GZE:** Gornoslaski Zaklad Elektroenergetyczny S.A.

**HEW:** Hamburgische Electricitäts-Werke AG.

**ISDA agreement:** A bilateral framework agreement in accordance with guidelines issued by the International Swap Dealers Association. The agreement regulates the parties' legal obligations in derivative transactions.

**ISO 14001:** International standard for environmental management systems.

**LAUBAG:** Lausitzer Braunkohle AG.

**Local network:** Electricity distribution network with a voltage of 0.4–20 kV.

**Major disruption:** Major operational disruption in the power grid system that results in many customers being cut off from their power supply.

**Nord Pool:** The Nordic power exchange.

**Regional network:** Electricity distribution network with a voltage in Sweden of 40–130 kV.

**RWE:** One of Germany's four largest power companies.

**SKB:** Svensk Kärnbränslehantering AB (Swedish Nuclear Fuel and Waste Management Co). Responsible for the management of radioactive waste in Sweden.

**Spot market:** Short-term physical trading in electricity on an exchange.

**Statkraft:** Norway's largest power company.

**Swap:** A financial instrument involving an exchange agreement.

**Thermal power:** Electricity generated by a gas turbine or steam process in a coal-fired or nuclear power plant.

**VEAG:** Vereinigte Energieverke AG.

**Volatility:** A measure of the extent to which the price of a commodity has varied over a particular period.

## Energy Terms

### Capacity

Expressed in watts (W)

1 kW (kilowatt) = 1,000 W

1 MW (megawatt) = 1,000 kW

1 GW (gigawatt) = 1,000,000 kW

### Electrical energy

A measure of power over time

1 kWh (kilowatt-hour) = 1 kW for one hour

1 MWh (megawatt-hour) = 1,000 kWh

1 GWh (gigawatt-hour) = 1,000,000 kWh

1 TWh (terawatt-hour) = 1,000,000,000 kWh

### Voltage

1 kV (kilovolt) = 1,000 volts (V)

## Energy units in practice

**1 kWh** is enough to run a normal car's heater for an hour or an 11-watt low-energy light bulb for almost four days.

**1 MWh** is enough to heat a small house in Sweden for a couple of weeks and can be generated in 20 minutes by Vattenfall's largest wind power plant in windy conditions.

**1 GWh** is enough to meet the energy needs of an average Swedish town with a population of 100,000 for 8 hours and can be generated in one hour by the Harsprånget hydro plant or in 20 minutes by the Forsmark nuclear power plant.

**1 TWh** is enough to run two large newsprint machines for a year or to power all of Sweden's railways, subways and trams for 5 months and can be generated by the Ringhals nuclear power plant in 12 days.

