

ANNUAL REPORT 2003

# MOVING TOWARDS OUR EUROPEAN VISION



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## Investor Relations

Klaus Aurich, klaus.aurich@vattenfall.com

Susanna Hjertonsson, susanna.hjertonsson@vattenfall.com

+46 8 739 50 00

## Other Publications

Reports can be ordered from

Vattenfall AB, SE-162 87 Stockholm, Sweden

Telephone +46 8 739 50 00, E-mail info@vattenfall.com

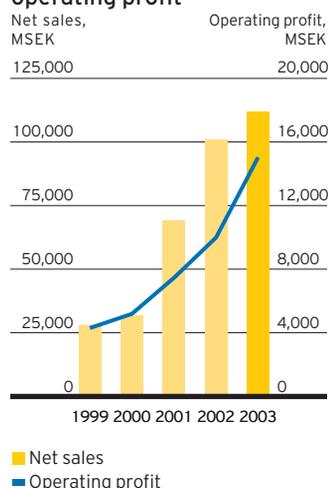
See also www.vattenfall.se and www.vattenfall@com

The past year was characterised by efforts designed to achieve the goals set regarding value creation and integration of the companies acquired. These efforts will continue with undiminished strength during 2004 as well. As the financial goals are achieved, Vattenfall will be ready for continued growth. Our vision is to be a leading European energy company.

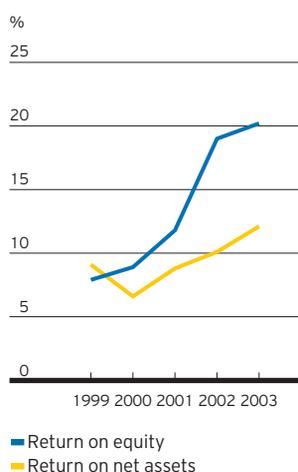
# THIS IS VATTENFALL

Vattenfall is Europe's fifth largest generator of electricity and the largest producer of heat in the region. The Group's sales amount to SEK 111,935 million. Vattenfall's vision is to be a leading European energy company. The Company currently has operations in Sweden, Finland, Germany and Poland. Vattenfall acts at all stages of the value chain in the areas of electricity – production, trade, transmission, distribution and sales. Vattenfall has some 35,000 employees and is wholly owned by the Swedish State.

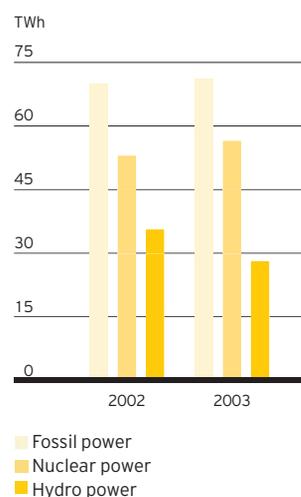
## Net sales and operating profit



## Return on capital



## Total generation of electricity

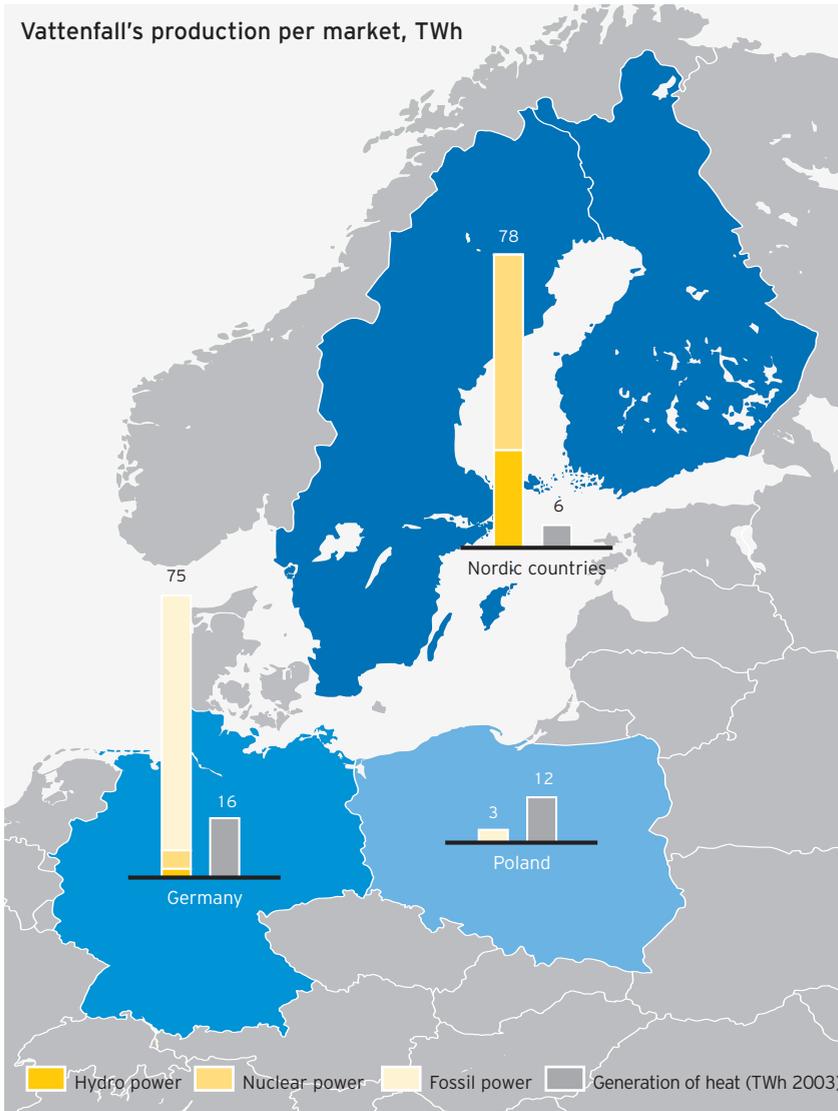


## Key ratios

	2003	2002	2003*
Net sales, MSEK	111,935	101,025	12,309 MEUR
Operating profit, MSEK	15,296	13,363	1,682 MEUR
Profit before tax and minority shares, MSEK	12,360	9,987	1,359 MEUR
Net income, MSEK	9,123	7,566	1,003 MEUR
Earnings per share, SEK	69.27	57.45	7.62 EUR
Return on equity, %	20.2	19.1	
Return on net assets, excl. items affecting comparability, %	12.1	10.1	
Total assets, MSEK	264,965	276,276	29,136 MEUR
Equity/assets ratio, %	23.4	20.0	
Funds from operations (FFO), MSEK	18,804	17,106	2,068 MEUR
Investments, MSEK	11,356	39,932	1,249 MEUR
Average number of employees in the Group	35,296	34,248	

\*) Conversion rate 9.094 SEK/EUR.

Vattenfall's production per market, TWh



**Operations in the Nordic countries**

**Generation.** Generates roughly 20 per cent of the electricity consumed in the Nordic countries. Electricity generated is sold within Vattenfall and to the electricity exchange, Nord Pool.

**Trading.** Central support functions for business units that trade in financial products for hedging electricity generation and electricity sales. Secures risks and conducts its own trading activities. Manages physical and financial trade of Vattenfall's international interconnectors and other cross-border trade.

**Sales.** Primarily sells electricity and energy-related services to domestic customers, energy companies, the industrial sector and other companies.

**Electricity networks.** Distributes electricity to 1.3 million customers in Sweden and Finland.

**Heat.** Is responsible for the sale of heat, and owns and operates heating installations in the Nordic countries and in the Baltic States.

**Services.** Conducts consulting, contracting and R&D activities within the energy, infrastructure and industrial sectors.

**Operations in Germany**

**Generation.** Generates roughly 17 per cent of the electricity consumed in Germany. Electricity generated is sold within Vattenfall through the business unit Trading.

**Trading.** Central support function for the business units for trade in electricity. Secures risks over the entire value chain, and conducts its own trading operations.

**Transmission.** Manages and operates the grids in Eastern Germany and Hamburg.

**Distribution.** Distributes electricity to 3.3 million customers, primarily in Berlin and Hamburg.

**Sales.** Sells and markets electricity and electricity-related services to resellers and end-customers.

**Heat.** Produces and sells heat. Operates district heating systems in Berlin and Hamburg, two of the largest systems in Western Europe.

**Operations in Poland**

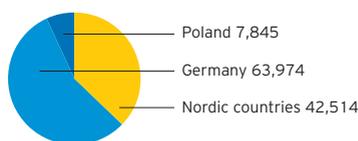
**Heat production.** Vattenfall owns 70 per cent of EW, a company that also generates electricity. The Company's controls about 27 per cent of the Polish heat market.

**Distribution and sales.** At year-end, Vattenfall owned 54 per cent of Poland's largest network company, GZE, which has 1 million customers, primarily in the southern part of the country. In February 2004, market share was increased to 75 per cent as planned.

Sales per Market, MSEK

	2003	2002
Nordic countries	42,514	37,969
Germany	63,974	60,696
Poland	7,845	3,167

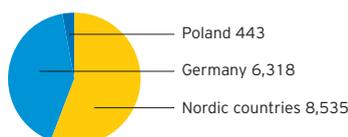
Sales per Market, MSEK



Operating profit per market, MSEK

	2003	2002
Nordic countries	8,535	8,625
Germany	6,318	4,733
Poland	443	5

Operating profit per market, MSEK



## STRONG RESULT SOLID BASIS FOR THE FUTURE

The Vattenfall Group presents a strong result for 2003. Sales increased by 10.8 per cent to SEK 111,935 million. Operating profit increased by 14.5 per cent to SEK 15,296 million and net profit increased by 20.6 per cent to SEK 9,123 million.

During the past years Vattenfall has increased three-fold in size and created advantageous market positions for continued growth in Europe. Our transformation from a Swedish to a Northern European energy company is based on the strategy which we established in 1997 as a reaction to far-reaching political decisions. The purpose of this strategy was to achieve increased competition and efficiency, increased choice for customers, and increased price and cost pressure.

This year's results show that our growth strategy designed to increase the Company's abilities has been successful. Return on equity is 20.2 per cent, and operations are generating a strong cash flow and a net decrease in loan amounts. Growth has given increased strength and our investments in Europe are bearing fruit.

Since the beginning of our extensive acquisition process in 1999, we have concentrated on completing the integration process and on taking advantage of the synergies created and the profits made possible by increased efficiency. Our financial strategy has focused on consolidating the companies we have acquired and on repaying our outstanding debts. Our owner has stipulated that Vattenfall return a 15 per cent yield on equity over an economic cycle, and an interest coverage ratio of 3.5–5. Vattenfall has a commitment to its creditors to retain its credit rating in the Single A category. We have now met, or are very close to meeting, these commitments. Compared to 1999, when deregulation and a number of wet years had a powerful impact, Vattenfall's net income after tax has increased from SEK 2.5 billion to over SEK 9 billion in 2003. It is now time to explore new possibilities which can strengthen the Vattenfall Group even further.

The extensive investment programme which Vattenfall is now carrying out in Sweden provides a concrete example of the strength of the Vattenfall Group:

- Reinvestment in the electricity network of SEK 10 billion over a period of 5 years.
- Nuclear power renewal programme of SEK 16 billion over a period of 12 years.
- Hydro power renewal programme of SEK 6 billion over a period of 10 years.

- Customer service programme – Number One for the Customer – of SEK 2 billion.

This strong result is connected to a long-term adjustment to altered market conditions; an adjustment that Vattenfall has been working with for a number of years. At present, Vattenfall is active primarily in Sweden, Finland, Germany and Poland. Seen from a European perspective, Vattenfall is the fifth largest generator of electricity (measured in generated TWh) and the largest district heating company. In the German market, Vattenfall is the third largest electric company. Our vision is to develop and become one of the leading energy companies in Europe.

Deregulation has changed the basic business approach in the energy sector in a fundamental way. Vattenfall's activities have undergone considerable efficiency improvements and rationalisation. Settlement between the separate parts is, at present, fully based on market prices, which are constantly created in trade in electric power. Services, including large parts of operations and maintenance, are put out to tender.

Vattenfall has utilised the intrinsic and acquired volume of each respective activity through:

- better use of volume-intensive resources, in order to attain low costs,
- acquiring resources which make enable lower average costs,
- developing and benefiting from knowledge and expertise in everything from organisation and control to design of separate operational processes,
- broader offerings to customers.

In addition to profits from the various operational areas, our growing volume is predicted to provide considerable advantages within the areas of financing, recruiting and risk distribution.

Deregulation, market integration, and the associated consolidation of the power sector result in considerable pressure on costs. Companies which cannot create sufficient volume in their operations will increasingly find their margins under

pressure, and will find it increasingly difficult to renew their operations while retaining reasonable profitability. This radical market shift, from markets with protected positions to markets with progressively stronger pressures on costs and subsequent price pressure, will continue during the foreseeable future within the enlarged EU.

In total, the European energy sector is characterised by stagnating volume growth and over-capacity for a product which has a clear commodity character. Volume effects can therefore primarily be achieved by co-ordinating or integrating two or more similar operations.

Vattenfall's main competitors are no longer Swedish or Nordic electricity companies, but are large European-based groups with considerably larger sales and more extensive financial resources. To be a leading energy company in Europe requires achieving a level of competitiveness that enables us to challenge very large international companies. Over the course of the past few years, Vattenfall has exhausted the possibilities of creating increasing volume-related effects within existing activities. Further cost-cutting within the established framework can therefore be primarily achieved through larger future growth investment.

At present, thanks to our Nordic base and our acquisitions in Germany and Poland, we have a favourable position for continued growth in Europe. Experience of competition in the Nordic countries and the integration and increased efficiency brought by the acquired companies constitute a commercial advantage which is important, but not permanent.

Our current market share will still be rather modest in a fully integrated European electricity market, less than 7 per cent. In terms of sales, Vattenfall is currently ranked ninth in Europe, and we are between one quarter and one third the size of the largest players.

In the long run, growth is a requirement for maintaining profitability and continued value creation. Our market posi-

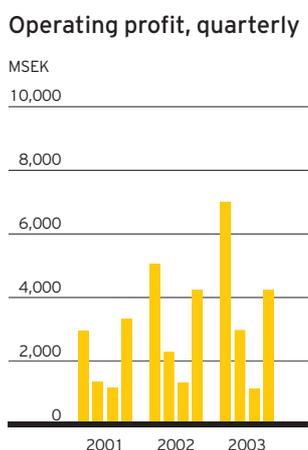


tion and competence provide us with a good base for continued participation in the consolidation of the European energy sector.

Lars G Josefsson  
President and Chief Executive Officer

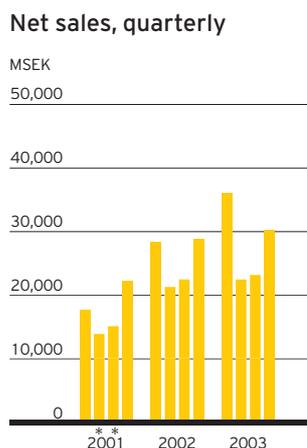
# STRONG OPERATING PROFIT FOR VATTENFALL

Operating profit increased by 14.5 per cent to SEK 15,296 million (13,363)  
 Net profit increased by 20.6 per cent to SEK 9,123 million (7,566)



The improvement in operating profit is explained almost entirely by cost savings and higher electricity market prices in Germany and by considerable improvement in earnings in Poland.

Net sales increased by 10.8 per cent to SEK 111,935 million (101,025)

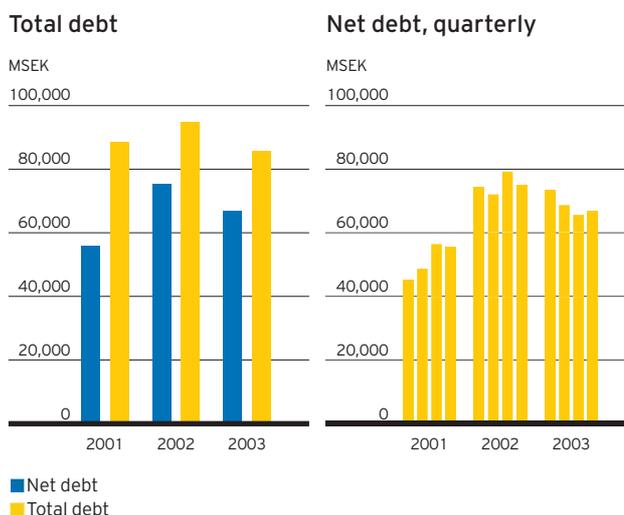


The increase in net sales is partly due to increased electricity revenues in the Nordic Area and Germany, and partly to the consolidation of the Polish company GZE as of January 2003, and that the German company Bewag is included for the full year of 2003 as opposed to only eleven months the previous year.

\*) These quarterly values are pro forma, and reflect the situation which would pertain if HEW had been consolidated from January 2001.

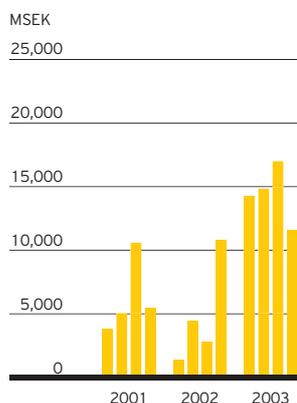
Net debt was reduced by over SEK 8 billion to SEK 66.9 billion

Net debt was considerably reduced during the year. The Group is in a period of consolidation and cash flow has been used to repay loans.

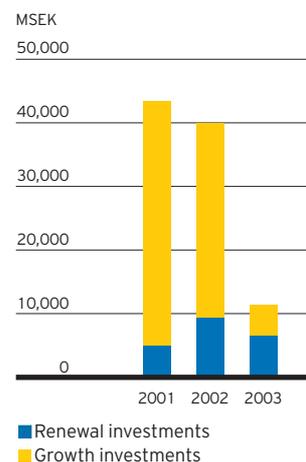


Earnings per share increased by 21 per cent to SEK 69.27

**Cash flow, quarterly before financing activities**



**Investments**



## Important events

### Increased focus on core operations

Vattenfall disposed of its holdings in Song Networks Holding AB during the year, and in A-Train AB (January 2004).

### New organisation for the Nordic countries beginning in 2004

The Group is now organised into two Business Groups; one for the Nordic countries and one for Continental Europe. Poland remains a separate business unit. In Germany, a further step was taken in the process of integration, with the formation of a joint Company Executive Management for HEW and Bewag, entailing operational integration of the two companies.

### Merger of the four German companies completed

The integration of HEW, Bewag, VEAG and LAUBAG was formally completed in August 2003, with these companies becoming Vattenfall Europe AG.

### Customer service programme Number One for the Customer initiated

A number of tangible improvements for the customer were launched in Sweden within the framework of the customer service programme Number One for the Customer. Examples of improvements include the phasing out of the so-called temporary price contracts, an end to advanced charges and the introduction of the "Convenient Electricity Price", a fixed monthly price for apartment customers. The programme will also give all of Vattenfall's 900,000 electricity network customers remote-readable electricity meters. In this way, advance charges can be done away with and replaced with invoicing of actual electricity consumption. During 2003, 44,000 remote-readable electricity meters were installed.

### Brunsbüttel back in operation

Vattenfall's majority-owned Brunsbüttel nuclear power plant in Hamburg returned to production at the beginning of 2003 after having been shut down for over a year.

### Barsebäck 2 resumed production

The Swedish nuclear power plant Barsebäck 2 resumed production in December after having been shut down for five months.

### Increased ownership in GZE

Ownership of the Polish sales and distribution company GZE was increased as planned from 32 per cent to 54 per cent. GZE was incorporated into the Group as of January 1, 2003. In January, the participating interest was increased to 75 per cent.

### Commission of the Goldisthal power plant

The Goldisthal power plant in east Germany was commissioned in September. With a capacity of 1,060 Megawatts, the installation is Germany's largest pumped storage plant and this facility makes Vattenfall the number one hydro power provider in Germany.

### The Stenungsund power plant returned to operation

Two blocks of the Stenungsund power plant, which had been permanently taken out of commission, were returned to operation. The plant is responsible for the greater part of the reserve power of 800 MW that Vattenfall provides in accordance with a multi-year contract with Svenska Kraftnät.

### German nuclear power plant Stade shut down

The German nuclear power plant Stade was shut down in November. It is estimated that it will take ten years to dismantle the facility. Vattenfall's ownership of Stade totals 33 per cent.

### Major investment in renewal programme

Investment was begun in Vattenfall's renewal programme for the Swedish production plants, which totals to SEK 16 billion for nuclear power and SEK 6 billion for hydro power.

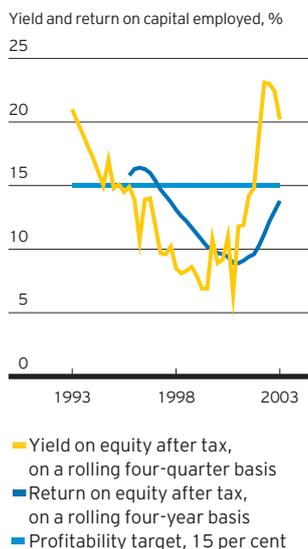
### Disruptions in Vattenfall's Swedish networks

Disruptions occurred in Vattenfall's Swedish networks at the end of the year. Vattenfall decided at the beginning of 2004 to invest a further SEK 2 billion, to improve the operational reliability of the Swedish networks. Total investment amounts to SEK 10 billion over 5 years.

### Group core values established

The Group's core values "Efficiency, Accountability, Openness" were established and are now being implemented throughout the entire Group.

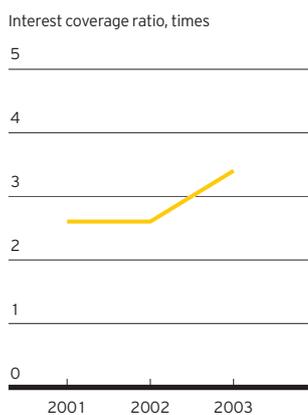
## Financial targets and outcome



### Goals and results

**Target:** The owner's long-term profitability goal is 15 per cent on visible equity after tax. Recalculated to the Group's long-term profitability requirement, expressed as return on net assets, this is the equivalent of a yield of about 11 per cent before tax.

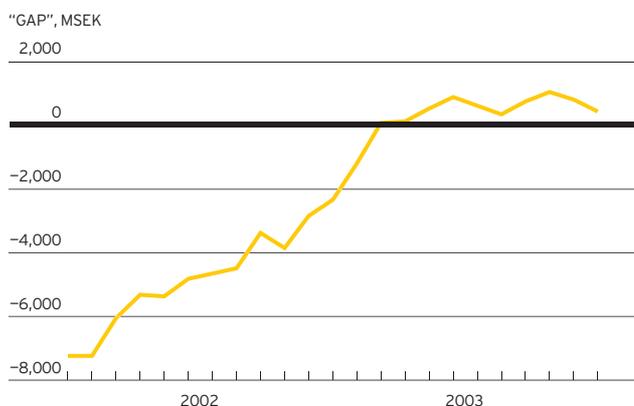
**Outcome:** Yield on visible equity after tax for 2003 amounted to 20.2 per cent (19.1). Yield on Group net assets amounted to 12.1 per cent (10.1).



### Interest coverage ratio

**Target:** The owner's goal is that the interest coverage ratio shall be 3.5 to 5.

**Outcome:** The outcome for 2003 was 3.3 (2.5).



### Value creation

**Target:** The profitability requirement set by the owner is recalculated to individual targets for value creation for each business unit. The difference between the value creation by the business unit and this requirement is called the Gap. If the result is less than the requirement, measures shall be taken to close the gap. If the result exceeds the requirement, the business unit can look for profitable expansion possibilities.

### Rating

**Target:** Vattenfall's ambition is to retain a rating at the Single "A" level as regards credit ratings.

**Outcome:** Vattenfall retained a rating equivalent to the Single "A" level during 2003. The outlook was improved from "negative" to "stable".

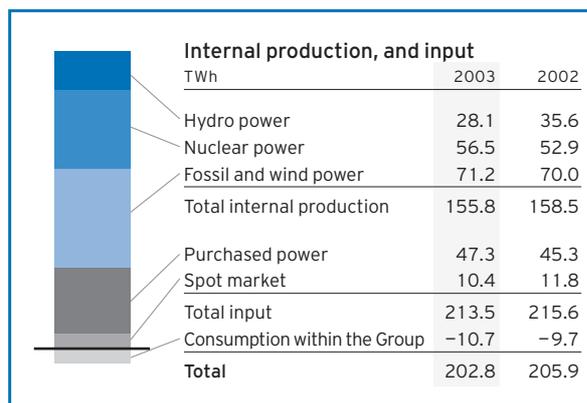


### Dividend policy

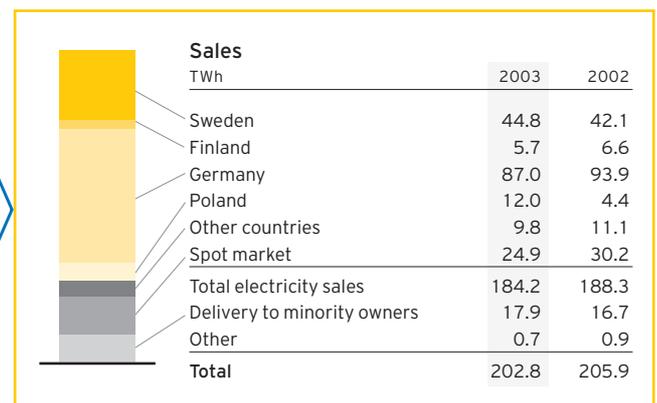
The intention is to maintain stable, long-term dividend which shall, under normal circumstances, equal one third of net income.

## Volumes

### Generation



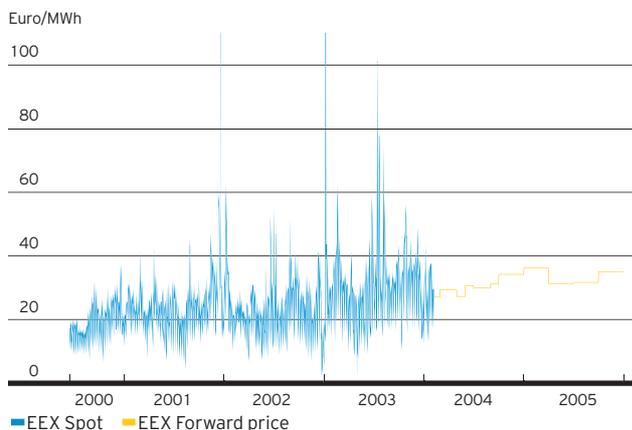
### Sales



The hot, dry weather resulted in considerably less hydro power generation than normal. On the other hand, nuclear power generation in the Nordic countries hit an all-time high, and the nuclear power plants of Ringhals and Forsmark generated 25.5 TWh, which exceeded the previous record from 1996 by 0.3 TWh. This produced considerably higher electricity prices on average of in the Nordic Countries, as well as record imports. The average price on the Nordic electricity exchange Nord Pool's spot market was SEK 333 per MWh (SEK 0.333 per KWh), against SEK 252 per MWh in 2002. As the water storage reservoirs gradually filled, the spot price declined during the autumn.

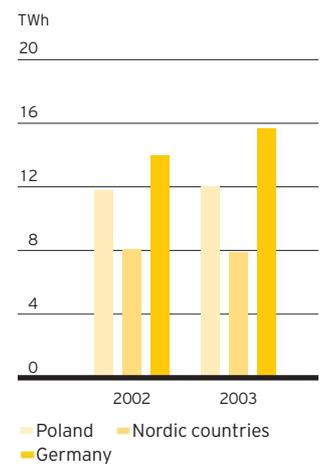
In Germany, electricity prices were also higher on average during 2003 than in the previous year. The average price on the German electricity exchange, EEX, amounted

#### Germany: electricity prices, spot and forward

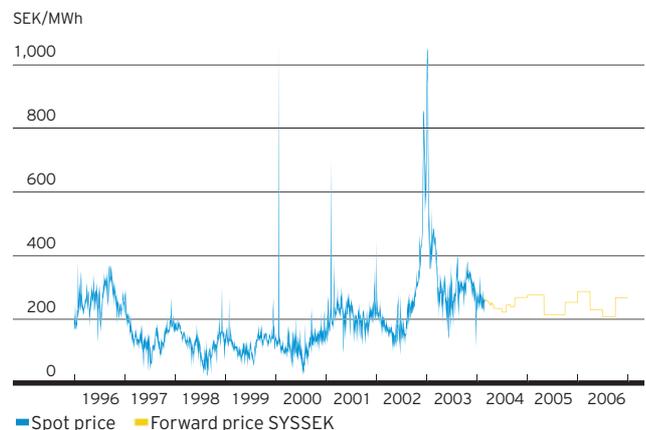


to EUR 29.48 per MWh as opposed to EUR 22.55 per MWh in 2002. The unusually hot summer months on the Continent led to low water levels and thus lower cooling capacity, which forced downward adjustment in nuclear power generation. Thanks to the Brunsbüttel nuclear power plant being restarted in early 2003, Vattenfall's electricity generation in Germany increased by some 10 per cent.

#### Sales of heat



#### Nordic countries: electricity prices, spot and forward



# BUILDING



A PLATFORM FOR PROFITABLE GROWTH

# STABLE PLATFORM FOR INCREASED VALUE CREATION

During the last few years, Vattenfall has taken several important steps towards realising its vision of becoming a leading European energy company. Turnover has increased three-fold, and strong expansion has been made in Germany and Poland. We are now putting all our efforts into securing our new position, and at the same time focusing on increasing profitability in all our operations.

## Seven main challenges lie to the fore for Vattenfall during 2004:

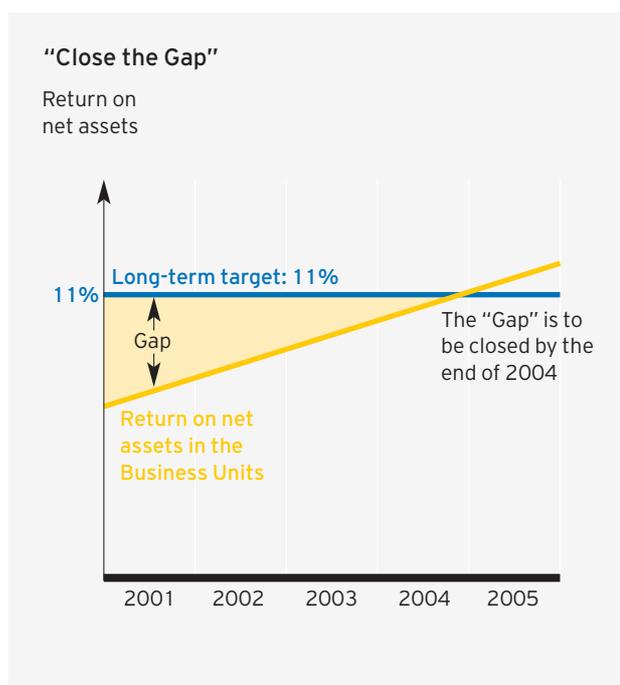
### Reach the financial targets

After a period of strong and successful expansion, Vattenfall's main focus during recent years has been operational and financial consolidation. The objective has been to reach a set profit target before the end of 2004.

The profitability programme is called Close the Gap, and involves the establishment of individual targets for value creation for each Business Unit, and also at Group level. These targets are based on the required return stipulated by our owners. The difference between the Business Units' profits and this requirement is called the Gap. If profit is less than the requirements, measures shall be taken to close the Gap. If profit exceeds this requirement, the Business Unit can look for profitable expansion possibilities.

In total, Vattenfall is well on the way towards achieving its goal; cost reductions have greatly improved profitability. Cash flow has also been strengthened, which has strengthened the balance sheet and secured a stable rating outlook, among other things.

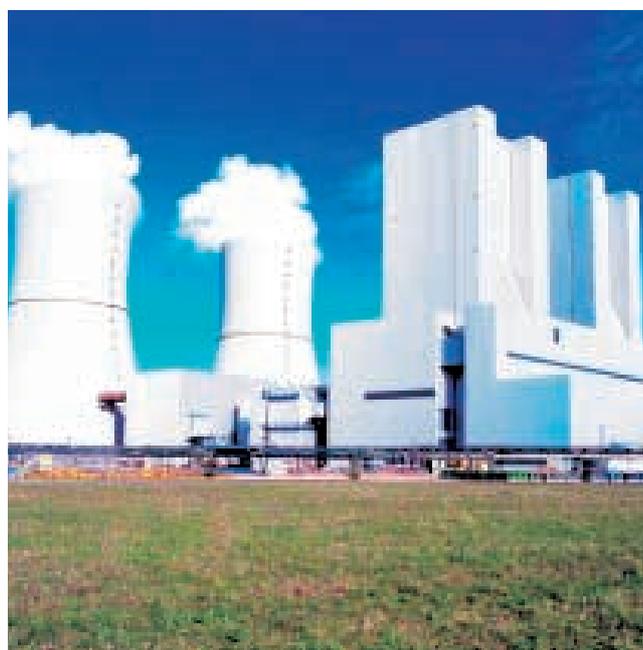
But the challenge is to close the Gap at the Business Unit level as well. Improved profits in those Business Units that do not reach their targets, and unchanged or increased profits through expansion, for example, in the other Business Units, are of the highest priority for 2004.



## Integrate the acquired companies in Germany, and increase their profitability

Today, Vattenfall Europe is the third largest player in the German electricity market, which is Vattenfall's largest market in terms of turnover. After the acquisition of the four German electricity companies, intensive integration work was begun. One of the main objectives in the ongoing integration process is that Vattenfall Europe shall achieve its established earnings requirement in 2005. In the case of Vattenfall Europe, this is an operating profit of about EUR 850 million.

In order for Vattenfall Europe to achieve its profitability target, profit must be improved in the amount of EUR 420 million, compared to 2001. During 2004, the focus will be on continued integration work, with especial emphasis on increasing cost efficiency in core operations and strengthening the new, joint sales organisation.



Lippendorf Heat Power Plant, Germany.

## Focus on core activities

Vattenfall's core business covers the entire value chain from production to sales within electricity and heating, and this activity accounts for 95 per cent of our turnover. Operations that do not belong to core activities can be disposed of, as can operations that are not expected to achieve the profitability requirements within a reasonable time.

The operational and financial consolidation of Vattenfall's activities means that we are restricted as regards new corporate acquisitions in the near future. In parallel to financial goals being attained, Vattenfall will increasingly focus on its primary objective of creating value through growth.

Turnover per Business area	
MSEK	2003
Electricity	75,966
Network	40,372
Heating	16,306
Eliminations	-28,697
Other	7,988
<b>Net sales</b>	<b>111,935</b>

## Securing and strengthening risk management

Concurrent to the deregulation of the energy markets, increasingly stringent requirements are being placed on energy companies with regards to risk management. Risk management itself has become a success factor. Those who can effectively identify and manage various risks along the value chain gain a strategic advantage. At present, Vattenfall has a very strong, established organisation for risk management in the various areas of operations. Vattenfall's experience of deregulated markets provides a substantial competitive advantage in the area of risk management. Work is underway to co-ordinate and strengthen risk management through best practice within the Group. Planned improvements are being implemented within such areas as risk identification and Group co-ordinated risk measurement.



Examples of risks in Vattenfall's operations.

## Securing good quality and profitability within electricity network operations

Parts of Vattenfall's operations, such as transmission and distribution, are natural monopolies. New models for regulation are being prepared, and are creating uncertainty with regard to future profitability. How these models will be developed will be determined primarily within the EU. In order to secure good quality of supply and profitability in the operations in question, Vattenfall is working proactively with issues concerning the development of systems for regulating network operations.



Power line (70 kV), Gotland, Sweden.

## To increase proactivity in relation to more stringent environmental requirements and Government regulation

Demands from customers, politicians and the general public regarding sustainable development in society, with a sharpened focus on energy solutions with limited environmental impact, are increasing. In recent years, the EU has also upped the pace of the fight against greenhouse gases that have environmental effects. In the short-term, measures are required which reduce emissions caused by present production. Here the planned introduction of trading in emission rights will

play a major role and entail far-reaching effects for the energy sector. It will cause greater use of energy sources, but no emission reductions, nor the development of new technology to reduce or eliminate emissions. Together, these factors will be of great importance to the development of Vattenfall. At the same time, rapid development is being made towards a deregulated and borderless European market, in which large sections of the energy sector will be subject to competition.



Vattenfall's opinion is that trade in emission rights in an efficient manner will reduce emissions. Vattenfall is concentrating on aggressive environmental work, which increases our competitive strength, in both the short term and the long term. We also see a well-functioning and deregulated European energy market as a prerequisite for meeting the demands for energy production that strengthens long-term sustainable development. During 2004, Vattenfall will assign additional resources to increasing proactivity in issues concerning environmental requirements and Government regulation. We wish to work for development that entails sound economic incentive structures for the construction of future production plants.

Akkats Hydro Power Plant, Sweden.

## Build on the Swedish "Number One for the Customer" investment

Being "Number One for the Customer" is one of the most important challenges for Vattenfall. Since 2002, a pilot project has been underway in Sweden for increasing customer satisfaction with regard to service, quality and customer care. A central component of this investment is new electricity bills that are easy to read and that to an increasing extent are based on exact consumption. As new electricity meters that can be read remotely are installed, the previous advance charges are being done away with. The level of quality, efficiency and customer care is being raised, and a separate service guarantee introduced.

Experience from Swedish investment in improved customer service, completed during 2004(–2005), will subsequently be applied to all of Vattenfall's markets.



Remote-readable meter.

Vattenfall's long-term challenges for attaining the vision of becoming a leading European energy company remain unchanged. Continued expansion does, however, require increased value creation and the consolidation of acquisitions that have already been made. As short-term goals are achieved, Vattenfall is again increasing its focus on the growth strategy

## These are our most important long-term challenges:

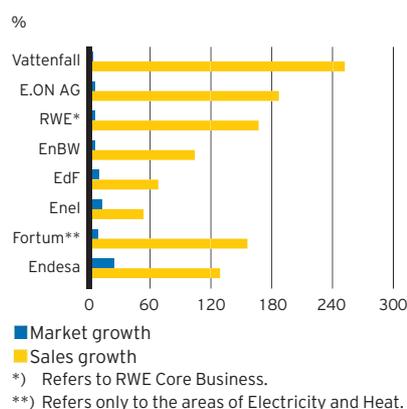
### Continued growth through acquisition and co-operation

Vattenfall's vision is to be a leading European energy company, and this is to be attained through growth with retained profitability. As the possibilities of growing organically within the energy sector are limited, Vattenfall's growth will primarily be achieved through acquisitions. In this way, Vattenfall can participate actively in the continued restructuring of the European energy market.

Vattenfall has a long-term and sustainable strategy for future business mergers. The companies that may be of interest primarily consist of producers and distributors within the electricity and heating segments in Vattenfall's core markets and in neighbouring countries. Heating and electricity production based on natural gas is also a conceivable growth area.

In the long term, growth and restructuring are prerequisites for increased value creation and improved profitability. Size provides financial strength, the possibility to spread risks more widely and advantages within areas such as maintenance, administration, purchasing, research and development and IT.

Market growth and sales growth, 1997–2002



### Create cross-border synergies

Just a few years ago, energy market borders were identical to national borders in many places in Europe. For this reason, creating effective synergies between Vattenfall's operations in different countries and between Business Units in each country is pioneering work. It is our conviction that correctly utilised synergies will provide Vattenfall with considerable competitive advantages – in terms of both expertise and cost effectiveness.

Our ambition for the next few years is to raise the general level within areas such as purchasing, customer care, environmental improvements and standardisation of equipment through best practice comparisons between units in different countries. In the slightly longer term, establishing our joint brand will increase value creation within Vattenfall.

Claudia Münch-Gliewe, project manager for The International Rotation Programme.

## Become “Number One for the Customer”

A lack of trust from customers and the general public is one of the most serious threats to an energy company. Constructing a broad and solid level of trust is therefore one of the most important challenges for Vattenfall. Our brand shall be synonymous with reliability and responsibility for the community and the environment. With Vattenfall's extensive experience of deregulated markets and our high levels of service and accessibility, we will work aggressively to become the first choice for energy customers.

Customer Service: Björn Brännström and Åsa Hyvönen at Vattenfall's Nyköping office.



## Become “Number One for the Environment”



Vattenfall is well equipped to deal with the considerable environmental challenges ahead of us – in Europe and globally. A considerable share of our production comes from renewable energy sources, such as hydro and nuclear power, which generally have very low emissions and do not release greenhouse gases. The coal-fired power stations in Germany are equipped with the most modern cleaning technology, while in Poland continual upgrading of smoke gas cleaning is underway.

Moreover, as environmental requirements tighten, Vattenfall's ambitions are increasing. Climate change has made the issue of air pollution global, and within the EU far-reaching measures are being prepared to severely limit the emission of greenhouse gases. Vattenfall's environmental work is a central success factor with regard to both competitive ability in the market and in creating trust among customers and other interested parties.

The new Horno Village in eastern Germany.

# CHALLENGING



# A RAPIDLY CHANGING MARKET



# A NEW ENERGY MARKET IS EMERGING IN EUROPE

The European energy market is undergoing a change which is as rapid as it is extensive. By 2007 all EU countries will form a single open and deregulated market. All the major players are participating actively in these structural changes, which are taking place in parallel, and competition is intensifying. At the same time that customers' freedom of choice – and demands – are increasing, environmental demands on the energy sector are being progressively intensified.

During the past 15 years, a wave of change has swept over the world's energy markets. In Europe this change began in England and Wales, when the old monopoly was restructured under a new, liberal regime. The entry of the market mechanism into electricity supply has brought with it a higher degree of efficiency and customer orientation. The transformation of the European electricity market has had a number of radical effects. Deregulation has led to the abolishment of the monopolies which prevented openness, competition and efficiency to an ever greater extent. Requirements for return on capital in market conditions have, in many cases, led to privatisation and market listing.

In order to achieve increased efficiency, the level of integration has increased, both over national borders and electricity market borders.

This development has resulted in a freedom for the customer to choose their electricity supplier, together with increased possibilities for the customer to adjust their price and risk profile. For electricity producers and traders, these changes have led to pressure on prices and costs, lower margins, and increased competition. Market development has stimulated companies in the energy sector to grow through mergers and acquisitions across borders. Internationalisation and the introduction of new business models in the energy sector are yet further ingredients in the restructuring trend. Ten years ago, Vattenfall had all its activities in Sweden. Today, sales have increased three-fold, primarily through acquisitions in Germany, Poland and Finland.

## Greater price variation in deregulated markets

In a free, competitive market, it is natural that prices fluctuate. Price signals express the increased cost of producing more energy during shortages, and reduced costs during surpluses, respectively. Electricity producers sell their electricity in a market, and the players in that market, including consumers, make active choices to protect themselves against price increases and to benefit from price reductions.

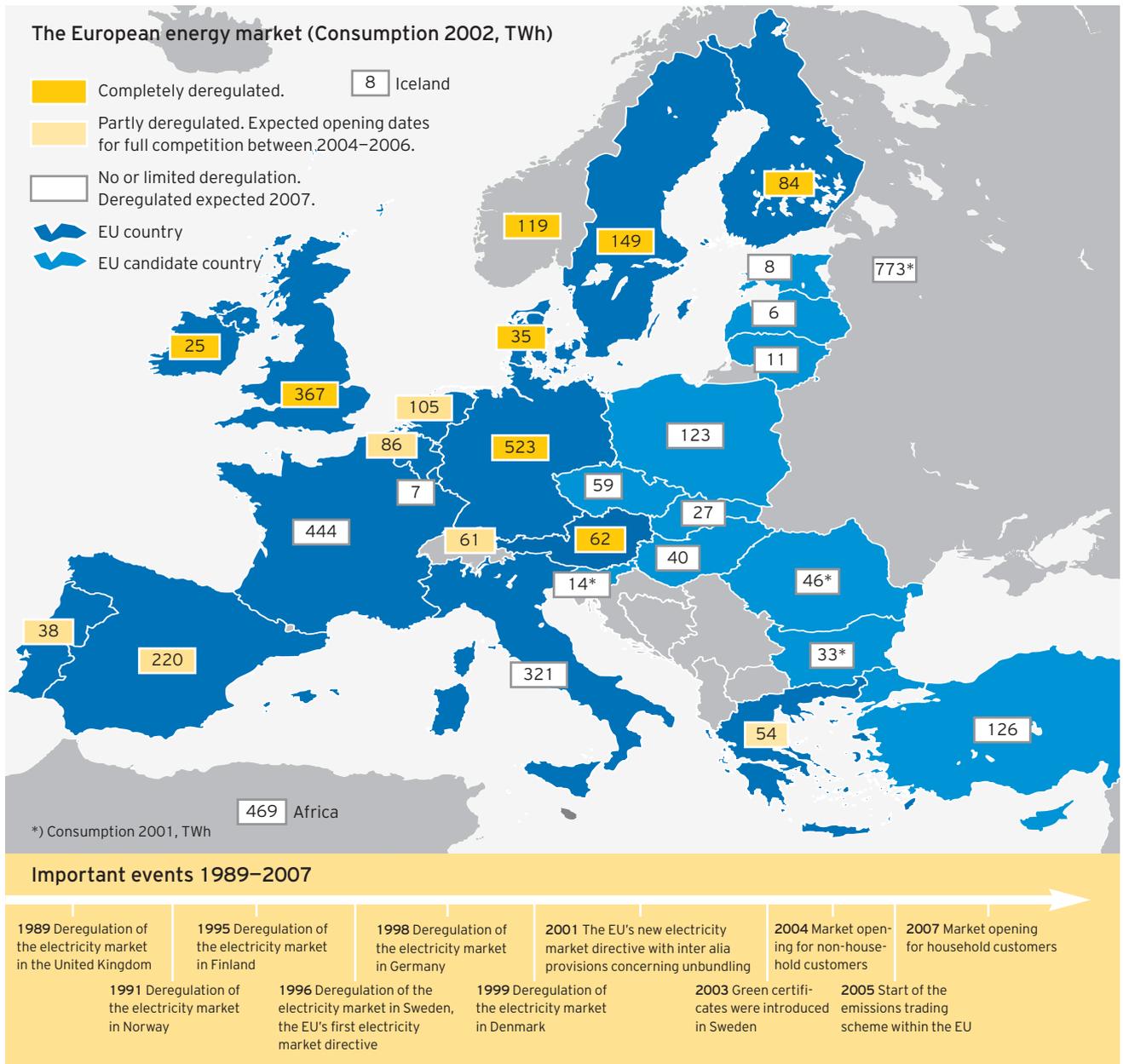
In a power system with a large proportion of hydro power, weather is one of the factors which causes considerable variation in the price of electricity. For example, the period running from the second half of 2002 to the first half of 2003 was characterised by unusually low precipitation, which resulted in high electricity prices in the Nordic market. In mainland Europe, a hot, dry summer also led to higher electricity prices. This was due to the fact that consumption of electricity for air-conditioning increased at the same time as the production of electricity declined due to high cooling water temperatures.

The conditions of the past year can be considered extreme, but are, nevertheless, in line with what can be expected in the form of market variations. Similar conditions may very well occur again. Seen over a longer period, market prices should, on average, return to more normal levels, but price fluctuations due to temporary phenomena will always remain.

## New role for network operators in deregulated market

In a deregulated market, the role of the network operators also changes. Legislation covering all electricity network operations must therefore be adapted accordingly and must take many different interests into consideration. One problem in this regard is that the majority of electricity networks were planned and built before deregulation, on the basis of the prevailing conditions at the time. Charges for using networks are determined by the network operators, which are supervised by a regulatory authority. In some cases, charges are set directly by this authority. The principles governing legislation vary between different countries. All legislation has certain things in common, however, such as that in a deregulated market, it must:

- provide non-discriminatory network access to all users.
- reimburse network operators at reasonable costs.
- provide the network operators with reasonable return on capital, which allows the possibility of maintenance and new investment.



- provide network operators with opportunities and incentives to increase efficiency, ensure security of supply and provide the customer with comprehensible invoices.
- protect the customer from abusive monopoly.

It is of extreme importance that the regulatory authorities define what a reasonable return on capital is. Without a return on capital adjusted to market conditions, the network

operators will not have the incentive to invest in new capacity or to maintain and upgrade existing assets.

### Continued excess-capacity in the European electricity market

In countries with a deregulated electricity market, and efficient competition, the price of electricity has, in general, declined considerably, with the exceptions of the years

2002–2003, which were exceptional in terms of climate. Currently, supply exceeds demand in the majority of markets, which means that electricity prices will be relatively low.

Over time, demand for electricity will progressively increase, at the same time as existing production installations will be decommissioned due to age. In due course, new production capacity must be added. This process will take various periods of time depending on local conditions and political decisions.

## The influence and role of the EU is increasing

The European Union has played an important co-ordinating role in the development towards increased competition, integration and efficiency. The first step was the introduction of a minimum set of legislation, with the purpose of creating increased openness on national markets, and in certain cases, in regional markets. Further legislation has been continually introduced, with the objective of attaining full competition and freedom of choice for customers beginning in 2007.

Further steps will follow. National markets are being developed into regional markets, which in turn, will form a single European electricity market. In this process, it is important that rules and legislation are developed in harmony. Development must take place in step, so that sub-optimisation does not occur on individual markets.

In parallel with the basic structural changes involving Europe's energy supply, the EU must also manage the environmental change and safety aspects that come along with development towards an increasingly electricity-intensive society. As a result of the EU's adoption of the Kyoto Protocol, the European Parliament adopted a proposal to introduce a system for emissions trading on July 2, 2003. The system, which will be effective as of January 1 2005, is intended to control and reduce emissions of six greenhouse gases, beginning with carbon dioxide (CO<sub>2</sub>), in a cost-efficient way. The system will cover the six industrial sectors that together account for 46 per cent of total emissions within the EU. The energy sector is the biggest source of emissions of these sectors.

## Deregulation and restructuring of energy markets within the EU will continue

The differences between EU countries with regard to the pace of deregulation are still considerable. The Nordic countries, the United Kingdom and Germany have taken the lead in this development, and are already fully deregulated, while the process is going much more slowly in France and Italy, for example.

Deregulation within the EU has taken place gradually, and in general, the member states have been allowed to set their own pace, which has led to slow change. What we have seen up to now, however, is just the beginning. The Euro-

## The legal framework of the EU electricity market

Main provisions of the Directive concerning common rules for the internal market in electricity and The Regulation on conditions for access to the network for cross-border exchanges in electricity

### Market opening

All customers should have the right to choose their supplier, non-household customers by 1 July 2004 and households by 1 July 2007.

### Unbundling

From 1 July 2004, transmission and distribution operators in all Member States shall separate interests not relating to transmission/distribution from other activities of the company at least in terms of legal form, organization and decision making. Individual Member States may decide to postpone

legal unbundling until 2007 and to not apply it to companies serving less than 100 000 customers. If applied, the latter would have effects on the market in countries with many small distribution companies.

### Public service obligations

Household customers and small enterprises shall enjoy universal service, i.e. the right to be supplied with electricity at reasonable prices. In or with the bills, the suppliers must specify the contribution of each energy source to the overall electricity generation mix.

### Regulatory authorities

Every Member State shall designate a competent body, wholly independent from the interest of the electricity industry, which

shall monitor the market and ensure non-discrimination, effective competition and efficient functioning of the market.

### Cross-border exchanges in electricity

Fair, cost-reflective, transparent and directly applicable rules shall be introduced with regard to crossborder tariffication and the allocation of available interconnection capacities, in order to ensure effective access to transmission systems for the purpose of cross-border transactions.

The Directive and the Regulation shall be implemented in the EU Member States no later than 1 July 2004.

## Vattenfall and customer satisfaction

### The market works – but there is room for improvement

Deregulation has gone forward at different paces in the countries where Vattenfall operates. In the Nordic countries, integration between the different countries had already progressed so far that a regional market had been established. The electricity market in Germany is still in a transitional period, and despite the fact that all customers can now choose electricity suppliers freely, the legal unbundling between electricity operations and sales is not yet in place. Poland is in an earlier stage in the process, and only the first steps towards a deregulated market have been taken.

Many factors still prevent the development towards free competition of the energy market within the EU:

- Differences of the degree of deregulation make subsidising between different parts of the value chain possible for certain competitors, but not for others.
- Differences in access tariffs for network operators hinder competition, due to insufficient transparency and ineffective regulation.
- The dominant position of some existing electricity producers, in combination with bad liquidity in the wholesale and balancing market, prevents new players from entering the market.
- Insufficient interconnection within the infrastructure between countries and regions, and unsatisfactory methods of allocating spare capacity when bottlenecks occur.

Vattenfall believes customer satisfaction is crucial if the market is to function satisfactorily for all parties. Satisfaction not only with the products they pay for, but also with the service they receive in their communication with electricity suppliers and network companies. This applies to both large and small customers alike. In the long run, no electricity supplier can retain or increase its market share if its customers are not satisfied.

Many customers in Sweden find electricity bills incomprehensible. This is true not only with regard to payment for an invisible product, which is measured in a way unknown to many people, but also that payment is based on a forecast of use, which is then eventually adjusted when real data is accessible.

In Sweden, customers' are confused as to how much money is to be paid, and because of the large differences between forecast and recorded consumption. This situation is unacceptable. Vattenfall is carrying out serious development work with a view to making the invoices more comprehensible for customers in the Swedish market. In the future, this work will lay the foundation for better service for all of Vattenfall's customers in every country of operations.

pean Commission and other EU institutions will continue to push through community-wide regulations for increased integration across borders.

Prior to deregulation, the national energy markets were isolated from one another and were constructed for internal supply and maximum reliability, which meant that over-capacity was built up, country by country, with regard to electricity generation. In pace with the removal of trade barriers between countries and supply monopolies being dismantled, a new, fragmented international market is emerging, with

many, relatively small players. Many companies, including Vattenfall, have chosen to grow through mergers and acquisition in order to attain a size which gives competitiveness in the new, larger energy market.

During 2004, ten countries will become new EU members. By so doing, they undertake to open up and deregulate their energy markets. The future, deregulated European energy market will as a result grow from 390 million inhabitants to 465 million, equalling a growth in demand for electricity from 2,700 TWh to 3,000 TWh.

## FEWER AND LARGER PLAYERS

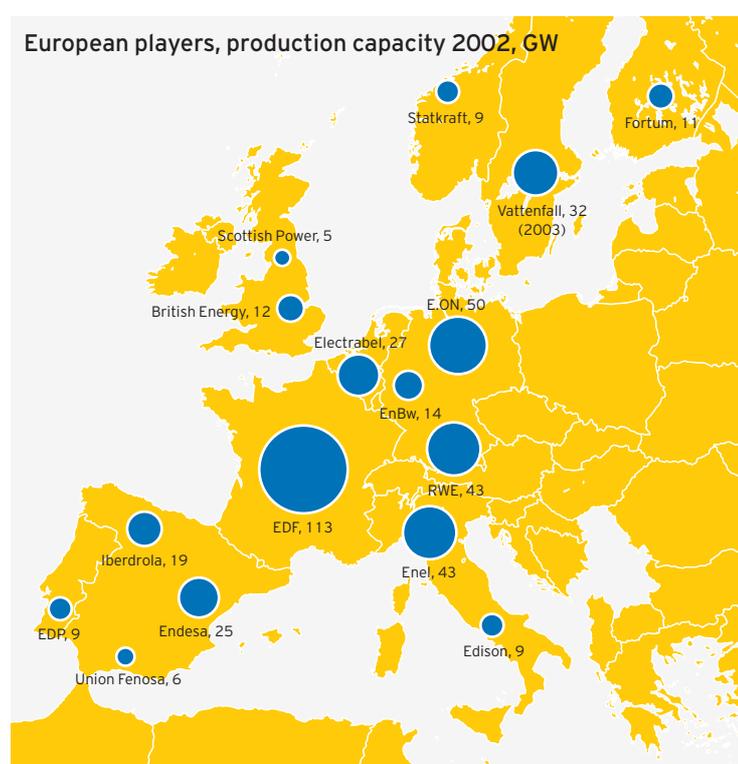
Growth by means of mergers and acquisitions has been the main strategy for the major European energy companies during recent years. During 2003, however, the major companies have paused their expansion and focused on consolidation and integration of the companies they have acquired.

During 2003, a noticeable change occurred in the strategies of the major European players. From having invested in rapid international growth during a succession of years, primarily through debt-financed company acquisition, with drastically weakened balance sheets as a result, these players have changed focus. Now, consolidation and integration of the acquired companies is being concentrated upon, together with improving cash flow, disposing of non-core operations and reducing debt. Based on these companies' strategies, it is possible, after the extensive structural deals of recent years, to group the players in the following categories:

- Vertically integrated companies that invest in growth outside their respective national home markets, like French EdF, German RWE and E.ON, Swedish Vattenfall and Spanish Endesa.
- Companies that have attained strong positions in regional

markets, like Enel in Italy, Fortum in the Nordic countries, Iberdrola in Spain, Essent and Nuon in Benelux, EDP in Portugal, Scottish Power and Scottish and Southern Energy in Great Britain.

- Multi-utility companies, such as the French Suez and Veolia, with several product areas in addition to electricity and gas, such as water, waste disposal and transport, and with operations in several geographical markets. The British gas and electricity supplier, Centrica, can also be considered part of this group.
- Other companies, such as the municipality-owned German Stadtwerke, specialised companies such as the French gas supplier, Gaz de France, the British transmission and gas network company, National Power Transco, Norwegian hydro power producer, Statkraft, and a number of more-or-less local players, such as the German EnBW, Spanish Union Fenosa and others.



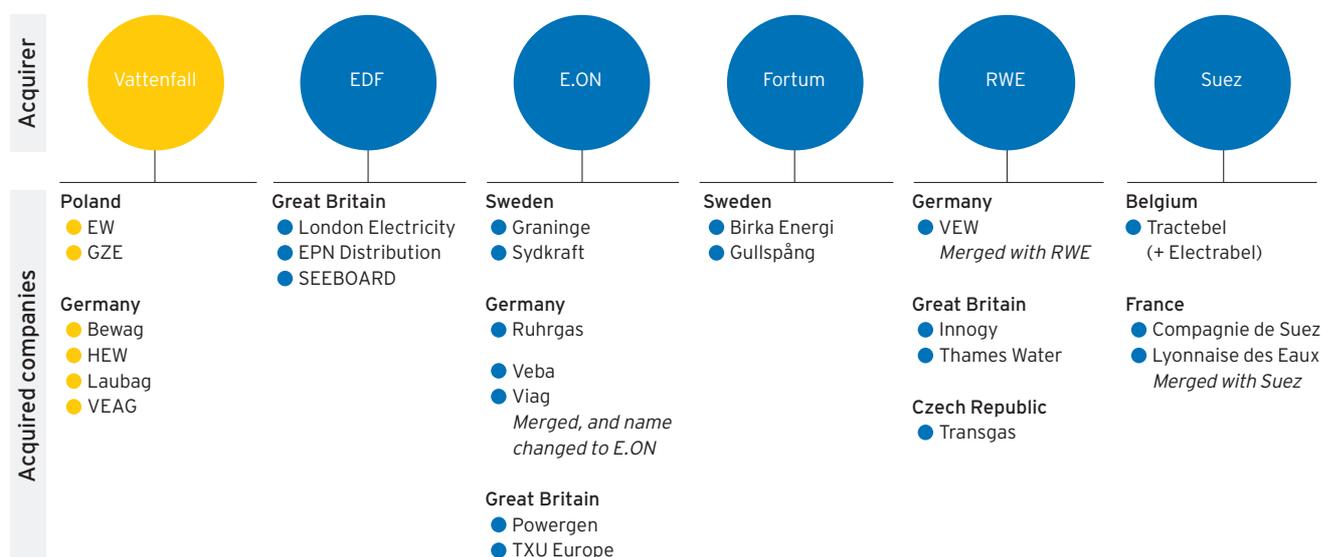
### Many state-owned companies have been privatised

As a result of the deregulation of the markets, and the requirement to break up national monopolies or the dominant positions of other players, many countries have chosen to privatise companies that were previously either wholly or partly state owned. Examples of these include Enel in Italy, Endesa in Spain, EDP in Portugal and Fortum in Finland. The French Government has communicated its intention to privatise EdF during 2004–2005, which means that Vattenfall may soon be the only large European energy company that is still 100 per cent state owned.

### Growth through acquisitions

When trade barriers between countries were removed, and local sales monopolies removed, a fragmented international market was created, with many relatively small players in European terms. With weak market growth, and thus insignificant opportunities for organic growth, many companies, together with Vattenfall, chose to grow through acquisition. Through this they have attained a size which is sufficient to meet compe-

## Consolidation within the energy sector (major transactions)



### Market share, %

	Elec.generation Nordic countries Volume 380 TWh	Distr. Sweden 5.2 million cust.	Distr. Finland 2.2 million cust.	Elec.generation Germany Volume 490 TWh	Distr. Germany ~42 million cust.	Heat production Poland Volume 47.3 TWh
Vattenfall	20	17	12	16	8	21
E.ON/Sydkraft	9	20	7	29	17	-
RWE	-	-	-	37	18	2
Fortum	14	17	13	-	-	-
Statkraft	13	-	-	-	-	-
Helsinki Energi	1	-	11	-	-	-
EnBW	-	-	-	11	12	-
Polish Government	-	-	-	-	-	40
Others	43	46	57	7	45	37

tion in the new, larger energy market. Those players who, due to their size, are prevented from growing in their own internal markets have instead acquired foreign companies and thus developed to become international players.

The German E.ON and RWE have grown primarily through acquisition in Great Britain and the USA, as well as in Germany and adjacent regions, through purchase of gas assets (E.ON's purchase of Ruhrgas, RWE's purchase of Transgas). The Spanish and Portuguese companies invested in expansion in Latin America, which led to considerable financial stress. The French EDF has had a global growth strategy and must now consolidate and refine its investments prior to a planned stock exchange listing. EDF's financial position is also bur-

dened by large, unfunded pension and nuclear provisions. The Italian Enel, which due to deregulation in Italy was forced to dispose of about one-third of its production assets, has made acquisitions in Spain and elsewhere. The Finnish Fortum has retreated from its German and British investments, and now invests solely in the Nordic market and the Baltic States. American players have, in general, retreated from their European investments, due in a large extent to financial difficulties in their home market in the USA.

The large European players have purchased a considerable number of energy companies in the Nordic countries, and in this way Vattenfall also meets its foreign competitors in Sweden, its own original home market. For example, Fortum has,

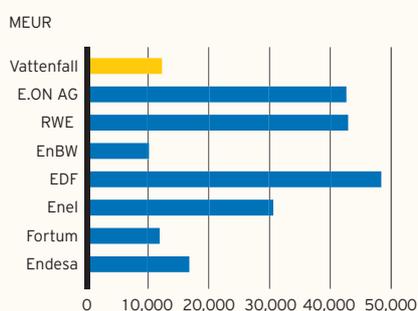
through the purchase of Gullspång and Birka Energi, become number two in the Nordic countries, and E.ON is number three, through its majority ownership of Sydkraft and Graning. EDF established itself in Sweden early on, but during the autumn sold its controlling stake in Graning to E.ON via Sydkraft.

## Focus on consolidation

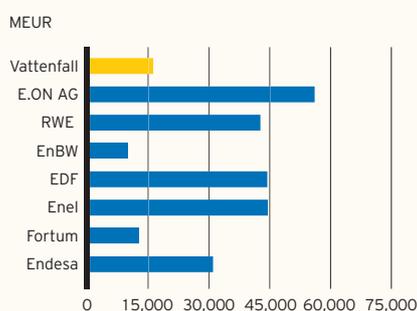
Certain players have, thanks to very strong balance sheets, taken a very aggressive acquisition strategy, which has driven up prices in bidding processes to unsound levels. As was the case with developments within the telecom sector, many energy companies have increased their debt drastically, result-

## Overview of competitors

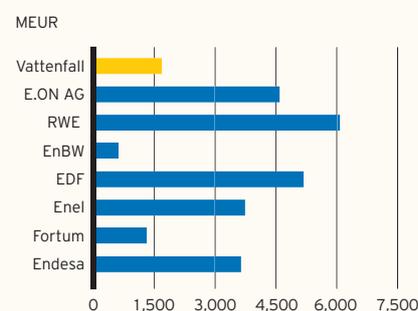
### Sales



### Capital employed



### Operating profit (EBIT)



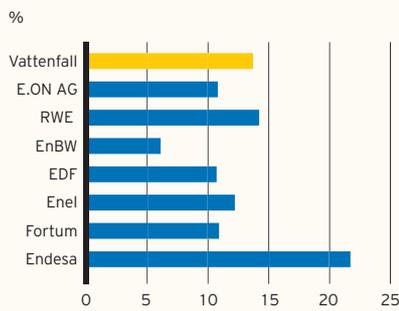
	Vattenfall	E.ON AG	RWE	EnBW
<b>Country</b>	Sweden	Germany	Germany	Germany
<b>Stock exchange listed</b>	Not listed 100 % state owned	Listed	Listed	Listed (EDF owns 34.5 %)
<b>Number of customers</b>	5.7 million	25 million in Europe (of which 6.2 own)	Electricity: 12.6 million Gas: 3.5 million Water: 13.2 million	4.5 million
<b>Products</b>	Electricity, heat (consultancy and contractual services, telecom)	Electricity, gas, water	Electricity, gas, water, waste disposal	Electricity, gas, water, waste disposal, telecom
<b>Main markets</b>	Nordic countries, Germany, Poland	Germany, Great Britain, USA, Nordic countries	Germany, Great Britain, USA	Germany
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Focus on electricity and heat in the Nordic countries, Germany and Poland</li> <li>• Integrate and improve profitability in the German acquisitions</li> <li>• After consolidation – continued expansion in adjacent areas</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on electricity and gas – utilise synergies</li> <li>• Integrate acquisitions</li> <li>• Dispose of non-core activities</li> <li>• International expansion – focus on Europe</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-utility</li> <li>• Utilise synergies between electricity and gas</li> <li>• Dispose of non-core activities (printing works, construction)</li> <li>• Consolidation – reduce costs and improve financial position</li> </ul>	<ul style="list-style-type: none"> <li>• Refocusing on electricity operations in Germany</li> <li>• Improving profitability and restoring financial balance through strong cost reductions</li> <li>• Disposing of non-core activities</li> </ul>

Sources: Sales, Capital employed, EBIT, Operating margin, Operating cash flow – Barclays Capital. Capital employed for Endesa: BNP Paribas. Rolling 12-month values as per June 30, 2003 for all except EDF (FY 2002) and Vattenfall (FY 2003). Number of customers: Barclays, BNP Paribas. Electricity sales: Barclays, BNP and homepage (RWE, EnBW). Products/Main markets/Strategies: Barclays, BNP Paribas, Moody's, S&P, Vattenfall.

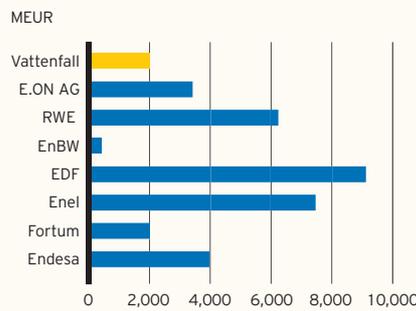
ing in extensive downgrades in credit ratings from Moody's and Standard & Poor's. Failed investments in Europe by the American players, together with Enron's sudden collapse in 2001, further increased the turbulence of the situation. At the same time, space was created for the most financially strong players to grow further.

Many companies in the energy sector suffer from the effects of an excessively rapid expansion pace. They are still financially strong, but in some cases are under pressure because of insufficient profitability. During 2003, therefore, focus has generally moved again to increasing profitability.

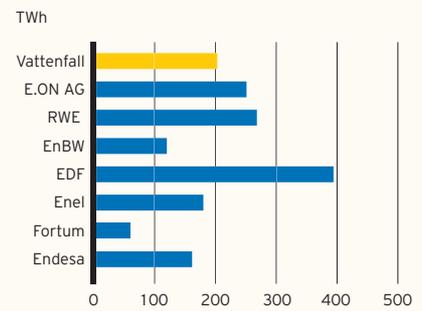
**Operating margin**



**Operating cash flow**



**Electricity sales**



EDF	Enel	Fortum	Endesa
France	Italy	Finland	Spain
Not listed, but planned to be in 2005	Listed 61.3 % state owned	Listed 60.8 % state owned	Listed
47 million (of which 31 in France)	Electricity: 30 million Gas: 1.7 million Telecom: 16,4 millions	1.4 in the Nordic countries	10 million Spain 10 million Latin America
Electricity	Electricity, telecom, gas	Electricity, oil, gas, heat	Electricity, gas
France, Great Britain, Germany (Italy, Spain, Latin America)	Italy, Spain	The Nordic countries, The Baltic States	Spain, Latin America, Italy
<ul style="list-style-type: none"> <li>• Prepare for privatisation</li> <li>• Widen product portfolio to include gas, energy services, etc.</li> <li>• Improve profitability</li> </ul>	<ul style="list-style-type: none"> <li>• Regional expansion but focus on Italy</li> <li>• Focus on core business energy (electricity, gas)</li> <li>• Diversification – telecom, however, is no longer a core activity</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on the Nordic countries and the Baltic States</li> <li>• Reallocate investment from the oil sector to electricity</li> </ul>	<ul style="list-style-type: none"> <li>• Shifted focus from multi-utility to core activities of electricity and gas</li> <li>• Regain financial balance</li> <li>• Consolidation of assets in Spain and Latin America</li> </ul>

Definitions: Capital Employed (Total Capital) = Interest-bearing debt + equity including minority shares.  
Operating cash flow = FFO + change in working capital.

# TOWARDS A EUROPEAN MODEL FOR MARKET PRICING

The Nordic countries have come furthest in the development of a stable and liquid market for electricity trading. German exchange trading is progressing quickly, while in Poland it is still in its infancy. The EU's decision to implement a system for emissions trading is expected to drive up electricity prices throughout the whole of Europe in the long term.

The price of fuel, primarily coal and gas, demand for electricity, and production capacity are the factors that dictate electricity prices in Central Europe. In the Nordic countries, hydro power is the largest source of energy. In such a production system, the price is lower during periods when the use of types of production that use higher fuel prices can be avoided. In the long run, more stringent fines for emissions of carbon dioxide are expected to move electricity prices upwards throughout Europe and in the Nordic countries as well.

The European electricity market is of considerable size, with a turnover of some 3,000 TWh per year, totalling about EUR 240 billion. Expected growth is relatively modest, between 0.5 and 4 per cent, and somewhat lower in northern Europe than in southern Europe. The construction of new production capacity in those countries in which Vattenfall is active is, at present, modest. The exception is wind power in Germany, where subsidies and tax advantages have resulted in rapid growth during the last few years. As a result, demand and prices for balance power have increased strongly in Germany. The high proportion of wind power can also lead to physical transfer limitations in the German high-voltage grid, which is expected to create further investment requirements.

## Liquidity is increasing in the Electricity marketplace

In countries where deregulation has already taken place, primarily in the UK, the Nordic countries and Germany, marketplaces with similar rules of conduct have developed. As a result of deregulation, electricity prices initially fell, subsequently stabilising or increasing somewhat. These markets are now in a maturing process, in which liquidity is continually increasing in all types of contracts, and the market price, to an increasing extent, is used as a reference for sales to end customers. The Nordic market is, for example, more liquid than the German market, since it was deregulated earlier. This was made obvious when the American companies, as a result of Enron's financial collapse, left the European electricity markets during 2002. Liquidity was partly regained in the Nordic market, but it took a considerably longer time in Germany.

## Low margins on the end-customer market

Despite the fact that the end-customer market was characterised by low mobility, at an early stage, deregulation led to intensified competition between the electricity suppliers with regard to price and product offerings. This led to sales margins becoming established at unexpectedly low levels.

In Germany, competition has from time to time, in combination with an integrated view of the value chain, resulted in prices below the market reference price (the spot price on the electricity exchange, for example).

## Increased price pressure for network operators

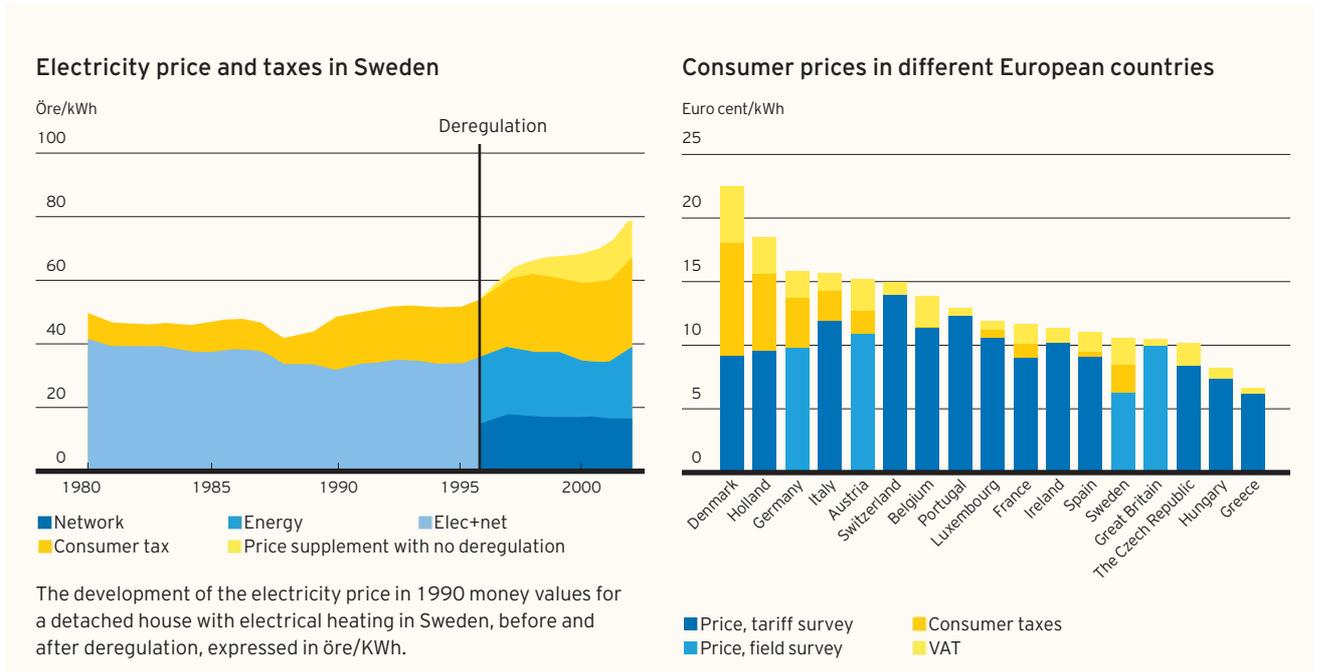
Network activities have also been substantially affected by deregulation. Pressure from legislators to reduce prices is increasing all the time and squeezing profitability as a result. In the Nordic market, the major players have utilised the synergy effects that resulted from considerable restructuring and concentration. In Germany, the market is still fragmented.

At present, restructuring of the electricity network market has more or less ceased in Vattenfall's main markets. In Finland and Sweden, the previously high prices in municipal electricity network companies have fallen to levels which may possibly attract purchasers again. In Germany and Poland, the main factors are caution and uncertainty on the part of investors prior to awaited legislation.

## Vattenfall is the largest producer in the Nordic countries

Vattenfall is the largest single producer of electricity on the Nordic electricity market, with a market share of 20 per cent. For this reason, Vattenfall satisfies considerable requirements and expectations by acting in a way that contributes to maintaining the trust in the deregulated market. The Nordic system is much more dependent on hydro power and during the winter of 2002/2003, insufficient precipitation led to extremely high electricity prices.

After deregulation, the generation of electricity, network operations and sales were conducted as separate operations, even if they often shared the same company. The commercial risks have increased considerably. The risks can be handled



more efficiently through developed market instruments and organised markets, such as the electricity exchange, Nord Pool. Nord Pool has a turnover of over 30 per cent of the total consumption of the Nordic countries and price formation is effected on a daily auction exchange. In this way, the market price becomes transparent and easily accessible for all the players on the market and also carries through into the bilateral market. Even if the electricity price is set on the spot market, the total cost of electricity varies between different regions due to factors which are not competitive, such as taxes and network charges, for example.

**Nord Pool – the Nordic electricity exchange**

Nord Pool is owned by the two system operators, Svenska Kraftnät in Sweden and Statnett in Norway, among others. Nord Pool's market area comprises Sweden, Norway, Finland and the Danish systems on Jutland and Zealand. Total electricity consumption during one year in the Nordic countries totals about 380 TWh.

Nord Pool supplies two marketplaces. One of these – the spot market – is an auction-based marketplace, in which market players can trade physical electricity supplies.

Here, the electricity players, with or without their own production capacity, can buy electricity on an hourly basis for the following 24-hour period.

Over and above the spot market, there is also a market for trade in standardised financial contracts, in which futures or forwards can be traded up to three years ahead in time. These financial contracts are a promise to buy or sell a certain volume of electricity at a predetermined price for delivery in the future. Over 300 players trade on the financial market, and trade is many times larger than actual electricity consumption. Turnover in 2002 was some 3,500 TWh. Vattenfall utilises the futures market to reduce fluctuations of the Company's revenues.

**Link between the electricity exchange and the end-customer market**

Most electricity users are small, and buy their electricity from an electricity supplier such as Vattenfall, for example. Electricity customers sign agreements with the supplier under various price and risk profiles, in the form of a fluctuating exchange-traded market price or a fixed price for a longer period of time.

Without an electricity supplier, customers would themselves be forced to trade on the electricity exchange, which can be complicated, expensive and risky. In addition, a minimum volume is required, together with some form of financial security, in order to obtain permission to trade on the electricity exchange. Instead, the electricity supplier provides this service in exchange for a certain margin on the electricity

price. Apart from the price of the actual electricity, the customers' total electricity cost also consists of electricity tax, network charges and VAT.

## Germany – the EU's largest electricity market

Germany is the largest electricity market within the EU, with an annual electricity consumption of 500 TWh, equivalent to 23 per cent of the EU's entire consumption. It is also the country in the European Union which has implemented the EU's internal directive on the electricity market in the shortest time, and the structure of the electricity market has therefore changed drastically. German electricity companies have been transformed into trans-national players and foreign companies, such as Vattenfall, have established themselves in the German market.

There are 1,100 electricity companies in the market, and the electricity industry employs 130,000 people, has sales of EUR 53 billion, and supplies electricity to 44 million customers.

## Uncertain price developments

Initially, the fierce competition on the German market led to very low prices for consumers. The opening up of the market resulted in prices for industrial customers being reduced by up to 50 per cent, and for household customers by up to 20 per cent. On average, commercial companies paid 35 per cent lower electricity prices in 2000 than they had done in 1998, before the deregulation. Since 2001, prices have again begun to rise for industrial and household customers, primarily because of higher coal and gas prices, but also because the electricity tax has been gradually increased in order to stimulate increased production of renewable energy. The soon-to-be-used system for emissions trading, regulation of third-party access (TPA) to the electricity network, and more stringent legal unbundling between network and sales activities, cause uncertainty with regard to continued price development.

## The German electricity exchange

During the summer of 2000, two markets were established for physical electricity trade, LPX in Leipzig and EEX in Frankfurt. These markets contributed strongly to increasing price transparency in the German electricity market. Trade with financial contracts began in March 2001 on the exchange in Frankfurt and on January 1 2002 the two markets were merged to form the European Energy Exchange (EEX), based in Leipzig.

Some 10 per cent of the physical electricity market is traded today on the spot market, and the volume is increasing steadily. A further 44,000 MWh per day is traded on average

on the OTC market (over the counter). EEX also plans to increase the market to cover trade with natural gas. This combined electricity exchange will involve reduced costs for market players in the form of increased transparency and liquidity.

## The price of coal determines electricity prices in Poland

In Poland, the electricity market is affected by a considerable reduction in economic growth.

The country is on the verge of entering the EU, and adjustment of legislation is required in many areas. The key questions are a faster deregulation process, questions concerning cross-border trade and more stringent environmental legislation. At present, few of the generation installations fulfil the EU's environmental requirements.

The total Polish generation capacity is about 34 GW. Demand, at its maximum, is only 23 GW. There is thus, theoretically, a reserve in the system of some 32 per cent. Shutdowns for repairs, and the electricity producers' own consumption of electricity, mean that the reserve, in reality, is about 10 per cent.

The price of coal and transport costs for this commodity are decisive with regard to the generation costs of the Polish power stations. Of the total electricity produced in 2002, coal-fired power stations were responsible for 63 TWh and lignite-fired power stations for 49 TWh.

Since the end of the 1980s, the Polish economy has been reformed from a central control economy to a market economy. Discussions concerning deregulation of the electricity market have been going on since the beginning of the 1990s. In Poland, electricity is looked upon as a socially sensitive commodity, and has therefore been an important question for the Government. Electricity prices were set solely by the authorities up until 2000, which explains the price drop in real terms from 1993–1998. As of 2001, electricity producers no longer need to have their prices approved by the regulatory authorities, which has resulted in prices going up. The upward trend continued during 2002, after the Government introduced a tax of EUR 0.5 cents/kWh for all electricity producers.

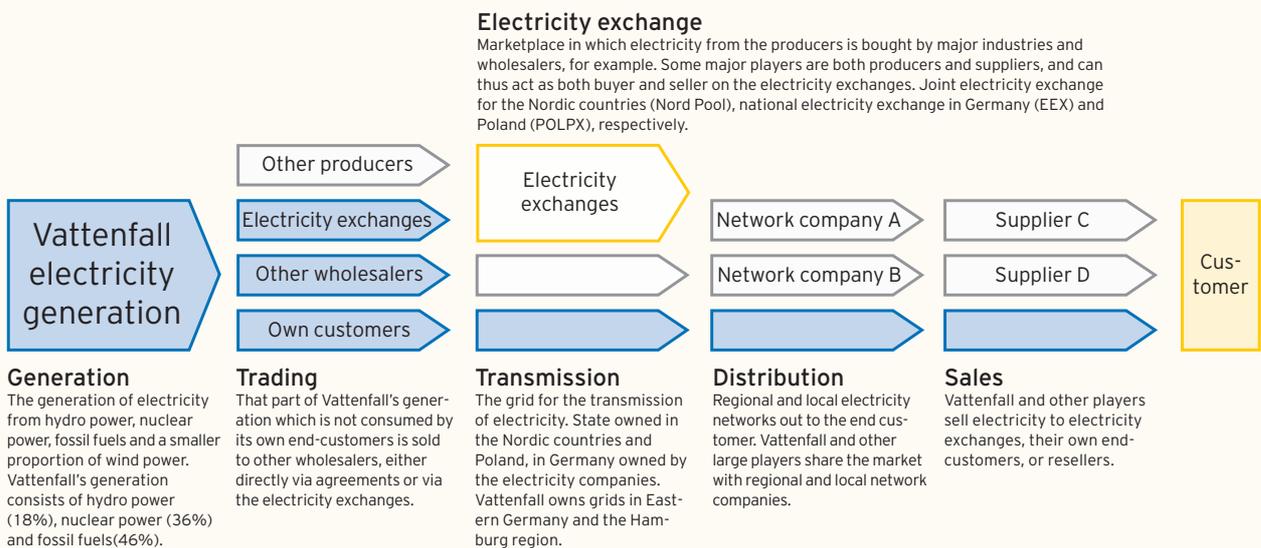
Market surveys show that the consumers want greater flexibility from the electricity suppliers with regard to the possibility of negotiating terms for their electricity contracts. The electricity suppliers must therefore adapt and satisfy requirements regarding changed payment terms.

## Low volumes on the Polish energy exchange

Since July 2001, there has been an electricity trading market in Poland, Towarowa Gielda Energii (POLPX). Liquidity is

## Vattenfall and the electricity value chain

 Vattenfall



still very low, only 3 per cent of electricity is traded via the exchange. The main reason is that electricity producers still sell 54 per cent of net production to PSE, the Polish transmission grid operator, through long-term agreements. PSE then sells on to the network companies. The network companies are also forced to buy a certain volume, by law, from combined heat and power plants and power plants that use renewable energy sources. For this reason, only 34 per cent of electricity generation in Poland is available for electricity trading.

The Polish Government and PSE have prepared a plan for terminating the long-term agreements with the electricity producers in exchange for some level of compensation.

### Conflicting factors govern Polish electricity prices

Abolishment of the long-term contracts, in combination with full third-party access, will increase competition on the

Polish electricity market. Producers are expected to sell their electricity through the exchange and electricity traders can then compare bids and offer competitive prices to the electricity sales companies. Producers subjected to competition may have to offer their electricity at prices that do not completely cover their costs. When deregulation has been fully implemented, the Polish electricity exchange price is expected to reflect the German one.

Entry into the EU will speed up the process of reforming the mining and transport sector, which may lead to lower coal prices. While several factors indicate lower Polish market prices for electricity, there are other factors which indicate higher prices for the consumer. In order to satisfy the EU's environmental requirements, considerable investment needs to take place in the Polish production installations. The costs of these measures will involve an increase in the price of electricity for the end-customer.

# TRUST – A KEY QUESTION FOR VATTENFALL

The establishment of good, firmly established trust on the part of customers, the general public, politicians, authorities and the media has become an increasingly central issue for energy companies. In order to create this trust, active and responsible environmental work is one of the most important cornerstones.

Vattenfall's task is to deliver electricity at competitive prices, and to maintain high quality. This must be carried out within the framework of a deregulated market in an increasingly electricity-intensive society. At the same time, the importance of progress within the environmental area has increased to become one of the key issues with which to win trust from the general public and the capital market. Energy supply is connected to considerable social responsibility. The way in which Vattenfall – and other energy companies as well – is perceived by the media, politicians, investors, public institutions and authorities affects the possibility of value creation.

For Vattenfall, it is therefore both a necessity and an opportunity to set the goal of becoming a leading company within the environmental area. A necessity, as the operations are very capital intensive, and the economic value of our assets must be secured. But also because the behaviour of Vattenfall, as one of the seven major players in the European energy market is continually critically scrutinised. An opportunity, because the increasing importance of successful environmental efforts is a decisive factor from a competitive point of view. Therefore, Vattenfall take advantage of the leverage effect that having the

goal of being a leader within this area can give. In addition, it is a prerequisite for obtaining the trust of customers, maintaining good relationships with authorities, facilitating authorisation processes and recruiting qualified personnel.

## The EU emissions trading system is designed to keep emissions in check

The influence of the EU in shaping the new electricity market has increased progressively during the last few years. There are two main factors driving the EU's increased involvement: belief that a more efficient electricity market can speed up the slow economic development in Europe, and the ambition to lead development towards a sustainable and responsible society.

The threat of climate change is one of the questions that dominates the European environmental debate today. In order to reduce emissions that produce the so-called greenhouse effect, the EU is introducing a system for emissions trading of greenhouse gases. The system will come into effect in 2005, initially covering only carbon dioxide. The system will have considerable effect on the development of

## The Directive establishing a scheme for Emissions Trading – what does it mean?

### The Kyoto Protocol

Commits the EU Member States to reducing their aggregate emissions of greenhouse gases (GHG) by 8 per cent by 2012 compared to 1990.

### The EU scheme for Emissions Trading

A tool to fulfil the EU Kyoto commitment in a cost effective manner.

### Emissions Trading

Trading with emission allowances.

### Emission

Release of greenhouse gases (GHG) into the atmosphere.

### Greenhouse gases

Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydroflouorocarbons (HFCs), Perflouorocarbons (PFCs) and Sulphur Hexaflouride (SF<sub>6</sub>). Only CO<sub>2</sub> allowances will be traded initially.

### Allowance

Allowance to emit one ton of CO<sub>2</sub> or an amount of any other GHG with the same global-warming potential.

### Trading periods

2005–2007 and 2008–2012.

### National allocation plans

To be developed by each Member State, stating the total quantity of allowances and how to allocate them. The plans shall be notified to the Commission by March 31 2004 for its approval.

### Allocation

Allowances shall basically be allocated free of charge. During the first period 5 per cent may be against payment, during the second period up to 10 per cent.

### Start of scheme

Trading within the EU will start on 1 January 2005.

## Vattenfall and the environment

### Modern plants and a large proportion of hydro power

In line with our ambition to be Number One for the Environment, Vattenfall is working to develop the ability to reduce emissions of carbon dioxide from fossil-fired power stations. There are three primary types of measures which can be cost-effective:

- Making existing installations more efficient. By increasing efficiency of utilisation, the quantity of emission per unit of energy is reduced.
- Complete or partial transition to fuels with a smaller quantity of carbon dioxide emission per unit of energy produced, biofuel for example (biofuel does not increase the net quantity of carbon dioxide, because biofuel is part of the natural cycle).
- Separation of carbon dioxide from the combustion process, and permanent storage in the bedrock. Several processes and sub-systems for this are in commercial use in other industries, in the oil industry, for example, mainly on a small scale.

Considerable investment is being made in research and development (R&D), primarily concerning the combustion of biofuel and the separation and storage of carbon dioxide. The latter technology is assessed to have considerable potential for achieving costs which are competitive within the framework of the system for emissions trading rights. Development is being carried out, both within Vattenfall and in large-scale collaborative programmes, in which Vattenfall is co-operating with equipment manufacturers, other energy companies, and universities and colleges.

The input covers the entire chain, from separation processes, via transport solutions to technology and knowledge acquisition concerning carbon dioxide storage in bedrock. Vattenfall has also taken the initiative of introducing a large EU programme for the development of separation technology. The general goal is to be able to construct a large-scale demonstration plant, a "CO<sub>2</sub> free power plant", to demonstrate the economic soundness of the technology.

#### Efficient utilisation and reduced environmental effects

Vattenfall's production installations for fossil fuel are among the most modern in the world. The majority of the fossil fuels that Vattenfall uses are used in combined heat and power stations in Germany and Poland, which give efficient fuel utilisation and thus less environmental impact. Because Vattenfall has a high proportion of hydro and nuclear power in the Nordic countries, total emission levels are low, which gives a competitive advantage on the European energy market.

The effect of the EU emissions trading system on Vattenfall will vary with the allocations in the various countries. In Germany, the allocation will result in a general shortage. For Vattenfall, the decisive factor is how the previous reductions of emissions during the 1990s are to be taken into account. Poland has a surplus of emission rights, and allocations can cover existing requirements. In Sweden, the emission budget is small, but the total allocation meets present requirements. At present, however, there is not much capacity for future increase. In total, Vattenfall's initial allocation may result in a deficit and in increased costs.

electricity prices and the relative competitive advantages between different types of power. Considerable effects on supply, demand, production costs, prices and competitiveness are also expected to result from emissions trading.

The basic mechanism of the system is that all combustion plants over a certain size must have the number of emission allowances that equals their emissions of carbon dioxide, and that these allowances can be traded within the entire EU. Each EU country has an emission budget in accordance with the so-called burden sharing agreement of the EU's undertakings in the Kyoto Protocol. In each country, an authority will allocate these emission allowances to the plants participating in the system, in most cases free of charge. The principles for allocation are decided within each member state, but must not conflict with the EU rules on Government subsidies and competition. In almost all EU countries there will be a shortage of

emission allowances. Year by year, the allocation will be reduced in accordance with the agreed emission reductions.

In pace with their increasing scarcity, the market price of emission rights will rise. Plants will always have to weigh between purchasing emission allowances on the one hand and physical measures to reduce emissions and perhaps releasing emission allowances on the other. In this way, physical measures will be steered towards where they are most cost-effective. The price of emission allowances will be determined by their scarcity, i.e. the collective reduction of emissions in accordance with the EU's emission budget, and the costs of achieving these reductions. Estimations of the prices of emission allowances vary greatly, between 5 and 25 EUR per ton of CO<sub>2</sub>, until 2012, which the first two trading periods cover. After that date, reduction goals will strongly control the price. In addition, emission allowances may be auctioned instead of being allocated free of charge.

The price of emission allowances will affect the price of electricity. In a deregulated market, the electricity price is essentially set according to the marginal cost of the most expensive unit in operation. This is often a fossil fuel-fired power plant, and in it are included the value of equivalent emission allowances. According to Vattenfall's calculations, a price for emission allowances of 5 EUR per ton will equate to an increase in the price of electricity by 2 to 3 EUR per MWh. Higher prices of emission allowances will of course give higher electricity prices, and also provide greater effect on the difference between the cost of existing plants and new plants.

## Successful deregulation of the electricity market

The deregulated electricity market has been in existence for only a few years, and some parts of Europe are still on the road towards deregulation. This fact means that knowledge and

understanding of the complexities of the market are not yet sufficiently disseminated. The lack of precipitation in the Nordic countries during the past year forced up electricity prices to historically very high levels, which caused the beginning of an extensive debate in Europe concerning the deregulated electricity market's efficiency and risks from electricity suppliers that dominate excessively. Voices began to be heard with demands for changes to the regulations, in order to attain more reasonable price levels, increased possibilities of choice for the consumer, and a more stable electricity supply.

Criticism was directed primarily at the energy companies, and was further compounded by the considerable disruptions to the electricity supply which affected companies and consumers during 2003. Storms, heavy snow fall, and a short-circuit in a transformer, which caused power outages lasting several hours in large parts of southern Sweden,

## Vattenfall is working actively to improve security of supply

Being the largest producer of electricity in the Nordic countries, Vattenfall is subject to especially stringent requirements and expectations with regard to acting responsibly. Our perception is that the market is working, but that there is room for improvement, especially with regard to security of supply and service to our customers.

Looked at from the perspective of the electricity market players, the winter of 2002/2003 showed that the market managed to handle swings in supply and demand in a satisfactory way. Despite some interruptions in generation, the electricity provision functioned well. Despite the dry year and the low levels of the Nordic storage reservoirs, the market managed to distribute resources efficiently. Rising electricity prices moderated consumption and led to the generation of electricity at high marginal costs. These effects are in line with what is expected from an efficient energy market.

Nonetheless, the electricity customers perceived the situation differently. From time to time, the spot price was so high that it required increased electricity prices to those end-customers who did not have long-term fixed price agreements, which created disquiet concerning deregulation and the effects of market integration. If the electricity market is to function, however, it must be possible for prices to go up and down in order to achieve a balance between supply and demand – both in the short-term and in the long-term.

Customers must, in turn, become more active and have greater insight so that they can influence their situation by choosing the right type of electricity agreement. Vattenfall is working actively with new types of electricity agreements and price offerings in order to make it easier for customers to

reduce their exposure to rising electricity prices.

Many customers experience electricity bills as complicated. At Vattenfall we are aware of this and are actively working to improve the situation. Through the project "Number One for the Customer", we have taken the initiative in the Swedish and Finnish markets, and we intend to take this initiative further into our other markets. Tangible measures, such as the installation of remote-read meters, which make possible direct readings of actual consumption of electricity, and the introduction of fixed monthly charges for electricity customers with small, consistent electricity consumption, have been introduced. All this is in line with our ambition to create trust and become Number One for the customer. The "Number One for the Customer" project is described in more detail on page 36.

During the winter of 2003/2004, bad weather with heavy snow fall in Sweden caused widespread power failures, which strengthened criticism from the public that electricity suppliers do not fulfil their obligations. For quite some time, Vattenfall has worked to upgrade security of supply, and during 2003 we also increased the so-called interruptions guarantee in which cash compensation is paid to households that are affected by electricity power failures for a certain period of time. As of 2004, Vattenfall will increase investment in the network by SEK 400 million per year for five years. As of 2005, the goal is that no customer should be subjected to power failure for more than 24 hours, and that by 2006 customers' average power failure time will have been reduced from 250 minutes at present, to 90 minutes.



Barsebäck Nuclear Power Plant.

### Nuclear power in Sweden

- Sweden currently has 11 nuclear reactors in operation. The ambition is to phase-out nuclear energy when it can be substituted with sustainable alternatives.
- In 1997, Parliament decided to decommission both reactors at the Barsebäck nuclear power plant, provided that the resulting deficit is covered by new production and a more efficient use of electricity.
- Barsebäck 1 was closed in the end of 1999. Most of the power generation from Barsebäck 1 has been compensated for by means of imports.
- Barsebäck 2 (B2) was initially planned for closure by 1 July 2001. Since the conditions for decommissioning have not yet been met, the decommissioning has been postponed.
- B2 has now been included in negotiations between the State and industry on the long-term energy adjustment strategy that includes decommissioning of the remaining 10 reactors in Sweden, with priority given to the rapid decommissioning of B2.
- If no agreement is reached on B2 by April 2004, the Swedish Government intends to use the decommissioning law from 1997 to determine the closing conditions for the reactor.



Krümmel Nuclear Power Plant.

### Nuclear power in Germany

- Germany currently has 18 nuclear units in operation and has decided to cease production of electricity derived from nuclear energy.
- The "Act on the Controlled Phase-out of Nuclear Energy Use for Commercial Electricity Generation", enacted on 27 May 2002, fundamentally amended the Atomic Energy Act from 1959. The purpose of this law has changed, from the promotion of nuclear energy to the controlled phase-out of its use.
- The "Energy consensus" achieved in 2001 between the operators of the German nuclear power plants and the German Government has led, by mutual agreement, to a change in the Atomic Energy Act.
- The Act specifies the remaining amounts of electricity approved for each power plant, and allows operators to continue to run their power plants in an organised manner until decommissioning.
- The phasing out of the first power station, Stade, was completed in 2003.

meant that the attention of the general public was repeatedly directed towards energy companies. Vattenfall is planning a long-term programme to be able to deal with the problem of power outages and is making considerable investments in order to attain a high quality of supply.

During the summer of 2003, the Nordic competition authorities published a survey, in which the competitiveness of the Nordic electricity market was studied. The general conclusion was that deregulation has been very successful and that only a few obstacles remain to full competition. The biggest remaining problem is that bottlenecks in the electricity network between different countries create isolated price areas from time to time, in which competition can be more limited than in the market as a whole.

In the Nordic market, all countries currently have their own grid operators; Statnett in Norway, Fingrid in Finland, Eltra and Elkraft in Denmark and Svenska Kraftnät in Sweden. The high degree of market integration means that there is considerable interest from the various grid operators in co-operating to prevent problems which might arise. Further investment will, however, be required in order to be able to deal with the bottleneck problem.

### Uncertainty concerning the future of nuclear power

Between 2013 and 2023 the majority of the remaining nuclear power units in Sweden (with the exception of Barsebäck 2, which is to be decommissioned earlier) and all four units in



## The relocation of Horno village – practical assumption of responsibility

The inhabitants of the German village of Horno have now moved into a newly built village a couple of dozen kilometres away.

The lignite industry is a base industry in Germany, of great importance to the economy and employment. Horno village in south-eastern Germany is located in an area in which Vattenfall Europe Mining & Generation mines lignite for the generation of electricity. Mining of this area began in 1970. That the village was to be moved had been known for a long time prior to Vattenfall entering as owner a couple of years ago.

Mining here cannot be discontinued or reduced substantially without considerable negative impact on the electricity supply. Nor is there any possibility of the village surviving economically.

Some sixty households, in total about 350 people, were affected by the move. Of these households, three or four belonged to the Sorbian minority, an ethnic group of some 60,000 people who speak their own west Slavic language, and have minority protection under German law.

Vattenfall has always seen this as a German question, to be managed by the German Company Management, in accordance with principles conforming with the Group's values. This issue is of great importance to the labour market situation, and other aspects have also been taken into consideration.

A completely new village has been constructed in consultation with the inhabitants, who exchanged their property for similar land and received the required economic resources needed to construct new buildings.

Even though the move has been socially and psychologically difficult, especially for older people, the co-operation worked well. The new houses are nicely grouped, with a church in the middle of the village. The church tower and three church bells have been carried over from the church in the old village. The result has been constructive co-operation, a good example of what social responsibility means in practice.

Finland, will have been in operation for 40 years. According to the Swedish decommissioning legislation, this is also equal to the length of their useful economic life. It is Vattenfall's position that, through reinvestment, it is possible to prolong their life further. However, some of the oldest and smallest units may be closed for economic reasons before 2020. This would mean that capacity would be reduced by between 4 to 22 TWh. In Denmark and Finland, coal-fired power plants will also be closed, with a total lost capacity of between 14 to 16 TWh. The Finnish State has recently given the go-ahead for construction of a fifth nuclear power station, which will provide a capacity of 10 TWh annually beginning in 2009/10. Germany currently has 18 active nuclear power stations, but has decided to cease production of electricity based on nuclear power. This will result in capacity totalling 40,000 MW, which will need to be replaced between 2010 and 2020.

What will replace all this capacity, and how will it be done? Most likely, the degree of environmental impact and the level of taxes and fees will determine the choice of which type of new electricity generation is possible. Many different techniques and new types of power stations are available. Today, a new coal-fired installation is cost-efficient from a fuel price perspective, but not attractive from the environmental point of view as long as the carbon dioxide question is unsolved. A gas-fired installation emits less carbon dioxide, but is not cost-efficient. An installation fired with biofuel is, on the other hand, very expensive to run and dependent on subsidies to be profitable. Which techniques are finally chosen will depend on how the investors assess the long-term possibilities of economic profitability in each individual case.

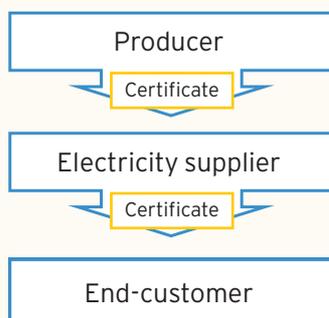
The planning and construction of a new power station

takes a long time. A suitable location must be found and purchased, authorisation must be obtained, environmental aspects must be considered and approved, project planning must be carried out and contracts must be negotiated. Because the market has not yet experienced long-term capacity shortage, no knowledge of the effects can be expected. The market is still immature in this area, cycles are very long, and the critical point has not yet been reached. All in all, it can be concluded that uncertainty concerning the future of nuclear power, and how the nuclear power which is phased out is to be replaced, makes prediction difficult, and this results in subsequent problems with regard to investment.

### Emissions considerably reduced

The coal-fired power stations which Vattenfall operates in Eastern Germany are among the most modern fossil-fired power stations in Europe. During recent years, between 1990 and present, Vattenfall has reduced its emissions of carbon dioxide by 40 per cent. In comparison, according to the Kyoto Protocol, the EU is to reduce its emissions by 8 per cent. Emissions have been reduced by almost 50 million tonnes, which can be compared with Sweden's total emissions of 60 million tonnes. Emission of dust particulates has declined by 99 per cent, and acidifying emissions have also been reduced by some 90 per cent.

When coal mining operations are closed down, Vattenfall offers the local community employment, areas for recreation, modern electricity generation and the opportunity to remain in a region which they would otherwise have been forced to leave. Fifteen years after coal mining ceases, the landscape will also have been returned to its natural condition.



### Green certificates in Sweden

Green certificates were introduced in the Swedish market on May 1 2003. The purpose of these certificates is to stimulate generation of electricity from renewable energy sources. Previously, support for renewable generation has provided via the Government budget, but hereinafter it will be looked after by the market and financed by the end-customers.

The operator that generates electricity from renewable energy sources (primarily wind power, biofuel and small-scale hydro power) sells the certificates, thus receiving revenue which supports production. The present quota duty is 7.4 per cent. This figure will be progressively increased until it reaches 16.9 per cent in 2010. The goal is to increase total generation from renewable energy sources in Sweden to 10 TWh by 2010.

Each electricity supplier is obligated to purchase a certain quantity of certificates connected to electricity consumption. Certificates are purchased for the customers' account by the electricity suppliers, which pass on the cost to their customers.

## Åsa is Number One for Vattenfall

With a new remote-readable electricity meter, advanced charges will disappear; she only pays for the electricity she actually uses. At the same time, her electricity bills are easier to understand. In the long-term, all Vattenfall's customers will benefit as does Åsa Jansson. And as easily.

During the past year, Vattenfall has been working very intensively to simplify its customers' daily lives. This customer initiative is called "Number One for the Customer", and is the most extensive in Vattenfall's history, running through the

entire Group and through all of our offerings. We are creating an easier and better average day for all of our customers, with tangible improvements.

The many measures involved include ending prepayments.



Åsa Jansson has opened the door to an easier every day life. In her case, the simplifications introduced for Åsa and her children Linus, 10, Felix, 8, Max, 4, and Molly, 1 include new, remote-readable meters and less complicated electricity bills.

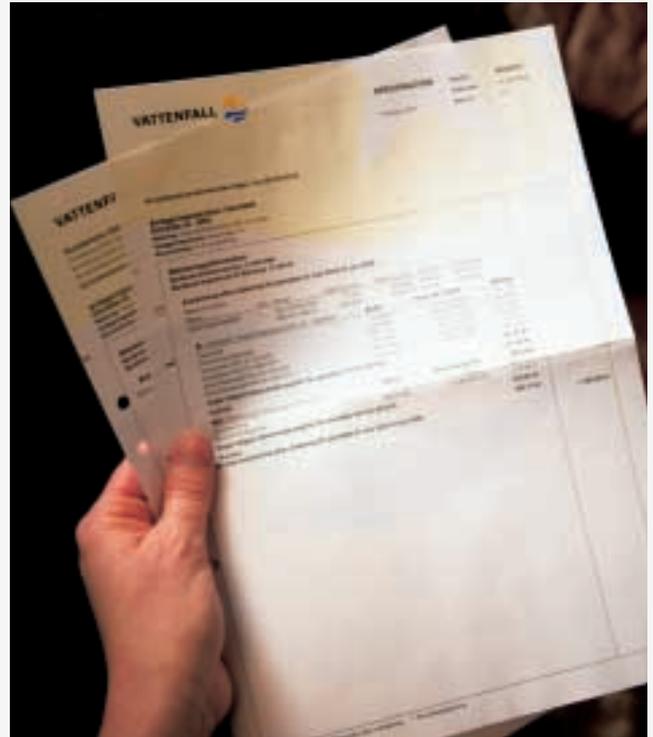
This means that the electricity bills sent out to our customers only cover the electricity that the customer has actually used. In parallel, Vattenfall has also produced electricity bills which are easier to understand. For customer with apartments, Vattenfall will offer what we call a comfortable electricity price. This means that Vattenfall's customers who live in apartments are offered a fixed monthly electricity price. More convenient and easier.

In addition, our customers will be able to choose between various types of agreement, so that individual requirements with regard to prices and methods of payment can be met. Vattenfall will also make it easier for customers to change to, or from, Vattenfall as their electricity supplier.

But perhaps the biggest change of all is the installation of remote-readable electricity meters. In the long run, all Vattenfall's network-connected customers in Sweden, a total of 900,000 customers, will have new, remote-read meters. During 2003, 44,000 Vattenfall customers in Sweden and 17,000 in Finland had the new meters installed – meters which make pre-payments out of date and also increase the customers' control over their electricity consumption.

Åsa Jansson, who lives with her husband and their four children in a terraced house in Knivsta, north of Stockholm, is one of the many Vattenfall customers who had a new remote-read electricity meter installed at home during the autumn. She already sees the advantages of the new electricity meter.

"It's wonderful, now that we are able to control our use of electricity ourselves in a better way," she says. "We hadn't



been very good at reading the old electricity meter, so we didn't really check up on it very well." And she is pleased that the electricity bills are now easier to read and understand.

"Yes, absolutely, before it was difficult to understand anything from all the bills we used to get," she explains.

The changes that Vattenfall has carried out, including those with the remote-readable meters and the simplified electricity bills, are seen by Åsa as providing a clear advantage. The average day has become a little easier for Åsa and her family. As for many other Vattenfall customers, it's all about increased control over their electricity use.

Increased control also means opportunities for taking initiatives that are good for the environment, and for one's own purse, through various electricity-saving measures. But above all, it's about creating an easier average day. An average day in which it is easy to see how much electricity you are using, easy to find out quickly what electricity consumption costs, and easy to pay for only the electricity you actually use. For Åsa, all of this is now just part of an ordinary day. And in the future, the new remote-readable meters, the easy electricity bills, and all the other solutions for the customers which are being continually introduced, will be part of an average day for more and more of Vattenfall's customers.





# STRENGTHENING

MARKET POSITIONS AND  
PROFITABILITY IN ALL MARKETS



# ELECTRICITY PRICES IN THE NORDIC COUNTRIES ROSE DUE TO LACK OF WATER

Over a continuous 12-month period beginning in the summer of 2002, the lowest reservoirs water levels recorded in over 50 years resulted in high prices during 2003. These high prices have led to an increasing number of customers choosing fixed price contracts.

Vattenfall produces both electricity and heat in the Nordic countries, and has a market share of 20 per cent. Hydro power and nuclear power comprise the cornerstones of electricity generation, but fossil fuels, biofuel and waste are also used, primarily for the generation of heat. In the Nordic countries, Vattenfall operates eight nuclear power reactors and some hundred hydro power stations, of which 28 have outputs in excess of 100 MW. This production portfolio produces very little environmental emissions. During 2003, Vattenfall produced 77.9 TWh.

In Sweden, Vattenfall conducts its activities throughout all parts of the value chain, excluding from in the transmission grid, which is operated by the state-owned, Svenska Kraftnät. Vattenfall has a particularly strong presence in generation and distribution. In Finland, activities are dominated by distribution and sales.

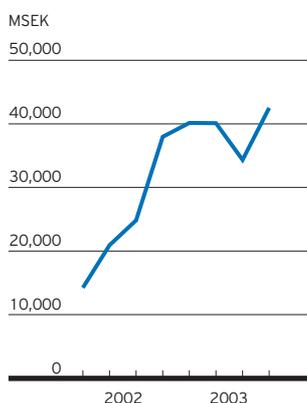
Business operations in the Nordic countries are organised into Business Units based on the value chain. These Units have independent and far-reaching responsibility for developing their own activities within the framework of common Group goals.

Developments during the past few years, focusing on profitable growth and decentralisation of activities, have resulted in:

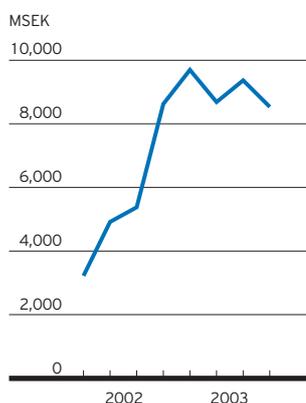
- Cost reductions, primarily in generation activities.
- More efficient handling of the risks which became apparent in connection with deregulation.
- Expansion of the heating activities customer base through acquisitions.
- Regained profitability in sales activities.

## Vattenfall in the Nordic countries

### Net sales, 12 months rolling



### Operating profit, 12 months rolling



### Key facts

Net assets, MSEK	56,367
Production capacity, electricity, MW	15,002
Production capacity, heat, MW	3,100
Electricity network, transmitted volume, TWh	106.8
Electricity network, length, Km	184,700
Number of electricity and network customers	1,265,000
Number of employees (man-years)	8,531

## High spot prices for electricity in 2003

2003 was characterised by high electricity prices, especially at the beginning of the year. The primary reason behind the high electricity prices was a historically low precipitation during the second half of 2002 and the first half of 2003. When reservoir water levels are low, hydro power cannot be used to the same extent as usual. This leads to the use of more expensive types of generation, and the spot price of electricity rises. Because Vattenfall constantly hedges prices for future electricity generation with the purpose of stabilising prices and reducing risks, these high spot prices had only a limited effect on profits.

## Energy policy affects investment incentives

Generation of electricity is very capital intensive and requires considerable investment. This capital intensity means that Vattenfall – in order to cover its capital costs – must have higher operating margins than other, less capital-intensive industries. As a comparison, the power industry is roughly 75 per cent more capital intensive than the forestry industry, which means that the power industry requires an operating margin 75 per cent higher in order to attain the same profitability. Renewal of nuclear power is planned according to a life of at least 40 years at a reinvestment cost of SEK 16 billion. To renew hydro power, reinvestment of SEK 6 billion over the next 10 years is required. In the

	Challenges 2003	Measures taken in 2003	Future prospects and strategy
<b>Generation</b>	<ul style="list-style-type: none"> <li>• High accessibility during ongoing renewal work</li> <li>• Consolidation of costs</li> <li>• Sales of start-up of reserve power</li> <li>• Start of nuclear power negotiations</li> </ul>	<ul style="list-style-type: none"> <li>• Akkat's hydro power plant and Barsebäck 2 resumed operation</li> <li>• Sale of Sikfors hydro power plant</li> <li>• Agreement signed with Svenska Kraftnät regarding supply of reserve capacity of 795 MW</li> <li>• Project started for burning residual oil at Stenungsund</li> </ul>	<ul style="list-style-type: none"> <li>• Renewal programme for nuclear power with safe operation for at least 40 years</li> <li>• Renewal programme for hydro power and updating of dam safety</li> <li>• Utilise existing production installations to increase capacity</li> </ul>
<b>Electricity trading</b>	<ul style="list-style-type: none"> <li>• Create access to physical and financial commodity markets of importance to the Business Unit</li> <li>• Risk management in a volatile forward market</li> <li>• Development of products for handling non-liquid risks</li> <li>• Create added value in cross-border trading between the Nordic countries and Europe</li> </ul>	<ul style="list-style-type: none"> <li>• New trading and risk management systems introduced</li> <li>• Development of platform for trading with weather derivatives, emission rights and electricity certificates</li> <li>• Improved conditions for cross-border trade through renegotiated agreement with PSE regarding SwePol-Link</li> <li>• Development of operations in the UK</li> </ul>	<ul style="list-style-type: none"> <li>• Increase financial trade and reduce Vattenfall's risk exposure through increased product offerings</li> <li>• New trading system makes continued efficiency improvements and increased risk control possible</li> <li>• Creation of value in own cable assets and other cross-border trading</li> </ul>
<b>Network</b>	<ul style="list-style-type: none"> <li>• New organisational structure</li> <li>• The new network utility model</li> <li>• Quality and process improvements, improvements in the electricity network and improved customer service, for example</li> </ul>	<ul style="list-style-type: none"> <li>• Organisational survey and company merger completed</li> <li>• Installation of meters for remote reading</li> <li>• Development work on the network utility model</li> <li>• Investment in the electricity network, clearing, widening, underground line and insulated lines, for example</li> </ul>	<ul style="list-style-type: none"> <li>• Functioning price strategy with regard to the network utility model</li> <li>• Continued improvement of quality in the electricity network to bring increased value to the customer</li> </ul>
<b>Sales</b>	<ul style="list-style-type: none"> <li>• Focus on being Number One for the Customer and thus strengthening customer contacts</li> <li>• Investment in Customer Service</li> <li>• Focus on simplicity and service in market offerings</li> </ul>	<ul style="list-style-type: none"> <li>• Developed customer service</li> <li>• Developed reseller channels</li> <li>• New products, such as flexible customer price solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Grow through improvements in profitability, customer information and a broad product offering with continued investment in information technology</li> </ul>
<b>Services</b>	<ul style="list-style-type: none"> <li>• Adaptation of contractual activities to new market conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Restructuring of contractual activities</li> <li>• Further development of maintenance services and product concepts</li> </ul>	<ul style="list-style-type: none"> <li>• Increase external sales</li> <li>• Market profitability in all activities</li> <li>• Increased competition within contractual activities</li> </ul>
<b>Heat</b>	<ul style="list-style-type: none"> <li>• Construction of installation for burning waste begun in February 2003</li> <li>• First sales of electricity certificates made</li> <li>• Rising fuel prices</li> </ul>	<ul style="list-style-type: none"> <li>• More efficient operational and maintenance activities introduced</li> <li>• Work started on "Number One for the Customer"</li> <li>• Intensified efforts to find cheap fuel</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce market-based pricing with various price alternatives for different solutions</li> <li>• Prioritise and control investment</li> <li>• Increase cost efficiency</li> </ul>

Nordic countries, nuclear power is currently burdened with a production tax. This tax amounts to SEK 1.4 billion per year for Vattenfall in the Nordic countries. It thus has decisive impact on profitability and the possibility of renewal and utilisation of existing installations. The generation capacity of existing hydro power is affected by such things as re-examination of the terms in accordance with the Environ-

mental Code, the introduction of new environmental goals, and the EU's framework directives for water.

### New model introduced in Sweden for pricing of electricity distribution

The electricity network operation is stable and the risk of rapid changes to the profit structure is small. Operations are

also very capital intensive, and must provide reasonable return to cover the renewal and maintenance investments required to maintain security and quality for the customer. The single largest risk is various types of regulation. As of March 2004, a new model for pricing of electricity distribution is being introduced in Sweden, the so-called network utility model. This model calculates a financial value of network use that a particular network company accumulates over the course of the year. The value of this network use (performance) is compared to what the network company actually invoiced during the year. Vattenfall believes that the proposed model does not provide sufficient incentive for investment in the electricity network.

Considerable organisational changes have been made during the year in order to make electricity network operations more efficient in both Sweden and Finland. In Finland, the merger of six local network companies was finalised, and in Sweden, the regional companies of Sveanät, Östnät,

Västnät and Norrnät have been merged to form Vattenfall Eldistribution AB.

### Nordic end-customer market still immature

Vattenfall has some 850,000 electricity customers in Sweden and Finland. The market is still relatively immature and factors such as weather, politics and media have great impact regarding customer choice. High market prices for electricity during the past year, and the fact that the electricity companies have been more active on the market, have hastened the market's maturation process. Customers increasingly choose electricity agreements with fixed prices instead of variable ones, which in turn, places greater demands on Vattenfall to develop price-guarantee models since the risk, as regards earnings, increases. Having customers who are more active also means that demands on quality and service increase. Making the transition from just supplying a product to supplying a service will be an important factor in maintaining a competitive advantage.

## Smarter energy ensures the world's strongest paper

The little manufacturing town of Väja is perhaps not as well-known as it should be. Because Frantschach Pulp & Paper's paper mill is located in Väja, a mill which lays claim to manufacturing the world's strongest paper. But technicians and engineers at the paper mill are not satisfied with just manufacturing strong, sustainable paper. They are also looking for a more efficient way to run the operations, especially with regards to energy use.

Thanks to the collaboration between Frantschach Pulp & Paper and Vattenfall, a number of projects have been put into action since the beginning of 2003, all with the purpose of improving energy consumption and making it more efficient.

"Previously, we carried out a number of measures to reduce oil consumption," says Peter Edwall, responsible for technology and environment at Väja paper mill, "but we were inspired to continue our efficiency work and chose to do this together with Vattenfall with regard to energy measures. Our factory in Austria already cooperates with Vattenfall on just these issues, and the experience from there was positive."

Under the management of Vattenfall's project team, a number of efficiency projects were carried out during 2003, with the intention of reducing energy consumption at the paper mill. Among the many measures which were studied were efficient control and utilisation of



the energy used in the process of boiling paper pulp. Among the things the project succeeded in attaining were the levelling out of the steam consumption peak at the beginning of the boiling process and shortening the amount of time the process took, in order to save energy.

The various efficiency projects which have been carried out at Väja paper mill have already contributed to reduced energy consumption. Vattenfall and Frantschach are now conducting intensive discussions regarding how energy consumption can be made even more efficient at the paper mill. And who knows, efficient energy use in itself perhaps can be the key to even stronger paper in the future.

# CONTINUED INTEGRATION OF GERMAN OPERATIONS

Vattenfall is one of the leading energy companies in the German market, and operates throughout the value chain. The hot, dry summer drove up electricity prices, one of the reasons being that production in several German power plants had to be reduced due to lack of access to cooling water.

Vattenfall is the third largest generator of electricity, the fourth largest electricity network company, and the largest supplier of heat in Germany. In addition, Vattenfall owns and operates the transmission grid in eastern Germany and in the Hamburg area. Electricity production capacity amounts to 15,755 MW and is based on modern large-scale lignite power plants, nuclear power plants, pumped storage plants and coal and gas-based installations. In 2003, Vattenfall generated 74.6 TWh.

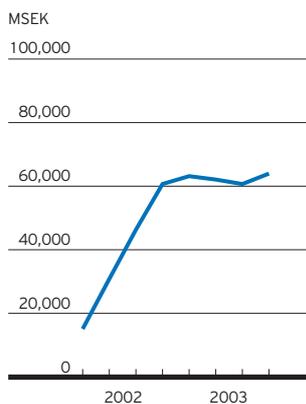
Since 2003, operations have been divided according to the value chain in the same way as in the Nordic countries, and are managed in accordance with the same principles as Vattenfall's Nordic activities. The six Business Units; Mining

& Generation, Trading, Transmission, Distribution, Sales, and Heat, are structured under the holding company, Vattenfall Europe AG, located in Berlin. Legally operations are conducted through a number of subsidiary companies, but operational and financial control is carried out through the Business Units.

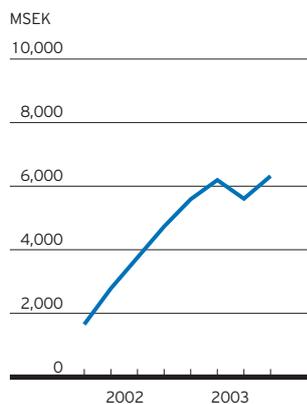
Vattenfall Europe AG is the result of a merger between four large energy companies, the integrated company HEW in Hamburg, Bewag in Berlin, the East German electricity generator and transmission operator VEAG, and the lignite producer Laubag. The merger was formally finalised in August 2003. HEW and Bewag have been listed on several of the German stock exchanges for quite some time, but as both are now part of the new Vattenfall Europe AG, only this company remains listed on the stock exchange. The number of free-float shares is limited, however, and there is no real market trade. Vattenfall AB owns, directly and indirectly, some 94 per cent of the shares in Vattenfall Europe AG.

## Vattenfall in Germany

**Net sales, 12 months rolling**



**Operating profit, 12 months rolling**



### Key facts

Net assets, MSEK	62,171
Production capacity, electricity, MW	15,755
Production capacity, heat, MW	7,448
Transmission grid, peak load 2003, MW	11,028
Transmission grid, length, Km	10,500
Distribution network, transmitted volume, TWh	28.2
Distribution network, length, Km	75,000
Number of network customers	3,300,000
Number of employees (man-years)	21,719

## Continued integration of production

Mining & Generation is responsible for mining lignite, fuel manufacture, and all electricity generation within Vattenfall Germany – with the exception of the electricity generated by the heat power plants in Berlin and Hamburg, which are part of the Business Unit Heat. The modern power plant installations enable efficient, reliable and environmentally favourable power generation. Together with the German E.ON, Vattenfall owns four German nuclear power plants in the Hamburg area. Only one of the plants, Brunsbüttel, is consolidated in the Vattenfall Group. The others are classified as associated companies.

During the year, work with integrating electricity generation plants within Vattenfall Europe has been at the forefront, together with efforts to reduce costs. The “Cost Leadership” project began during 2003 and will be completed during 2004.

The hot summer led to capacity problems at several of the German power plants, due to lower cooling capacity. In France, electricity generation declined during the summer as a result of strikes, and it became necessary to import electricity from

Germany. Decommissioning of the nuclear power plant Stade, in which Vattenfall owns 33 per cent, began during the year.

### Rising, irregular prices during the year

Vattenfall trading activities in Germany consists of two operations: Energy Trading and Trading Services. The trading functions as an internal marketplace between Generation and Sales. The internal electricity trade portfolio amounts to about 170 TWh. The volume of external trade amounts to 400 TWh, equivalent to a 16 per cent market share. Purchase and sales are optimised and all manageable risks in the electricity trade are taken care of. Vattenfall is active in all important markets, in Continental Europe, and is one of the leading players within the European electricity trade. Vattenfall is one of the top three on the German electricity exchange, EEX. To a lesser extent, also gas, coal and weather derivatives are traded. Services are offered via the subsidiary company, Nordic Power Management (NPM), to third parties; at present there are 30 customers. NPM is one of the two German energy companies which hold a licence to operate full financial service activities.

2003 has been characterised by irregular and rising price levels. At times, unforeseen shutdowns of generation installations, irregular wind power, import from France and closure of a number of German power plants have forced the spot price up. Forward prices rose due to increased coal and freight prices, uncertainty regarding EU regulations concerning network charges (the G component), and questions concerning future trade in emission rights.

Within Trading, the focus has been on increasing efficiency and continuing development of IT systems. During the year, trade in weather derivatives has also been introduced, as was the case with electricity trade between France and Great Britain. An infrastructure has been created for managing the trade in emission rights.

### Wind power, a strain on the network

Vattenfall's transmission grid in Eastern Germany constitutes an interface between the transmission grids in Eastern and Central Europe. Total length of the grid amounts to 10,500 km, equalling a market share of 28 per cent. The grid's peak load was recorded in December 2003 with 11,028 MW. Despite a continual increase in the proportionate size of wind power, which by its nature involves an irregular supply of electricity to the grid, Vattenfall has managed to secure system stability. The grid owner is, by law, obliged to purchase and transfer all renewable electricity generated within its own area.

Due to the planned and considerable expansion of German wind power within Vattenfall's transmission grid area, Vattenfall will be forced to make considerable investments, as the grid is not currently dimensioned for the additional wind power energy. The investment programme will begin during 2004, with the construction of two new high-voltage lines (North – South).

During 2003, Vattenfall worked intensively with restructuring its entire transmission operation and making it more efficient; measures included the collection of all transmission into one Business Unit. Vattenfall has also acted to produce improved EEG legislation (legislation concerning renewable energy). A number of EEG-powered network expansions have been started.

### Improved customer service

Vattenfall distributes electricity to 3.3 million network customers in Berlin, Hamburg, West-Mecklenburg and to a lesser extent in Brandenburg and Niedersachsen. Total length of the networks totals 75,000 km. Market share is at 8 per cent, which makes Vattenfall the number four player in Germany. About a third of revenues are derived from legislated, non-profit activities, KWKG, EEG, and municipal concession charges.

During 2003, Vattenfall carried out a number of quality and process improvements, upgrading of the electricity network and improved service levels for end-customers, for example.

### Stiff competition

Sales of electricity and energy-related services to resellers and end-customers are managed by the Business Unit Sales. Customers consist of regional electricity trading companies, municipal-owned energy companies, so-called Stadtwerke, industrial customers, private customers and small business customers. Market share amounts to 15 per cent, which ranks Vattenfall number three in Germany. Local sales to customers in Berlin, Hamburg and Mecklenburg are made under the established brands of Bewag, HEW and WEMAG respectively. Sales to regional companies and to national and international customers are made under the Vattenfall brand. Vattenfall has positioned itself as one of the premium suppliers, focusing on service and quality. During the year, market prices rose substantially, over 30 per cent, which made it necessary for Vattenfall to increase customer prices. As regards electricity prices to private customers, various taxes and charges have increased continually since deregulation in 1998. They now constitute over 40 per cent of the total electricity price. During the year,

	Challenges 2003	Measures 2003	Future prospects and strategy
<b>Generation</b>	<ul style="list-style-type: none"> <li>Integrate all electricity generation installations within Vattenfall Europe</li> <li>Reduce costs</li> <li>Establishment of national allocation of emission rights</li> </ul>	<ul style="list-style-type: none"> <li>Commissioning of new pumped storage plant Goldisthal</li> <li>Closure of first nuclear power plant Stade commenced</li> <li>All clear for intermediate storage of nuclear fuel in Brunsbüttel</li> <li>Commencement of "cost leadership" project</li> </ul>	<ul style="list-style-type: none"> <li>Attain cost leadership in each respective production plant</li> <li>Utilise the possibilities on the wholesale market through portfolio optimisation</li> <li>Continue development and optimisation of production plants</li> <li>Retain or increase market share</li> </ul>
<b>Electricity trading</b>	<ul style="list-style-type: none"> <li>Volatile spot prices</li> <li>Rising forward prices due to increased coal and freight prices, uncertainty regarding the G component and the coming emission rights trading system</li> <li>Negotiations on new gas trade agreements failed – no progress in German gas trading, low liquidity</li> </ul>	<ul style="list-style-type: none"> <li>Focus on efficiency improvement and continuous development of IT systems – a key factor for progress</li> <li>Trade in weather derivatives introduced</li> <li>Infrastructure for emission rights trading built</li> <li>Cross-border trade France – Great Britain commenced</li> </ul>	<ul style="list-style-type: none"> <li>Continued automation of business processes</li> <li>Increase financial electricity trading (within established risk mandate)</li> <li>Cautious presence in Eastern Europe – can provide good business opportunities</li> </ul>
<b>Transmission</b>	<ul style="list-style-type: none"> <li>Restructuring and increased efficiency of the entire transmission operation</li> <li>Management of irregular wind power feed to the grid</li> <li>Increased costs of balance power</li> </ul>	<ul style="list-style-type: none"> <li>All transmission activities have been integrated into one Business Unit</li> <li>Worked for improved EEG legislation</li> <li>EEG-driven investments in networks</li> <li>Blackout survey carried out – showed good quality and safety</li> </ul>	<ul style="list-style-type: none"> <li>Continue to act for solidarity in distribution of EEG costs at national level</li> <li>Extensive investment programme due to EEG (two new lines, North and South)</li> <li>Hedging of remaining risks</li> <li>Securing staff competence in restructured activities</li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>Lower network tariffs</li> <li>Discontinued negotiations on industry agreements (VV III Verbändevereinbarung)</li> <li>New EU directive on joint network rules for the internal market</li> <li>Quality and process improvements, for example, improvement of the electricity network and improved customer service</li> </ul>	<ul style="list-style-type: none"> <li>Worked for new regulation model in Germany</li> <li>Preparation for "legal unbundling"</li> <li>Interface between Asset Management and Service Management and between Business Units and shared service centres</li> <li>Bundeskartellamt matters concerning Bewag and WEMAG</li> <li>Court action concerning HEW's network tariffs</li> </ul>	<ul style="list-style-type: none"> <li>Continue to pursue the cost reduction programme</li> <li>Implement unbundled accounts and legal unbundling</li> <li>Defend network tariffs with clear "regulatory" strategy</li> <li>July 2004 – start of new regulatory body. NTPA disappears and is replaced by normal TPA</li> <li>Adaptation to changes in German energy law</li> </ul>
<b>Sales</b>	<ul style="list-style-type: none"> <li>Strong price increase in the wholesale market (over 30 per cent in 2003)</li> <li>Insufficient profitability in the historically long-term reseller contracts (REVU)</li> <li>Management of volume risks and increased competition</li> </ul>	<ul style="list-style-type: none"> <li>Intensified co-operation with key customers</li> <li>Regained market share in the retail customer segment</li> <li>Renegotiation of REVU contracts</li> <li>Optimisation of price hedging</li> <li>Cost reductions</li> </ul>	<ul style="list-style-type: none"> <li>Margins before volume</li> <li>Change-over of REVU contract to a market price basis</li> <li>Defend and increase the number of domestic customers</li> <li>Investment in long-term profitable customer relations</li> <li>Number One for the Customer</li> </ul>
<b>Heat</b>	<ul style="list-style-type: none"> <li>Reduced demand for heat in Berlin and Hamburg due to increased insulation measures (according to the energy-saving law)</li> </ul>	<ul style="list-style-type: none"> <li>Efforts in acquiring new customers for the existing distance heating network</li> <li>Investment for connection of district heating plant Neukölln in Berlin. This makes Bewag's district heating operation considerably more efficient</li> <li>Conversion of Hamburg's district heating network from steam to hot water</li> </ul>	<ul style="list-style-type: none"> <li>Grow on the home market by branching the district heating network</li> <li>Be Number One for the Environment through environmentally friendly and efficient electricity generation in combined heat and power plants (CHP)</li> <li>Become Number One for the Customer by offering a first-class product at the right price</li> </ul>



"In the Goldsthal power pumped storage plant, the water passes from one water storage dam to the other through a tunnel. Together, both water storage dams hold 30 million cubic metres," explains Project Manager, Wolfgang Bogenrieder.

## Number One in Hydro Power in Germany

When Germany's largest pumped storage plant was opened in September 2003 in Goldisthal in Thüringen, it marked more than the end of six years of construction and an investment of EUR 620 million. The Goldisthal power plant also constituted the last building block of a considerable investment programme of almost EUR 9 billion, the purpose of which was to renew the energy supply system in what was formerly East Germany.

At the same time, the commissioning of the pumped storage plant marked the beginning of a new era; the Goldisthal plant makes Vattenfall Germany's largest producer of electricity from hydro power. The power plant, which consists of two artificial storage reservoirs totalling 30 million cubic metres of water, has a capacity of 1,060 MW. Together with Vattenfall's other hydro power plants in Germany, installed capacity now totals an imposing 2,914 MW.

The road that led to the inauguration of the new pumped storage plant is as long as it is intricate. All the way back in 1965, the then East

German Government decided that Goldisthal would be the location for the country's largest pumped storage plant. It took almost 30 years, however, and the reunification of both German States before construction could start. When actual construction did start, the challenges were many and complicated. Wolfgang Bogenrieder, Project Manager for the pump power plant, confirmed this:

"The first time I came into contact with the project was in 1990," he explained. "Even then, I found it incredibly exciting, not in the least because there was some doubt as to whether it would be possible to carry it through at all. To turn the idea into a concrete building project was not easy."

Now that the installation is complete, Wolfgang Bogenrieder concludes that the power plant's eventful history has reached an equally exciting present, which will provide Germany with energy in the form of hydro power in the future.

several competitors have increased their activities within Vattenfall's core area. In order to counter competition, Vattenfall has intensified co-operation with key customers. Market share has been regained on the retail market.

### Vattenfall Europe's Heat operations are Europe's largest

Vattenfall is number one within district heating operations in Berlin and Hamburg. The total length of the district heating network exceeds 2,100 km, and thermal heat capacity is 7,448 MW.

### Concentration on recruiting new heat customers

During 2003, Vattenfall carried out efforts to acquire new customers for existing district heating networks. During 2004, Vattenfall also intends to grow on the home market by branching the district heating network. It can also be noted that Vattenfall was awarded the tender for supplying heat to Europe's largest urban development project – Hafencity Hamburg.

# EU ENTRY INCREASES THE PACE OF CHANGE IN POLAND

Poland's entry into the EU in May 2004 will have a considerable impact on the energy market. EU entry is expected to speed up the process of deregulation.

Vattenfall produces electricity and heat through the company Elektrociepownie Warszawskie (EW), in which it owns a 70 per cent stake. The company has five combined heat and power plants in Warsaw, making Vattenfall the fifth largest producer in the market, after Elektrim-PAK, Tractebel, EDF and the State-owned producers.

EW has an annual heat production of some 13 TWh and is market leader in Poland for district heating, with a market share of 69 per cent in Warsaw and 24 per cent in Poland as a whole. EW also generates electricity, about 3 TWh, and has a market share of 65 per cent in Warsaw and 2.4 per cent in the rest of the country.

Distribution and sales are conducted through the company Gornoslaski Zaklad Elektroenergetyczny (GZE), of which Vattenfall owns 54 per cent (increased to 75 per cent in February 2004). GZE has 1 million network customers in southern Poland, which makes Vattenfall the second largest network

operator after the State-owned Polish companies. GZE also sells electricity to some 1 million residential customers, 2,000 commercial customers and 55 industrial customers. Vattenfall's market share in the area of electricity sales is 11 per cent, which makes Vattenfall number two in this area as well, after the Government-owned companies.

Polish operations during the year have undergone an extensive restructuring programme, the results of which include:

- Considerable increase in the operating result (from SEK 5 million to SEK 443 million).
- A reduction of fixed costs by 7 per cent.
- Improved business processes within coal purchasing and handling.
- Introduction of a new brand strategy.

## EU entry creates new possibilities

Poland's entry into the EU in May 2004 will be of great importance to the electricity industry. After years of low growth, the economy is now expected to pick up again. The electricity market must be organised in accordance with EU regulations; these will entail increased pressure to reduce subsidies between various parts of the value chain. During 2004, the integrated companies must clarify whether they meet the requirements for legal unbundling. By law, legal unbundling must be complete no later than 1 July 2007.

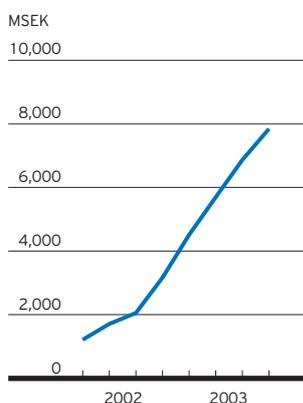
The Polish market will also be open for players from other EU countries. Access to transmission networks through international links will be offered to market players through an auction procedure. Reform within the mining and railway sectors is expected to speed up. Liberalisation and greater transport system efficiency can also result in lower coal prices.

## Investment is needed in order to match the EU's emission directives

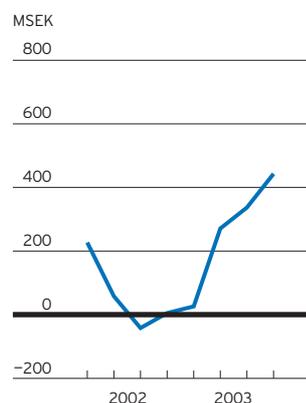
By 2017, plants which are fired with fossil fuels must achieve a certain technical standard in order to meet the requirements made by the EU's emission directives. Considerable investment will be required, but in order to spread the costs that arise in connection with the country's entry into the EU over a long period of time, Poland has been allowed to take a step by step approach to the upgrading of combined heat and power plants.

## Vattenfall in Poland

### Net sales, 12 months rolling



### Operating profit, 12 months rolling



## Key facts

Net assets, MSEK	6,250
Production capacity, electricity, MW	928
Production capacity, heat, MW	4,828
Electricity network, transmitted volume, TWh	13.1
Electricity network, length, Km	27,650
Number of network customers	1,096,000
Number of employees (man-years)	4,935

## Vattenfall takes up the challenge of social responsibility

When Vattenfall, through acquisition of the companies EW and GZE at the end of the 1990s, became established in the Polish market the concept of social responsibility was, in general, unknown among for-profit companies in the country. This was especially obvious in Upper Silesia in southern Poland, the region in which GZE is active, with high unemployment and a business sector which is almost entirely divorced from the developments in society at large.

In negotiations with the Polish Government concerning the privatisation of the Polish power companies, however, Vattenfall proposed that GZE should take greater responsibility for society in general. The initiative was well received by the Polish negotiators, and was included in the agreements with Vattenfall. Today, after three years of intensive work which included the project "Switch to Silesia", Vattenfall's initiative regarding social responsibility has become a central component for the region and its development.

"The purpose of the project is to get the business sector going, and in this way enable the entire region to blossom," explains Barbara Ryszka, employed by GZE and Project Manager for "Silesia's economic development". So far, we can state that these efforts have succeeded far beyond our expectations.

That the project has been successful is demonstrated by the fact that in January 2004, Vattenfall received the "Silesia's Oscar"



award, a regional prize for the most active leaders in business and in Silesian society. Vattenfall also received the nation-wide prize for companies which actively contribute to reforming the Polish business sector, an important acknowledgement of the long-term work with social and environmental responsibility that Vattenfall initiated in Poland. Work which will continue with undiminished strength in the future as well.

### Challenges 2003

#### EW production and GZE – distribution and sales

- Continued restructuring of operations
- Attain benchmark level of efficiency
- Strong control and budgeting processes
- Development of managers and organisation and implementation of core values
- Integration of overlapping functions including IT and PR/Communication
- Implementation of brand strategy

### Measures 2003

- Majority ownership of 54 per cent in GZE
- Reduction of fixed costs by 7 per cent and reduction of personnel by 30 per cent
- External benchmarking of the EW company
- Restructuring of the IT service company reduced IT costs substantially
- Strong leadership within Controlling and Human Relations
- New brand strategy in which local brands are endorsed by the Vattenfall brand
- New customer service centre at GZE

### Future prospects and strategy

- Complete the restructuring of EW and GZE
- Continue to grow organically or through acquisitions
- Prepare for challenges of EU entry: Third-party access; separation of activities (legal unbundling), termination of long PPA contracts, cross-border trade and environmental directives
- Continued focus on organisational and managerial development

# FACTS ABOUT VATTENFALL'S THREE MARKETS

## Production capacity, electricity and heat MW

	Nordic countries	Germany	Poland	Total
Hydro power	8,386	2,907	–	11,293
Nuclear power	5,116	1,409	–	6,525
Fossil power	1,500	11,439	928	13,867
<b>Total electricity</b>	<b>15,002</b>	<b>15,755</b>	<b>928</b>	<b>31,685</b>
<b>Total heat</b>	<b>3,100</b>	<b>7,448</b>	<b>4,824</b>	<b>15,372</b>

## Electricity and heat produced, TWh

	Nordic countries	Germany	Poland	Total
Hydro power	25.8	2.3	–	28.1
Nuclear power	51.6	4.9	–	56.5
Fossil power	0.4	67.4	3.4	71.2
<b>Total electricity</b>	<b>77.8</b>	<b>74.6</b>	<b>3.4</b>	<b>155.8</b>
<b>Total heat</b>	<b>7.9</b>	<b>15.7</b>	<b>12.0</b>	<b>35.6</b>

## Number of electricity customers

	Nordic countries	Germany	Poland	Total
	844,000	3,000,000	1,017,000	4,861,000

## Number of network customers

	Nordic countries	Germany	Poland	Total
	1,265,000	3,300,000	1,096,000	5,661,000

## Electricity networks, Km

	Nordic countries	Germany	Poland	Total
Transmission	n.a.	10,500	n.a.	10,500
Distribution network	184,700	75,000	27,650	287,350

## Electricity networks, transmitted volume, TWh

	Nordic countries	Germany <sup>1</sup>	Poland	Total
	106.8	28.2	10.2	145.2

1) Excluding transmission grid.

## Number of employees, man-years

	Nordic countries <sup>1</sup>	Germany	Poland	Total
	8,642	21,719	4,935	35,296

1) Including other countries.

# LEADING

# THE WAY IN THE ENERGY SECTOR

# COMPETENCE IS BEING DEVELOPED FOR THE FUTURE

The considerable and rapid changes within the European energy market entail new requirements being placed on Vattenfall's employees and their competence. At the same time, the organisation is facing an extensive number of retirements over the next ten years, a period during which competition for new employees on the labour market can be tough.

The importance of competence is especially acute when the market and its conditions change. Liberalisation and internationalisation of the energy markets have affected the demand for competence and changed work processes within the power industry. Personnel increases during the acquisitions of the past few years make employee and competency efforts a considerable challenge, but one with many possibilities for Vattenfall. The age structure of employees will lead to a considerable number of employees taking retirement within the next 10-years, a period of time when competition in the labour market for younger employees is expected to increase. Vattenfall's ability to attract employees and develop their competence is therefore crucial if we are to be able to achieve our goals regarding profitability and value creation.

For these reasons, work with personnel issues within Vattenfall is focused on five central areas:

- Culture and organisation.
- Leadership and leadership development.
- Competence planning.
- Working environment.
- Compensation and rewards.

## Local cultures – common basic values

Vattenfall is a Group with many local cultures. It is important to utilise and encourage these differences at the same time that it is necessary to create a common platform. In order to create common basic values, we began work with culture and values within the organisation in 2002. All Vattenfall employees were given the opportunity to participate in the project through various activities and in March 2003, Vattenfall's core values were established – Openness, Accountability and Effectiveness.

The three core values are the cornerstones of Vattenfall's company culture and philosophy. They ensure that all employees focus on the same goals, irrespective of where in the organisation they work. Work with making the values part of our daily activities is now being undertaken throughout the organisation in various forms. Employees from different parts of the organisation participate in workshops and discussions in order to evolve methods and tools designed to integrate the core values into the daily work.

## Common employee surveys

The employee survey common for the entire Group, My Opinion, is the Group's tool for following developments within the organisation. This is a broad survey of the employees' view of their working situation. It was carried out for the second time during 2003 in Finland, Poland and Sweden. In Germany, the survey was carried out in one company as a pilot project, prior to future surveys throughout the entire organisation. My Opinion is primarily a tool for the local organisation to develop its activities, strengthen motivation and employee involvement, and develop leadership. Reply frequency for the 2003 survey was 68 per cent and showed that, in general, the employees are more satisfied with their working situation now than they were according to earlier surveys. Even when compared with other international companies, the turnout rate was positive. Special strengths include co-operation and exchange of experience, one's own opportunities for development, leadership and pride in belonging to the operation.

## New leadership criteria

We secure our future need for leaders through our management planning. During the year, a review of all the top managers and potential top managers within the Group has been carried out. Beginning in 2004, all managers covered by the management planning process will be assessed in accordance with Vattenfall's leadership criteria. These criteria were established during 2003 as part of the work with developing our company culture.

## The leadership development programme at Group level

The Vattenfall Management Institute (VMI) is responsible for forming and carrying out the leadership and managerial development programmes within those areas that are of strategic importance for Vattenfall. The Vattenfall Global Leadership Development Programme was developed and implemented during 2003. It covers basic leadership training at the local and international level for new managers or newly employed managers, together with advanced leadership training at the global level for potential top managers



From top left: Jessica Subklewe, Strategic Controlling Vattenfall Europe AG (Berlin). Jörgen Espeling, Manager of sales unit within Vattenfall Mega. Barbara Pekala, Secretary, Management in Poland. Susanne Hellstrand, Service Centre Director, Vattenfall Sähkömyynti (Helsinki). Mats Kristiansson, Vattenfall Eldistribution AB (Linköping).

and company executives. External candidates were offered an international trainee programme, and younger employees with leadership potential were offered an international job rotation programme.

The purpose of the programme is to communicate the Group's strategies and core values, and create an understanding of Vattenfall's company philosophy and view of leadership. The goal is to support managers in their roles as leaders and in their personal development, and to stimulate networking in an international and multicultural environment.

During the year, a new programme for job rotation for young Vattenfall employees with development potential has been started. This programme is about increasing mobility and knowledge exchange between the various countries in order to increase understanding within and of the Group as a

whole. The programme covers employees who have worked in the Company for two to three years.

During 2003, Vattenfall will also start its first international trainee programme.

### Nordic deregulation, an important experience

The experience gained from the long-deregulated Nordic market contributes to business development within other parts of the Group. Several ongoing projects and activities take advantage of this knowledge. In order to increase trust in Vattenfall's operations, a project was started during 2003 called Number One for the Customer. In the goal of this project is to make things easier for the customer and improve internal work methods. At present, Sweden is the pilot country, but similar projects will also be started in Finland, Germany and Poland.

The Polish company, GZE, is now working on creating an efficient and market-oriented activity within energy distribution and energy sales. Together with specialists from Vattenfall in the Nordic countries, they have developed a new business model which describes processes, functions and responsibility within GZE.

Exchange of personnel is ongoing between several Business Units, partly in various projects, and partly through rotation. One job rotation programme can be mentioned as an example, in which participants learned from one another's experience and co-ordinated competency within the Business Areas of Supply and Trading in Sweden and Germany. During the year, a dozen employees have worked in their sister organisations for shorter or longer periods of time in Germany and Sweden respectively.

## Leadership within technical development

Through organised co-operation with, leading equipment manufacturers, universities and colleges, for example, Vattenfall remains constantly at the forefront of technical development. Vattenfall personnel participate in research at universities and colleges, for example, by acting as co-sponsored professors.

In order to increase efficiency in development work and dissemination of knowledge, resources are collected from various parts of the Group into mutual projects. Benchmarking is carried out, and leading examples are identified in order to establish development goals. Research and development is closely connected to the business operations.

## R&D close to business operations

In order to develop operations one must combine deep



From top left: Annika Bränning, Vattenfall Kommunikation Norden (Räcksta). Jonas Waldner, Vattenfall's office in Trollhättan. Hans Andersson, Vattenfall's office in Linköping. Kathrin Dittrich, Vattenfall Europe Sales GmbH, Marketing Manager. Marie Nylin, Chief of market communication, the Nordic countries (Räcksta). Clas Roeck, Hansen Vattenfall Data AB.

understanding of the operations, problem-solving ability, an ability to convert theory into practice, and good business skills. This is especially important in the area of research and development (R&D). People do not usually have all-encompassing competence and ability to work in teams, and networks with members from different competence areas are increasingly important.

By applying Vattenfall's spearhead competency within such areas as combustion technology, an existing power heat plant, for example, has been modified so as to make it possible to increase its efficiency and reduce its fuel costs, at the same time as increasing accessibility. Financially, this equates with a saving of about SEK 10 million per year.

In order to ensure high quality of education and access to newly qualified engineers with profiles relevant for Vattenfall, a number of R&D programmes were run, often within the framework of trade organisations such as ELFORSK in Sweden, for example.

### Active development at a local level

Most competence development occurs in daily work and through participation in various projects. Over and above this, local competence development activities are carried out. During the autumn, Vattenfall Europe started its first Junior Manager Programme, which will give 16 young employees with high development potential a broad insight into Vattenfall's operations over a period of 18 months, together with the opportunity to develop both their leadership and personal skills. Vattenfall Europe also has an extensive training programme focused on giving participants practical occupational knowledge. Over 1,600 apprentices received training in a number of different occupations at ten operational locations. The purpose is to secure internal succession and to take social responsibility in those societies in which the Company operates.

In Poland, some 500 employees have participated in English lessons. In addition, a large number have undergone activity-related programmes within leadership, generation, strategy, marketing, etc.

In Sweden, the Vattenfall Academy was formed during the year in order to provide a collective unit for shorter training programmes, courses and seminars. In addition, Young Human Power was formed, a network for employees under age 35. The network meets twice a year. The themes of the 2003 meetings were Leadership and Communication.

In Finland, there is the "Vesimies Akatemia" training programme for managers and specialists.

### Trainee programme, internships, contact with colleges and universities

Contact with students and schools is given high priority. Through internships, examination work, and the like, students are offered work experience and practical application of their knowledge. We create personal meetings by participating in such things as labour market days and trade fairs for students as well as visiting schools.

In Poland, a new programme was started during 2003 for students from the five top universities. The goal is to enlarge the recruitment base for operationally critical positions within generation. During the year, some 50 newly qualified students have been employed by Vattenfall Europe on the generation side.

In Sweden, during the autumn of 2003, a large recruitment campaign was carried out in which Vattenfall offered twelve months' project employment to newly qualified academics. The response from the students was considerable, and in total about 40 people will be employed on a project basis. The idea is to offer practical working experience and increase interest in technology. Also during the year, work was begun on stimulating interest in technology training in comprehensive schools and senior high-schools, especially among young girls.

In November, Vattenfall awarded the Carl-Erik Nyquist stipend of SEK 100,000 for the first time. The stipend was shared between students from Chalmers, The Royal College of Technology and Linköping.

### Active equality work

Vattenfall conducts activities in various countries, all of which have different cultures, histories and traditions. Our organisation should reflect the diversity of our customers, and attract people of different sexes, ages, backgrounds and origins.

Within the Group, "Value through diversity" the project is being carried out in order to assimilate these differences and make them a natural part of our daily life. Within Vattenfall, diversity is looked upon as a means for broadening competence, improving understanding of customers' requirements, and increasing our propensity for innovation. In the shorter perspective, women and younger employees are given priority, with regard to recruitment and leadership development, for example. The goal is for Vattenfall to have the same relative proportion of women managers and women employees. In the longer term, focus will also be directed on ethnic diversity, in order to both further develop our competence and broaden the recruitment base.

## Responsible management of redundancy

Rationalisation work is ongoing in all the countries, as part of the strategy for profitable growth and value creation. In order to face redundancy issues responsibly, tailored programmes have been developed in the different countries, with components consisting of training, job-hunting support to those who have been made redundant, voluntary early retirement, and, to some extent, single payments to persons who have chosen to leave the Company. Rationalisation work will continue in the near future, together with work to deal with redundancy. In working with redundancy, it is also important to be able to retain and recruit the right competence for the right assignment, which in itself is a challenge and a very demanding task.

## Compensation and rewards

Vattenfall is working actively with remuneration and benefit models based on local conditions. In Sweden, for example, a benefit model called the Cafeteria model has been introduced during the year. This allows an employee to forgo part of his salary and instead choose other benefits. At present, employees are already offered several benefits, such as home computers, weekend cottages, keep-fit programmes, etc. During 2004, employees will also be offered the opportunity to acquire a Vattenfall company car, pensions savings, home service, etc. We will also investigate the possibility of introducing similar systems in other countries. For information regarding incentive programmes, see Note 33, of the Consolidated Accounts.

## Low accident rate

In general, work within the Vattenfall Group shall give opportunities for development, both as an individual and as an employee, in a safe, healthy and stimulating environment. No one in Vattenfall should be injured or become ill on account of their work situation. Work with securing a healthy and stimulating environment is primarily conducted locally within the organisation.

Local work environment committees are in place, and local work environment plans are produced annually. Risk analyses are carried out and continual training is made within areas such as, electrical safety, personal protection equipment, handling of chemicals, working alone, and so on. The number of work related accidents has remained at the level of five to eight accidents per thousand employees during the recent past, which is a low figure compared to other energy companies in Europe.

Stress and burn out are one area of prioritisation in the local work environment plans. Seminars and lectures are given around the themes of managing stress, work loads and conflict management, for example. All employees have access to Company health care and to a large range of activities within the areas of health and exercise. During the year, a conference was organised in Berlin for the Group's female employees. Participants were given the opportunity to discuss questions concerning Vattenfall's culture, a healthy lifestyle, and participate in a mini-marathon.

## Absence due to illness below the average

In Sweden, Vattenfall has an absence rate which is well below the average in Swedish commerce and industry. Even our absence due to illness rate, however, has increased to a disturbing extent during recent years, with the exception of the past year, when the trend was broken. For this reason, we have carried out a survey during the year of all those who were certified as sick over long periods of time. We have increased our work with rehabilitation and work adjustment and focused on questions concerning long-term illness. A project was also begun during the year with the expressed goal of halving the number of those absent due to illness for long periods of time and reducing absence due to 3.5 per cent, which was the level we had five years ago. The result from 2003 shows a reduction to 4.1 per cent (4.5 per cent 2002).

# CORPORATE GOVERNANCE WITHIN VATTENFALL

Vattenfall is 100 per cent owned by the Swedish State. The Swedish State exercises long-term active ownership and administration. The Government has value creation as a paramount goal. Companies exposed to competition shall operate under the same demands and terms as other players in the market. This means that the Government places market requirements on profit and returns, based on the companies' risk profiles.

The Government has established a separate division for state enterprises within the Swedish Ministry for Industry, Employment and Communications, and, like other owners, works with a number of tools. The composition of the Board of Directors, the auditors, and transparency are three such important tools. In order to clarify the Government's view on certain questions, and to attain unity among the administered companies, the Government has determined guidelines with regard to external financial reporting and terms of employment for senior management. In addition, the Government has identified certain crucial policy questions, in which companies owned by the Government shall act in a socially responsible manner. This applies to such areas as equality, environment, diversity, a healthy workplace and the role of the Company in society.

With the purpose of promoting clarity and unity in questions of responsibility and information between company bodies, the Ministry for Industry, Employment and Communications has worked out a proposal to support Boards of Directors in drawing up and revising work schemes and for managing certain issues regarding information.

Management and control of the Vattenfall Group is divided between the shareholders, primarily at the Annual General Meeting, the Board of Directors and the CEO, in accordance with the Swedish Companies Act, the Articles of Association and the Board of Directors' instructions.

The Board of Directors appoints the CEO and also the Deputy CEO. Furthermore, the Board of Directors appoints a Chairman from within the ranks of the Board.

The CEO handles day-to-day administration, in accordance with the Board of Directors' guidelines and instructions.

## The Annual General Meeting

The Annual General Meeting shall be held no later than six months after the closing of the annual accounts. At the proposal of the owner, the Annual General Meeting appoints the Board of Directors and approves the income statement and balance sheet, appoints auditors, etc.

## The nomination process

The goal of the Government is that the Boards of Directors in Government-owned companies shall have a high level of competence suited to their respective company's activities, situation and future challenges. Nomination and appointment of new Board Members is preceded by an ongoing dialogue between the department responsible, the Chairman of the Board, other Board Members and possibly other owners. The Government requires that the Board of Directors shall evaluate itself and draw up possible requirements for change regarding composition and future competence requirements. The composition of the Boards of Directors should also be balanced as regards competence, background, age and sex.

## Members of the Board

Vattenfall's Board consists of eight Board Members appointed at the Annual General Meeting, and three Board Members and three Deputy Board Members appointed by the employee organisations. From Company Management, the CEO, Lars G Josefsson is included in the Board of Directors. Of the eight Board Members, two are women and also foreign citizens. The average age of the Board Members is 49. At the 2003 Annual General Meeting, Dag Klackenberg, Annette Brodin Rampe, Christer Bådholm, Peter Fallenius, Jan Grönlund, Lars G Josefsson, Peter Lindell and Elisabet Salander Björklund were elected. Annette Brodin Rampe and Elisabet Salander Björklund left the Board during 2003. An Extraordinary General Meeting was held on December 11, 2003, at which Lone Fønss Schröder and Maarit Aarni were elected to the Board. The employee organisations have appointed Board Members Carl-Gustaf Angelin, Johnny Bernhardsson, Ronny Ekwall and Deputy Members, Lars Carlsson, Stig Lindberg and Per-Ove Lööv.

## Independent Board Members

Of the Board Members, Dag Klackenberg, Maarit Aarni, Christer Bådholm, Peter Fallenius and Lone Fønss Schröder are independent, both in relation to the Company and to the owner.

### The Chairman's duties

The Chairman's duties follow both the Swedish Companies Act and the Rules of Procedure. The Chairman leads the work of the Board, and is responsible for ensuring that other Board Members receive required information. The Chairman participates when necessary with important external contacts, and represents the Company in ownership issues.

### Rules of procedure, duties and areas of responsibility

The Board establishes rules of procedure annually, based on the Rules of Procedure which the Division for State Enterprises of the Ministry for Industry, Employment and Communications Ownership Unit have issued. Responsibility has not been divided within the Board. The rules of procedure regulate such things as the duties of the Chairman, information to the Board, frequency and form of Board Meetings, as well as evaluation of the Board's work and of the CEO.

Matters dealt with within the Board are primarily treated in accordance with the Companies Act and the Board's rules of procedure. The main tasks of the Board, apart from appointing a CEO and Deputy CEO, are to establish strategic direction, approve major investments and essential organisational changes, and to establish central policies and instructions. In addition, the Board must follow the Company's financial development and set financial guidelines for risk and control functions.

### Frequency of Board Meetings

Board Meetings follow a plan established in the rules of procedure. These rules specify that six Ordinary Meetings shall be held each year. In addition to the Ordinary Meetings, the Board is summoned to further meetings if the need arises. According to the rules of procedure, one meeting per year must be held at a place other than the head office. In 2003, one meeting was held in Warsaw. In connection with that meeting, the Board received thorough information on the Vattenfall Group's Polish activities.

### The work of the Board of Directors during 2003

During 2003, the Board met nine times including the statutory meeting, and one meeting which was held per capsulam. Among the issues dealt with, special attention has been given to the following:

- Strategic planning for the year.
- Investments in district heating operation in Berlin.
- Establishment of the Group's risk instructions and risk mandate.

- The Group's leadership provision, work environment and equality questions.
- CO<sub>2</sub> Emissions Trading.
- The Group's core values, Openness, Accountability and Effectiveness.
- Installation of remote-readable meters for Vattenfall's network customers in Sweden.
- Disposal of Vattenfall's shareholding in Song Networks AB and A-train AB.

In addition to Board Meetings, four Board seminars were held during 2003. At the seminars, the Board received more detailed information on certain issues, and had extensive discussions on the Company's long-term development, strategy, competitive situation and risk management.

### Evaluation of the Board's work

The Board evaluates the work of the Board of Directors once a year. This evaluation is managed by the Chairman, and in the way which is stipulated in the rules of procedure.

### Composition of the Board of Directors

At the Annual General Meeting of 2003, the Meeting determined a sum of SEK 1,600,000 in Directors' remuneration to the Board Members appointed by the Meeting, and who were not employed by Vattenfall, to be allocated by the Board (for information regarding how the Board allocated the remuneration, see Table on Page 60). In addition, the Meeting decided that those Board Members who are included in the Audit Committee should receive SEK 240,000, to be allocated by the Board. The Board decided that the Board Members in the Audit Committee elected at the Annual General Meeting should receive SEK 50,000 each in annual remuneration, in addition to the Board remuneration. For further information regarding personnel costs in Vattenfall, see Note 33 of the Consolidated Accounts.

### The Audit Committee

During 2003, the Board established an internal Audit Committee, consisting of the following four Board Members: Johnny Bernhardsson, Peter Lindell, Christer Bådholm and Peter Fallenius.

The Audit Committee has been formed in order to increase knowledge of, insight into, and control over the Company's accounting, financial reporting and risk management. At the Audit Committee's meetings, the Company's auditors have reported their observations in connection with

the ongoing audit, among other things. The Audit Committee has had four meetings during the year. The auditors also report at the Board Meeting in February, and meet with the Board when required.

**Nomination Committee**

There is no Nomination Committee in Vattenfall AB, as the Company has only one owner.

**Remuneration Committee**

There is no Remuneration Committee in Vattenfall AB. At present, it is the Board's opinion that such a function is not needed.

**Regular auditors**

Elected auditors for Vattenfall for the financial year 2003 are Ernst & Young AB, with Authorised Public Accountant Lars Träff as auditor in charge, together with Authorised Public Accountant Filip Cassel, appointed by the Swedish National Audit Office.

The auditors are present and report at the meeting in which the Board examines the annual accounts, and meet Vattenfall's CEO and CFO at a number of meetings during the year. In addition, the auditors have ongoing contact and meetings with the Board's Audit Committee.

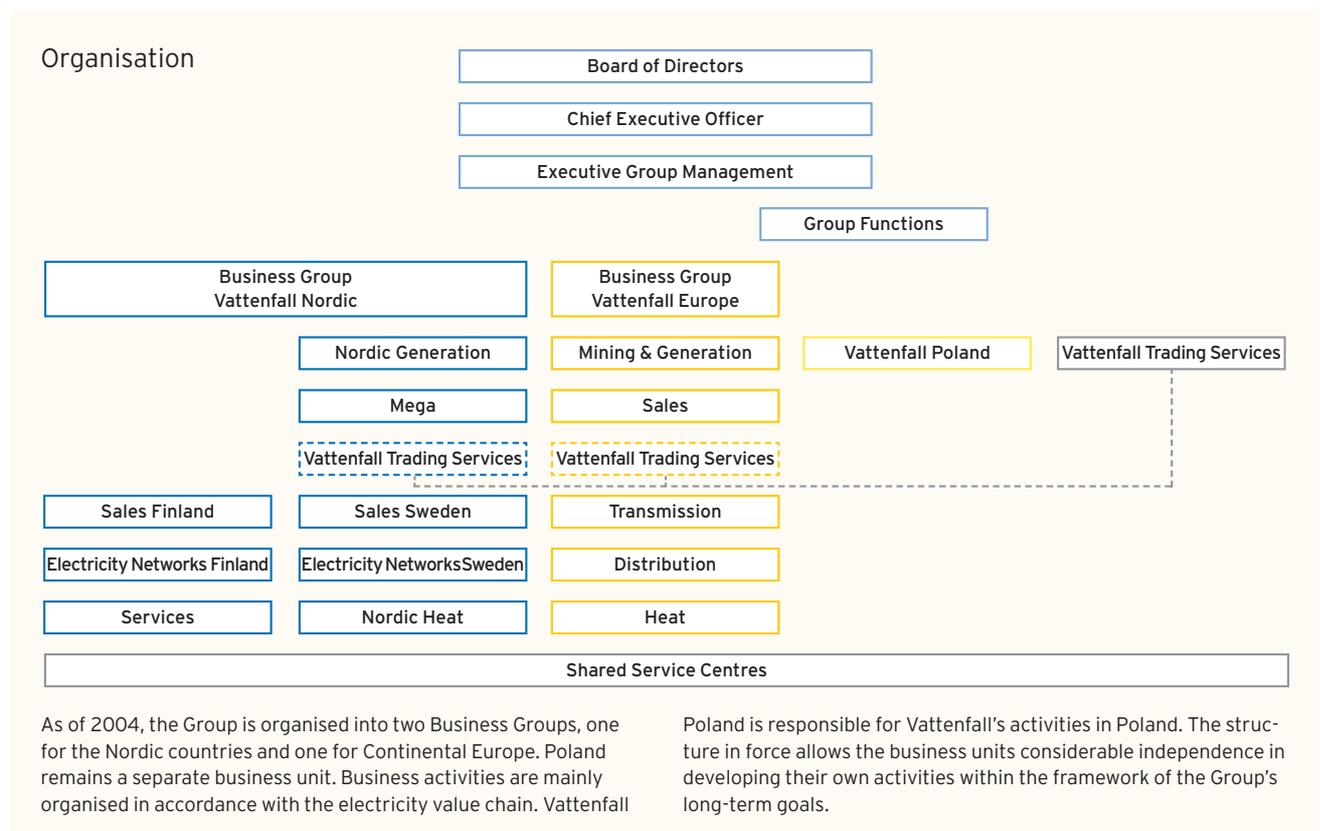
When more extensive consultancy input is needed by the elected auditors, the assignment is to be examined first and approved by the Audit Committee.

The Group's audit costs are described in more detail in Note 36 of the Consolidated Accounts, and Note 17 of the Parent Company's accounts.

**Management group and organisation**

Vattenfall's management model is based on a value chain divided into production, electricity trade, distribution, sales, heat and services.

The CEO has the task of managing the Group's business operations and administration, in accordance with the Swedish Companies Law and the instructions of the Board. The CEO is supported by the Executive Group Management



(EGM). As from 1 January 2004, these organisations consist of three categories:

- Business Groups and Business Units with overall business responsibility for operations within their respective area.
- Group functions, including the Business Group functions, which support the Executive Management. These are staff functions and cost centres.
- Shared services which focus on internal services. These are run in accordance with the full costing method.

### Decision-making processes and control

The CEO, together with the EGM, leads Vattenfall's focus on value creation and establishes long-term general targets and requirements for the Business Units and Business Groups. The Business Groups propose short-term targets for each Business Unit, which are subsequently approved by the CEO and EGM.

In order to follow financial and operational developments, the CEO and EGM will closely scrutinise the quarterly Business Group Reviews, together with monthly financial meetings, beginning in 2004.

Group functions have centralised responsibility for their respective areas within the entire Group, and support the CEO and EGM by:

- Preparing, issuing and following up on Group policies.
- Identifying improvements and initiating necessary measures within key areas for Vattenfall.
- Ensuring that the EGM has access to the competence required.
- Giving advice on important questions to Business Units and other companies within the Vattenfall Group.

Vattenfall's operations are carried out in Business Units with full transparency in accounting, control, profitability and value creation. The Head of a Business Unit is fully responsible for the activities under their charge, and reports to the Head of the Business Group of which the activity is part. Heads of Business Units are appointed by the CEO on the recommendation of the Head of the Business Group.

Heads of Business Groups are appointed by the CEO, and report to the CEO. The task of these managers is primarily to co-ordinate their Business Units so that each provides value within their geographical area.

The management model has not yet been fully implemented in Vattenfall in Poland, and for this reason Business Unit Poland is managed by a management group, with the Chairman being a member of the Group's Executive Man-

agement (EGM). The Chairman of the steering group appoints the other members of the steering group in consultation with the EGM.

Vattenfall's CEO also identifies a number of processes important for the Group. The process managers are usually members of the EGM, and are responsible for ensuring that processes develop in the right direction. All governing documents are scrutinised with respect to their environmental aspects, and must be approved by the head of environmental affairs in order to be valid. At present, the following Group processes exist:

Processes	People responsible for processes
Strategy and business planning	Group Strategy Manager
Following-up of business planning	Finance Manager
Risk management	Finance Manager
Mergers & Acquisitions	Legal Affairs and M&A Manager
Investment	Finance Manager
Communications	Communications Manager
Managerial development	Human Resources Manager

### Preparation and decision-making process

The Board of Directors determines remuneration to the CEO in accordance with the proposal from the Chairman of the Board. For other senior managers, the CEO determines remuneration after consultation with the Chairman of the Board, and after informing the Board. For information regarding remuneration to the CEO, see Note 33 of the Consolidated Accounts.

### Remuneration to Senior Management

A summary of taxable remuneration, benefits and pension costs to Board Members, President and other leading personnel, is described in Note 33 of the Consolidated Accounts.

### Incentive programmes

For the period of 2002–2004, variable salary is directly connected to value creation, as outlined in Note 33 of the Consolidated Accounts. For the Group Management, Group Executives and Business Unit Managers, both an annual variable salary part and a long-term incentive (LTI), which is a maximum of two annual variable salary parts, are applied, which will be paid after 2004 if the Group's financial targets are exceeded. This long-term incentive does not constitute a basis for pension purposes.

The Chief Executive Officer has, according to his contract, the right to a separate performance-based variable

salary with a maximum of 33 per cent of the fixed salary per year, plus LTI with two annual variable salary parts for the three-year period 2002–2004, as above.

For other members of Senior Management and Group executive management, a variable salary of a maximum of 25 per cent of normal salary plus LTI as above, applies. For certain managers/key personnel within the staff, a maximum of 10–15 per cent applies.

For business area managers a variable salary of a maximum of 20 per cent of normal salary plus LTI applies.

A maximum of 15 per cent, as described above, applies to the management groups within business units, primarily CEOs of larger companies and heads of larger operating units. For staff personnel in management groups, a maximum of 8–10 per cent.

For managers of service companies, a maximum of 15 per cent applies, and for heads of management groups a maximum of 8 per cent.

In total the above applies to some 100 managers.

In Finland, Poland and Germany, the same goals for value creation apply, with a salary variable part for Senior Management.

For more information on personnel costs in Vattenfall, described in Note 33 of the Consolidated Accounts.

### Variable salary component

Within the Swedish section of the Group there are various types of incentive programmes in several Business Units and companies. The programmes are designed in accordance with each respective Unit's goals and requirements. The maximum level is, on average, normally about SEK 15 thousand per year.

### Business ethics

Vattenfall has, within a separate set of Group instructions, formulated rules regarding the way in which questions of a legal and ethical character shall be handled within the entire Group.

- All employees have responsibility for ensuring that Vattenfall's activities are conducted in an ethically acceptable manner, and that Vattenfall's assets shall not be used for illegal or inappropriate purposes. Anyone who finds that a Group Unit is not fulfilling the ethical and legal requirements has both the right and the duty to report such behaviour to a superior.
- Personal information shall be handled with respect for personal integrity.
- Each company within the Vattenfall Group is responsible for legal duties concerning the Annual Report, the Annual General Meeting, etc., being managed in a correct way.
- Good marketing practice shall be followed in marketing activities.
- When negotiating contracts and agreements and such, Vattenfall shall act correctly and act fairly towards the opposite party.
- No employee may give or receive inappropriate benefits or benefits which can be considered to be unacceptable remuneration or which fall outside accepted business practice.
- Vattenfall follows the Stockholm Stock Exchange registration contract and with it, the insider rules which apply to exchange-listed Swedish companies.
- Vattenfall shall only use sound competitive methods. If Vattenfall should have a dominant position in any market, this shall not, among other things, be utilised to force unreasonable agreement terms onto an opposite party.

# BOARD OF DIRECTORS



Dag Klackenber



Lars G Josefsson



Carl-Gustaf Angelin



Ronny Ekwall



Johnny Bernhardsson



Christer Bådholm



Peter Fallenius



Jan Grönlund



Peter Lindell



Lone Fønss Schrøder



Maarit Aarni



Lars Carlsson



Per-Ove Lööv



Stig Lindberg

**Dag Klackenber** Born 1948  
Chairman of the Board since 2001. President of the Swedish Federation of Trade. Board member of Handelsbanken, Central Sweden Region Bank. Board member of Ljungberg Gruppen AB.

**Lars G Josefsson** Born 1950  
Board member since 2001. President and Chief Executive of Vattenfall AB. Chairman of Vattenfall Europe AG. Board member of Böhler-Uddeholm AG, Chairman. Board member of the Royal Swedish Academy of Engineering's (IVA) Industry Committee. Board member of ESKOM.

**Carl-Gustaf Angelin** Born 1951  
Board member since 2003. Employee representative CF.

**Ronny Ekwall** Born 1953  
Board member since 1999. Alternate 1998. Employee representative, SEKO.

**Johnny Bernhardsson** Born 1952  
Board member since 1995. Employee representative, Sif.

**Christer Bådholm** Born 1943  
Board member since 2002. Board member of Green Cargo AB, and Metronet Rail Ltd, UK. Chairman of Bombardier Transportation Sweden AB and Chalmers Tekniska Högskola AB. Board member of Icomera AB.

**Peter Fallenius** Born 1951  
Board member since 2001. Board Member of SJ AB and the European Institute for Japanese Studies and Board 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.

**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.

**Lone Fønss Schrøder** Born 1960  
Board member since 11 December 2003. Previously Deputy President of A.P Möller with responsibility for the Gas Tanker Division and subsequently for the Global Procurement Pilot, Bulk and Car Carrier (PCTC) Division.

**Maarit Aarni** Born 1953  
Board member since 11 December 2003, Deputy President of BorealisPolymers Oy, Finland, Business Unit Phenol. Previously President of Borealis A/S Olefins, Business Unit Phenol & Aromatics Denmark.

**Lars Carlsson** Born 1951  
Alternate since 1991. Employee representative, Sif.

**Per-Ove Lööv** Born 1961  
Alternate since 1999. Employee representative, SEKO.

**Stig Lindberg** Born 1946  
Alternate since 1998. Co-opted 1992–1998. Employee representative, Ledarna.

# EXECUTIVE GROUP MANAGEMENT



Lars G Josefsson



Matts P Ekman



Klaus Rauscher



Hans von Uthmann



Mats Fagerlund



Lennart Billfalk



Alf Lindfors



Ann-Charlotte Dahlström



Knut Leman

**Lars G Josefsson** Born 1950  
President and Chief Executive Officer.

**Matts P 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.

**Hans von Uthmann** Born 1958  
Senior Executive Vice President and head of Vattenfall Nordic.

**Mats Fagerlund** Born 1950  
Executive Vice President, Group Function Legal Affairs and M&A and head of Distribution and Transmission within Vattenfall Europe.

**Lennart Billfalk** Born 1946  
Executive Vice President, Group Function Strategies.

**Alf Lindfors** Born 1946  
Executive Vice President, and head of Generation Nordic.

**Ann-Charlotte Dahlström** Born 1952  
Senior Vice President, Group Function Human Resources.

**Knut Leman** Born 1950  
Senior Vice President, Group Function Communications.

## 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

# ADMINISTRATION REPORT

The Board of Directors and President of Vattenfall AB (publ), Corporate Identity Number 556036-2138, hereby submit the annual accounts and consolidated accounts for 2003 (Pages 64–101).

## Group operations and structure

Vattenfall produces, distributes and sells electricity, heat, energy-related services and, to a certain extent, telecom services. Vattenfall's vision is to be a leading European energy company. The majority of operations are located in Sweden, Finland, Germany and Poland, and the primary segment consists of the Nordic Countries, Germany and Poland. Vattenfall is a vertically integrated company, organised in accordance with the value chain. The number of electricity customers amounts to some six million, including those in jointly-owned companies. The Group has about 35,000 employees. Vattenfall AB is wholly owned by the Swedish Government. The Board of Directors has its headquarters in Stockholm.

## The year in brief

- Net sales increased by 10.8 per cent to SEK 111,935 million (101,025).
- Operating profit increased by 14.5 per cent to SEK 15,296 million (13,363).
- Net profit after tax increased by 20.6 per cent to SEK 9,123 million (7,566).
- Return on equity increased to 20.2 per cent (19.1).
- Return on net assets increased to 12.3 per cent (10.5).
- Cash flow before financing amounted to SEK 9,841 million (–5,455).
- Investments totalled SEK 11,356 million (39,932), of which growth investments SEK 4,771 million (30,650) and renewal investments SEK 6,585 million SEK 9,282 (million).
- Net debt fell SEK 8,317 million to SEK 66.9 billion (75.2).
- Electricity sales amounted to 184.2 TWh (188.3) – excluding supplies to minority owners.
- Sales of heat amounted to 35.6 TWh (33.9).

## Important events

- Continued streamlining of operations through the disposal of non core assets. Vattenfall sold its shareholdings in the IT company Song Networks AB Holding and A-Train AB. The latter divestment was finalised in January 2004.
- Ownership of the Polish sales and distribution company GZE (Gornoslaski Zaklad Elektroenergetyczny S.A.) was increased from 32 per cent to 53.7 per cent. GZE was consolidated into the Group as of January 1, 2003.
- The merger of the four German companies, HEW, Bewag, VEAG and LAUBAG, into Vattenfall Europe AG was registered and restructuring of the German operations continues according to plan.
- Vattenfall's share in Vattenfall Europe AG was increased through the purchase of German EnBW's holding of about 2 per cent and other purchases in the market. As a result, Vattenfall directly and indirectly owns about 94 per cent of the shares in Vattenfall Europe AG.
- Vattenfall's majority-owned German nuclear power plant Brunsbüttel resumed production at the beginning of 2003 after having been closed down for over a year. The Swedish nuclear power plant Barsbäck 2 resumed production in December after having been closed down for five months.
- The Goldisthal power plant in eastern Germany was commissioned in September. The installation is Germany's largest pumped storage power plant with a capacity of 1,060 Megawatts and Vattenfall is therefore number one in Germany within hydro power.
- Two units of the Stenungsund power plant, which had been mothballed, were returned to operation. The plant accounts for the greater part of the reserve capacity of 800 MW which Vattenfall provides in accordance with a multi-year agreement with Svenska Kraftnät.
- Investment began in Vattenfall's renewal programme for the Swedish production installations. The programme amounts to SEK 16 billion for nuclear power and SEK 6 billion for hydro power.
- The Group's core values – "Effectiveness, Accountability, Openness" – were established and developed into a corporate philosophy, which is now being implemented throughout the Group.
- A major customer service programme – Number One for the Customer – was initiated in Sweden. A series of concrete improvements for the customer was launched, including the phasing out of the so called "until further notice price contract", an end to advance payments, and the introduction of a "Comfortable Electricity Price", i.e., a fixed monthly price for apartment-dwelling customers. The programme also entails all of Vattenfall's 900,000 electricity network customers receiving electricity meters that can be read remotely. Through this, advance payments can cease and be replaced by invoicing for actual electricity

consumption. During 2003, 44,000 such meters were installed in Sweden.

- The decision to introduce a new Nordic organisation from 2004. The Group is now organised into two Business Groups; one for the Nordic Countries and one for continental Europe. Poland remains a separate Business Unit. In Germany, a further step was taken in the integration process, with the appointment of a joint company management team for HEW and Bewag, which involves operational integration of the two companies.
- A 15-year bond of EUR 500 million was issued in June in order to prolong the average maturity of Vattenfall's debt portfolio. In addition, an agreement was signed with a group of banks for a new five-year, so-called revolving credit facility of EUR 600 million.

## Important structural changes

2003 was characterised by the consolidation of completed acquisitions and the streamlining of operations to the core areas of electricity and heat within the main markets of the Nordic Countries, Germany and Poland. Non core assets have been disposed. Growth investments amounted to SEK 4,771 million (30,650).

During January, transactions were completed in which Vattenfall transferred the IT company Arrowhead AB to Song Networks Holding AB. Vattenfall also participated in a directed share issue of SEK 300 million. As a result, Vattenfall's holding amounted to just over 20 per cent. In October, the holding in Song Networks AB was sold to some twenty Swedish and foreign institutions. During the autumn an agreement was also signed concerning the sale of Vattenfall's share of A-Train AB, which runs the Arlanda railway, to Australian Macquarie. The transaction was finalised in January 2004. The shareholding in the Polish distribution and sales company GZE was increased from 32 per cent to 53.7 per cent. The company was consolidated into the Group as of January 2003. Ownership of Vattenfall Europe AG was increased through the purchase of German EnBW's share of some 2 per cent, together with purchases in the market. As a result, Vattenfall directly and indirectly owns some 94 per cent of the shares in Vattenfall Europe AG.

Details of important structural transactions in 2003 are set out in the Tables on Page 69.

## Personnel

(Number of employees, person-years)

Amount in SEK millions	2003	2002	Change %
Sweden	7,994	7,983	+0.1
Finland	537	567	–5.3
Germany	21,719	22,404	–3.0
Poland	4,935	3,170	+55.7
Other countries	111	124	–10.5
<b>Total</b>	<b>35,296</b>	<b>34,248</b>	<b>+3.1</b>

The increase in comparison with 2002 is largely due to the Polish company GZE being consolidated as of 2003. The number of employees in GZE was 2,202 at the end of 2003.

## Research and development (R&D)

As a natural part of business development, Vattenfall runs technical research and development, R&D, with a strong emphasis on development, i.e., the application of existing knowledge. The purpose is to create, retain and develop competitive advantages for the various parts of the Group. Development is also encompassed, in order to continually fulfil environmental and safety requirements, and general legal requirements. Some development is also undertaken in order to create new business opportunities, primarily within the framework of existing operations, the core business.

For the Group as a whole, investment in R&D during 2003 amounted to SEK 478 million (481), of which SEK 299 million (283) was within Svensk Kärnbränslehantering AB (SKB). As a proportion of net sales, the costs of R&D equal 0.4 per cent (0.5) of sales. Calculated in this way, the extent of R&D is on a par with those of Vattenfall's most important competitors.

## Control of R&D

Each Business Unit is responsible for the future development of its own operations, including technical research and development. The emphasis is primarily on continual improvements for increased efficiency, accessibility and safety in existing installations and processes.

As an example of tangible development we can mention investment in dust safety and environmental measures within hydro power production. Network operations work with such things as measures for effi-

cient maintenance and increased accessibility, while heat and heat power production, for example, optimise their boilers for fuel flexibility, low operating costs, maximum efficiency and low emissions. The development of methods and technologies for storing spent nuclear fuel constitutes a considerable investment, which is being carried out within the framework of SKB, Svensk Kärnbränslehantering AB.

For certain issues of a more long-term character, and for which synergies between different units are considered to be considerable, development is organised in joint Group programmes, for which the Group Strategies team is responsible. In brief, current ongoing programmes are focused on the reduction of carbon dioxide emissions, making processes and installations more efficient, and the evaluation of the development of new business opportunities within areas such as wind power. The programmes cover all of Vattenfall's core markets; co-operation and co-ordination between countries are prioritised and are carried out to an increasing extent.

#### Environmental impact within the Group

The Group runs operations for which permits are required, in accordance with national legislation in Sweden, Finland, Germany and Poland respectively. Such operations include the production of electricity and heat and, in Germany, also the extraction of lignite in four open-cast mines.

The Group conducts considerable network operations for the distribution and transmission of electricity in accordance with permits held in Sweden, Finland, Germany and Poland. The Group also has its own railway operations in Germany.

In Sweden, the generation of electricity is conducted in several large and small hydro power plants, eight nuclear power units, wind power plants, and, to a certain extent, in combustion plants. In Finland, electricity is generated in a large hydro power plant and several small hydro power and wind power plants, and also in a thermal power plant. In Germany, electricity is generated in several large combustion plants, three nuclear power plant units, several medium-sized thermal power plants in Hamburg and Berlin, and in several smaller wind power and hydro power plants. The Stade nuclear power plant was closed down in November 2003. Some of the hydro power plants are so-called pumped storage plants, one of which is very large. In Poland, electricity is generated in two thermal CHP plants in Warsaw.

In Germany, heat is produced in several large and medium-sized combustion incineration plants, primarily in Hamburg and Berlin, but also in other locations. In Poland, heat is produced in four combustion plants in Warsaw. In Sweden, heat is produced in combustion plants in several locations. In Finland and the Baltic states, heat is produced in several locations, distributed between one large plant and several smaller installations.

Poland's imminent EU membership entails the country having to adapt its national environmental legislation to that of the EU. This will mean that Vattenfall's installations in Warsaw that require permits will be subject to re-examination during the next few years, in accordance with transitional regulations currently in force for existing installations. Preparations are underway with the purpose of ensuring that the new regulations are fulfilled in time.

#### Environmental impact within the parent company and Swedish operations

The parent company runs operations requiring Government authorisation in accordance with the Swedish Environmental Code. These operations mainly comprise combustion plants for the production of electricity and heat and wind power plants.

The parent company has 46 combustion plants for heat and electricity generation that require permits, as well as 95 heat and cooling plants that require registration. The combustion plants for the generation of electricity that require permits are the two power plants in Stenungsund and Marviken (earlier mothballed, but returned to operating condition in 2003 and 2004 in order to be put into production), two gas turbine plants and one diesel power plant, the latter three used for reserve power. A further five gas turbine plants, which require permits and are kept for reserve production, are run with exemptions similar to permits. New permits for continued operation of these installations must be applied for before the end of 2005. The parent company has a total of 41 wind power turbines, which are located both separately and in groups. Wind power plants have been erected in such a way that ten plants require permits and the remainder require registration. The parent company also has hydro power plants associated with water control regulations that lie outside the legal framework of the Swedish Environmental Code. The parent company conducts fish farming in four installations that require permits. During 2004, the parent company will apply for permission for increased operation of the oil-fired power plant in Stenungsund. Some smaller thermal plants are subject to re-examination. The Company's result and financial position is not dependent on the outcome of these examinations.

Both of the nuclear power plants at Ringhals and Barsebäck are subject to examination for authorisation for environmentally hazardous activities, in accordance with transitional regulations in connection with the introduction of the Swedish Environmental Code.

The Group's Swedish subsidiaries also conduct operations that require permits in accordance with the Swedish Environmental Code. Forsmarks Kraftgrupp AB and Ringhals AB, and also Ringhals AB's subsidiary Barsebäck Kraft AB, generate electricity in nuclear power plants. SKB operates an installation for the final storage of low and medium-level radioactive waste in Forsmark and the intermediate storage of spent fuel in Oskarshamn. In several subsidiaries, including Vattenfall Värme Uppsala AB, electricity is generated and heat produced mainly in combustion plants. The Group runs network operations in Swedish subsidiaries for the distribution and transmission of electricity, in accordance with permits. Within the Group there are also subsidiaries that extract peat in Sweden.

The generation of electricity in hydro and nuclear power plants comprises, as do network operations, an important part of the business, unlike the other operations that require permits. The generation of electricity in hydro power plants is mainly conducted within the parent company. Other operations of importance are run mainly within subsidiaries.

The main environmental impact of nuclear power plants concerns radioactive waste, while from combustion plants it is gaseous emissions of carbon dioxide and acidifying substances. The main environmental impact of hydro power and network operations, as well as the harvesting of peat, is land use.

#### Parent Company

Net sales amounted to SEK 26,741 million (23,383). Profit after financial items was SEK 6,172 million (6,048) and net profit was SEK 4,577 million (4,514). Investment during the year amounted to SEK 4,637 million (9,262). Liquid assets as of December 31, 2003 amounted to SEK 33 million (3,313). Funds in Group accounts administered by Vattenfall Treasury AB on December 31, 2003 amounted to SEK 13,102 million (12,852).

#### The Work of the Board of Directors during 2003

The Board of Directors establishes rules of procedure each year, which, in essence, follow the guidelines issued by the Ownership Unit of the Ministry of Industry, Employment and Communications on May 18, 2000.

During 2003, the Board of Directors met nine times, including the inaugural meeting and a meeting which was held per capsulam. The Board evaluates Board work separately, once a year. During 2003, the Board formed an internal Audit Committee, consisting of four Board Members. The Audit Committee held four meetings during the year.

#### Outlook for 2004

In the Nordic Countries gradual normalisation of the so-called hydrological balance is expected, and thereby a stabilisation of generation capacity. As Vattenfall hedges, to a certain extent, future electricity generation, the effect of fluctuating market prices on profits is evened out. Due to the considerable investment in customer service, the Company's market share is expected to be maintained or increased. In Germany, price increases are anticipated to continue on the electricity exchanges, as is continued successful integration and cost-reduction work. In Poland further optimisation of operations is expected. The future effects of the new Swedish network utility model and the introduction of a regulator in Germany are difficult to assess, as the parameters of the model and the German legislation have not yet been established. All in all, however, the Group can currently assume to be able to achieve an operating profit on a par with – or better than – 2003.

#### Proposed distribution of profits

See page 101.

#### Events after closing day

- Interruptions in Vattenfall's Swedish network occurred at the end of the year. At the beginning of 2004, Vattenfall decided to invest a further SEK 2 billion, and total of SEK 10 billion, over a 5-year period to improve operational reliability in the Swedish network.
- The Business Units Supply & Trading and Vattenfall Europe Trading GmbH were hived off from Business Group Nordic Countries and Business Group Germany respectively and integrated into Vattenfall Trading Services with headquarters in Hamburg. In this way, the Group's risk management is strengthened and synergies in cross-border trading are secured. Management of the Nordic production portfolio and trade within Nord Pool remain within Vattenfall Trading in Stockholm, which will become the regional office of the new Vattenfall Trading Services.
- Ownership of GZE was increased from 53.7 per cent to 74.7 per cent.

# CONSOLIDATED INCOME STATEMENT

Amounts in SEK, millions January 1–December 31	Note	2003	2002
Net sales	4, 5	111,935	101,025
Cost of products sold	6, 7	-84,792	-77,339
<b>Gross profit</b>		<b>27,143</b>	<b>23,686</b>
Sales expenses		-4,124	-4,386
Administration expenses		-7,899	-7,179
Research and development costs		-478	-486
Other operating income	8	2,460	4,254
Other operating expenses	9	-2,386	-1,869
Participations in the results of associated companies	4	580	-657
<b>Operating profit*</b>	4, 10	<b>15,296</b>	<b>13,363</b>
Result from other long-term securities held	11	145	229
Other interest income and similar profit/loss items	12	2,122	2,781
Interest expenses and similar profit/loss items	13	-5,203	-6,386
<b>Profit before tax and minority interest**</b>		<b>12,360</b>	<b>9,987</b>
Tax	14	-2,831	-1,763
Minority interest in the profit for the year	15	-406	-658
<b>Net profit for the year***</b>		<b>9,123</b>	<b>7,566</b>
*) Including items affecting comparability, SEK million		263	447
**) Including items affecting comparability, SEK million		278	466
***) Including items affecting comparability, SEK million		179	304
<b>Earnings per share</b>			
Number of shares (thousands)		131,700	131,700
Earnings per share, SEK		69.27	57.45
Dividend per share, SEK		18.22*	12.72

\*) Proposed dividend per share, SEK.

## Comments

### Net sales and performance

**Net sales** increased by SEK 10,910 million, 10.8 per cent, to SEK 111,935 million (101,025). The increase is due to higher electricity revenue in the Nordic Countries and Germany, the consolidation of the Polish company GZE as of January 2003, and the German company Bewag being included for the whole of 2003 as against only eleven months the previous year. The sales figure does not include financial electricity trading.

**Operating costs** increased by SEK 7,903 million to SEK 97,293 million (89,390). The higher costs are explained by increased costs for the purchase of electricity resulting from higher market prices. On account of the shortage of water in Vattenfall's water reservoirs, more expensive production has been brought into use, and electricity imported via international interconnectors. The fact that GZE was consolidated as of January 2003 and that the German company Bewag is included for the whole of 2003, as opposed to only eleven months the previous year, also contributed to increasing operating costs. The net of other operating income and other operating costs dropped by SEK 2,311 million to SEK 74 million (2,385). This is explained by the fact that in 2002 loss reserves in Germany were dissolved, together with higher capital gains in 2002. Depreciation was reduced by SEK 782 million to SEK 14,336 million (15,118). Negative goodwill has been dissolved in the gross profit in the amount of SEK 4,754 million (3,626), attributed to losses and restructuring costs in acquired German companies.

**Participations in the results of associated companies** amounted to SEK 580 million as opposed to SEK -657 million in 2002. The improvement is primarily explained by the fact that the profit component in the German nuclear power plant Krümmel increased by almost SEK 1,300 million. Operating profit increased by SEK 1,933 million, or 14.5 per cent, to SEK 15,296 million (13,363).

Excluding items affecting comparability, i.e., excluding capital gains/losses from shareholdings and other fixed assets, **operating profit** increased by SEK 2,117 million, or 16.4 per cent, to SEK 15,033 million (12,916). The improvement is explained almost entirely by cost savings and increased electricity market prices in Germany, together with considerable earnings improvement in Poland.

**Net financial income/expenses** amounted to SEK -2,936 million, an improvement of SEK 440 million compared with 2002. The improvement is mainly due to the financial costs of 2002 being burdened with write-offs on investment assets in Germany. The monthly rate of the underlying net interest income/expense amounted to approximately SEK -275 million.

**Taxes** increased by SEK 1,068 million to SEK 2,831 million (1,763). The tax rate, according to the income statement, amounted to 22.9 per cent (17.7). The increase was due to an increased tax burden in Germany.

**Net profit** increased by SEK 1,557 million, or 20.6 per cent, to SEK 9,123 million (7,566). Excluding items affecting comparability, net profit increased by SEK 1,682 million, or 23.2 per cent, to SEK 8,944 million (7,262).

**Return on net assets** amounted to 12.3 per cent (10.5). Excluding items affecting comparability, return on net assets amounted to 12.1 (10.1). **Return on equity** increased from 19.1 per cent to 20.2 per cent. Excluding items affecting comparability, return on equity increased from 18.3 per cent to 19.8 per cent. Looked at over a four-year period, return on equity amounted to 13.8 per cent, which means that Vattenfall is approaching its return requirement of 15 per cent.

### Segments

As of 2003, Group operations are divided into primary and secondary segments. Primary segments are the geographical areas Nordic Countries, Germany and Poland. Secondary segments are the business areas Electricity, Electricity Networks, Heat and Other Operations. During 2003, Vattenfall also reported operations in the profit areas described below in interim reports and the year-end report. For the reporting of primary and secondary segments, together with a summary of sales and operating profit per profit area, see Note 4.

### Profit areas

#### Electricity generation, Nordic Countries

Sales increased by 15.1 per cent to SEK 29,531 million (25,667). Operating profit decreased by 3 per cent to SEK 6,266 million (6,459). The increase in sales, which was due to high prices, is primarily attributed to the first quarter when electricity prices were at extremely high levels. Operating profit decreased somewhat as a result of lower hydro power

production due to the low availability of water. This led to more expensive types of power being taken into use, and electricity imported via international interconnectors, from Poland. Electricity generation by 10.6 per cent to 77.4 TWh (86.7). The reduction is almost entirely due to lower hydro power generation. Nuclear power generation remained at a continued high level. Of electricity generation, Vattenfall used 61 TWh (70), while the remainder went to minority owners.

#### Market Nordic Countries

Net sales increased by 17.5 per cent to SEK 24,994 million (21,275). Operating profit increased by 29 per cent to SEK 369 million (286). The increase in sales was mainly due to high electricity prices. Because the higher market prices simultaneously involved higher acquisition costs, no equivalent improvement in profits occurred within the sales units. The improvement in profit within Market Nordic Countries is primarily explained by the Business Unit Supply & Trading trading international interconnectors.

#### Heat Nordic Countries

Net sales increased by 3.9 per cent to SEK 2,868 million (2,761). Operating profit increased by 1.5 per cent to SEK 348 million (343). Production of heat declined by 6.2 per cent to 6.0 TWh (6.4), while electricity generation remained unchanged at 0.3 TWh. The increase in sales is explained by increased prices of heat and electricity. The operating profit decreased mainly due to lower heat volume and lower electricity prices at the end of 2003 compared with the end of 2002.

#### Electricity Networks Nordic Countries

Net sales increased by 1.8 per cent to SEK 7,809 million (7,674). Operating profit increased by 16.2 per cent to SEK 2,131 million (1,834). Increased sales and operating profit are explained by higher network prices and connection charges, which more than compensated for reduced volume. Vattenfall's interruption guarantee for network interruptions at the end of 2003 has burdened the result with some SEK 35 million.

#### Services Nordic Countries

Some 75 per cent of sales are attributable to internal assignments within Vattenfall. Sales increased by 2.3 per cent to SEK 3,042 million (2,974). Operating profit decreased by 15.3 per cent to SEK 100 million (118), primarily because of a lower degree of utilisation resulting from increased competition and reduced network interruptions.

#### Germany

Sales increased by 5.4 per cent to SEK 63,974 million (60,696). Operating profit increased by 33.5 per cent to SEK 6,318 million (4,733). The increase in sales is explained by both high volumes and higher prices. The increase in profits is due to the continuing cost reduction programme within Vattenfall Europe and to higher electricity market prices. The programme is intended to achieve annual savings of EUR 400-500 million as of 2005. On December 31, savings of SEK 3,074 million (EUR 338 million) had been achieved. The fact that Bewag was included for the whole of 2003 as opposed to only eleven months in 2002 explains SEK 2.5 billion of the sales increase, and some SEK 200 million of operating profit improvement. Total electricity generation increased by 9.5 per cent to 74.6 TWh (68.1). Fossil-power generation amounted to 67.4 TWh (66.1), nuclear power to 4.9 TWh (0.9) and hydro power to 2.3 TWh (1.1). The production of heat increased by 12.1 per cent to 15.7 TWh (14.0).

#### Poland

Sales increased by 147.7 per cent to SEK 7,845 million (3,167). Operating profit increased by SEK 438 million to SEK 443 million (5). The strong increase in sales was primarily due to the fact that the sales and distribution company GZE was consolidated into the Group as of January 1, 2003. Of the improvement in operating profit, GZE was responsible for SEK 237 million and EW for SEK 202 million. The positive operating profit trend is a result of the optimisation of operations in Poland, higher sales volumes and reduced fuel costs. The production of heat increased by 1.7 per cent to 12.0 TWh (11.8). Electricity generation increased by 3.0 per cent to 3.4 TWh (3.3).

#### Other Operations

Other Operations comprises Vattenfall's non-core business, service companies, Group functions and companies in the Netherlands. Sales increased by SEK 25 million to SEK 1,855 million (1,830). Operating profit amounted to SEK -690 million (-386). The deterioration was primarily explained by a write-down within Vattenfall Fastigheter and a write-down of the shares in the Finnish associated company Empower.

# CONSOLIDATED BALANCE SHEET

Amounts in SEK millions	Note	Dec 31, 2003	Dec 31, 2002
<b>Assets</b>			
<b>Fixed assets</b>			
Intangible assets	16		
Concessions, patents, licences, trademarks and similar rights	16	3,341	3,568
Renting and similar rights	16	1,644	1,856
Goodwill	16	573	826
<b>Total intangible assets</b>		<b>5,558</b>	<b>6,250</b>
Tangible assets			
Land and buildings	17	33,297	35,107
Plants and machinery	17	140,065	141,826
Equipment, tools and fixtures and fittings	17	1,711	1,925
Construction in progress	17	6,493	5,869
Advanced payments for tangible assets	18	374	245
<b>Total tangible assets</b>		<b>181,940</b>	<b>184,972</b>
<b>Financial assets</b>			
Participations in associated companies	19, 20	15,676	18,042
Receivables from associated companies	18	1,961	1,978
Other securities held as fixed assets	19	1,022	1,354
Other long-term receivables	18	10,046	5,054
<b>Total financial fixed assets</b>		<b>28,705</b>	<b>26,428</b>
<b>Total fixed assets</b>		<b>216,203</b>	<b>217,650</b>
<b>Current assets</b>			
Inventories	21	7,283	7,112
Current receivables	22	26,832	36,041
Current investments	23, 29	11,974	8,958
Cash and bank balances		2,673	6,515
<b>Total liquid assets</b>		<b>48,762</b>	<b>58,626</b>
<b>Total current assets</b>		<b>48,762</b>	<b>58,626</b>
<b>Total assets</b>		<b>264,965</b>	<b>276,276</b>
<b>Equity, provisions and liabilities</b>			
<b>Equity</b>			
<b>Restricted equity</b>			
Share capital		6,585	6,585
Equity method reserve		951	1,077
Other restricted reserves		16,993	15,218
<b>Non-restricted equity</b>			
Non-restricted reserves		18,854	14,683
Net profit for the year		9,123	7,566
<b>Total equity</b>		<b>52,506</b>	<b>45,129</b>
Minority interests in equity		9,379	9,960
<b>Provisions</b>	24	<b>91,884</b>	<b>97,578</b>
Long-term interest-bearing liabilities	25, 29	69,845	67,158
Long-term non-interest-bearing liabilities	26	2,236	1,588
<b>Total long-term liabilities</b>		<b>72,081</b>	<b>68,746</b>
<b>Current interest-bearing liabilities</b>	27, 29	<b>15,702</b>	<b>27,582</b>
<b>Current non-interest-bearing liabilities</b>	28	<b>23,413</b>	<b>27,281</b>
<b>Total current liabilities</b>		<b>39,115</b>	<b>54,863</b>
<b>Total equity, provisions and liabilities</b>		<b>264,965</b>	<b>276,276</b>
Pledged assets	30	112	3,453
Contingent liabilities	31	12,357	11,354
Commitments under consortium agreements	32		

## Comments

### Assets

Both **tangible and intangible assets** showed very small changes as of December 2003 compared with December 2002.

**Participations in associated companies** decreased by just over SEK 2.3 billion, primarily because Polish GZE changed from being an associated company to a consolidated subsidiary as of January 2003.

**Other long-term receivables** increased by just over SEK 5 billion, primarily due to reclassification of a claim, attributable to a loan to a minority shareholder in a foreign company, from a short-term receivable to a long-term receivable.

**Current receivables** decreased by just over SEK 9.2 billion, mainly because of the reclassification of a short-term receivable to a long-term receivable, as described above.

**Liquid assets** amounted to SEK 14,647 million (15,473), which corresponds to 13.1 (15.3) per cent of net sales. Liquid assets include investments of SEK 993 million (980), attributed to arbitrage transactions associated with a refinancing risk, as well as SEK 3,542 million (3,419) comprising Vattenfall Europe's share of the liability insurance agreement (Soldidarvereinbarung) between the German nuclear power plant operators with regard to their commitment pursuant to the German Nuclear Liability Act. Liquid assets are divided as follows: SEK 7,047 million in Vattenfall Treasury AB, SEK 5,202 million in Germany, SEK 1,945 million in Poland and SEK 453 million elsewhere. Over and above liquid assets, Vattenfall had at its disposal on December 31 SEK 10,185 million (USD 650 million and EUR 600 million) in committed credit facilities. In addition, Vattenfall has at its disposal SEK 8,143 million in overdraft and other

credit facilities. During the year a new five-year, revolving credit facility was signed for EUR 600 million.

### Equity, provisions and liabilities

**Risk capital for the Group**, namely equity including minority interests, amounted to SEK 61,885 million (55,089), an increase of 12.3 per cent. **Equity** increased by SEK 7,377 million to SEK 52,506 million (45,129). As a result of the strengthening of the Swedish krona during the year, equity has been affected by net translation differences of SEK -1,144 million (-985).

In connection with the merger of Bewag AG with Vattenfall Europe AG, there arose – as a result of differences between German and Swedish accounting principles – a positive restructuring effect of SEK 1,073 million.

**The equity/assets ratio** increased from 20 per cent to 23.4 per cent.

Provisions decreased by SEK 5,694 million to SEK 91,884 million (97,578). For further details, see Note 24.

**Total interest-bearing liabilities and interest-bearing provisions** decreased by SEK 9,207 million to SEK 85,631 million (94,838). Of these liabilities, SEK 14,979 million (16,566) concerns a loan from Vattenfall's minority owned German nuclear power company and SEK 4,289 million (4,127) loans from, among others, minority owners in Vattenfall's Swedish nuclear power plants. Net borrowing for the Group amounted to SEK 66,890 million (75,207), a reduction of SEK 8,317 million. The reduction was due to the strong cash flow being used to repay loans.

For further details of the division of loans into various types, see Page 76.

### Major acquisitions and disposals

	Month	Company	Change %	New ownership %	Transfer sum	Comments
<b>Acquisitions</b>						
Nordic						
Countries	Jan	Song Networks Holding AB		24.9	300,000	
	Dec	ELINI (European Liability Insurance for the Nuclear Industry)		31.5	7,083	Newly-formed company
Germany	2003	Vattenfall Europe AG		approx. 94	approx. 1,477,000	Purchased from EnBW and also on the market
	Dec	Kraftwerke GmbH & Co Farmsen KG		94	5,643	
	Dec	Ionity AG		3.3	10,986	
	Dec	Solara AG		14	9,094	
	Dec	Sulfurcell Solartechnik GmbH		11.7	9,494	
Poland	April + Sept	EW	0.4	69.6	12,750	Purchased from the personnel
	Apr–Aug	GZE	21.7	53.7	758,000	Excl. new issue
	March	Energy Regions		42.9	7,942	
<b>Disposals</b>						
Nordic						
Countries	Jan	Arrowhead AB	100	0	100,000	To Song Networks
	Oct	Song Networks Holding AB	24.9	0	484,615	
Germany	Sept	HanseNet Telekommunikation GmbH	18.6	0	251,579	Indirect ownership

# CONSOLIDATED CASH FLOW STATEMENT

Amounts in SEK millions, January 1–December 31	2003	2002
<b>Current operations</b>		
Funds from operations (FFO)*	18,804	17,106
Cash flow from changes in operating assets and operating liabilities	-613	2,997
<b>Cash flow from operating activities</b>	<b>18,191</b>	<b>20,103</b>
<b>Investment activities</b>		
Investments**	-11,356	-39,932
Divestments***	2,057	3,683
Liquid assets in acquired/sold companies	949	691
<b>Cash flow from investment activities</b>	<b>-8,350</b>	<b>-35,558</b>
<b>Cash flow before financing activities</b>	<b>9,841</b>	<b>-15,455</b>
<b>Financing activities</b>		
Loans raised	6,610	26,656
Debt repayment	-15,002	-21,806
Minority share of Group contribution paid	-	-22
Dividend paid	-1,937	-1,364
<b>Cash flow from financing activities</b>	<b>-10,329</b>	<b>3,464</b>
<b>Cash flow for the year</b>	<b>-488</b>	<b>-11,991</b>
<b>Liquid assets</b>		
Liquid assets at the beginning of the year	15,473	10,340
Reclassification of investment assets to liquid assets	-	17,852
Exchange-rate differences	-338	-728
Cash flow for the year	-488	-11,991
<b>Liquid assets at the end of the year</b>	<b>14,647</b>	<b>15,473</b>
<b>Operating cash flow analysis</b>		
<b>Cash flow before financing activities</b>	<b>9,841</b>	<b>-15,455</b>
<b>Financing activities</b>		
Acquired/sold interest-bearing liabilities, net	-45	-2,064
Minority share of Group contribution paid	-	-22
Dividend paid	-1,937	-1,364
<b>Cash flow after dividend</b>	<b>7,859</b>	<b>-18,905</b>
Net borrowing at the beginning of the year	-75,207	-55,736
Cash flow after dividend	7,859	-18,905
Exchange-rate differences on net borrowing	458	-566
<b>Net borrowing at the end of the year****</b>	<b>-66,890</b>	<b>-75,207</b>

## Comments

**Cash flow from operating activities** decreased by SEK 1,912 million to SEK 18,191 million (20,103). **Funds from operations (FFO)** increased by SEK 1,698 million to SEK 18,804 million (17,106) while the change in operating capital amounted to SEK -613 (2,997) million. Cash flow was negatively affected by German tax payments of SEK 2.5 billion as a result of a tax case, together with payment of some SEK 900 million to the City of Hamburg.

**Free cash flow**, i.e., cash flow from operating activities minus renewal investments, increased by SEK 785 million to SEK 11,606 million (10,821).

### Investment activities

During 2003, the Group had a phase of consolidation, which means that investments was low. Total investments decreased by SEK 28,576 million to SEK 11,356 million (39,932). **Renewal investments** in installations amounted to SEK 6,585 million (9,282) and **growth investments** amounted to SEK 4,771 million (30,650). Of growth investments, SEK 758 million constitutes an increase in the share of GZE, SEK 342

million is attributable to the German pump power plant Goldisthal, SEK 429 million is attributable to the district heating plant Uppsala unit 5, and just over SEK 1,500 million is attributable to the purchase of additional shares in Vattenfall Europe AG. The remaining growth investments are divided between various projects and installations in the Nordic Countries and Germany. Renewal investments were some SEK 2.7 billion lower in 2003 than 2002. The normal level of investment is considered to be SEK 7-9 billion.

Sales amounted to SEK 2,057 million (3,683). Sales consisted primarily of shareholdings in Song Networks Holding (SEK 485 million), HanseNet Telekommunikation and the Sikfors hydro power station.

### Financing activities

Cash flow has largely been used to repay debt. Net debt decreased by 8.3 billion SEK to 66.9 billion SEK. In June a new 15-year bond loan of EUR 500 million was issued with the purpose of prolonging the average maturity Vattenfall's debt portfolio. As of December 31, the average remaining maturity for net debt was 5.1 years (4.3). All public funding is conducted through Vattenfall Treasury AB with guarantees from Vattenfall AB.

#### \*) Funds from operations

	2003	2002
Net profit for the year	9,123	7,566
Depreciation	14,336	15,118
Dissolution negative goodwill	-4,754	-3,626
Non-distributed portion of profits from associated companies	-278	739
Unrealised exchange gains	-340	-39
Unrealised exchange losses	93	15
Capital gains	-595	-860
Capital losses	317	394
Reversed write-downs/write-downs of shares	156	-13
Change interest receivable	-129	-124
Change interest liabilities	216	374
Change provisions	666	-3,224
Change tax liability	-413	128
Minority interests in the profit for the year	406	658
	<b>18,804</b>	<b>17,106</b>

Interest paid amounts to SEK 4,467 million (5,822) and interest received amounts to SEK 1,423 million (2,239). Tax paid amounts to SEK 3,244 million (1,635).

#### \*\*) Investments

	2003	2002
Acquisitions of Group companies	2,254	24,045
Investment in associated companies and other long-term holdings of securities	414	4,574
Investments in tangible assets	8,554	7,975
Investments in intangible assets	134	3,338
	<b>11,356</b>	<b>39,932</b>

Assets in acquired Group companies consist mainly of fixed assets. See also Notes 16, 17 and 19.

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

	2003	2002
Divestment of tangible and intangible assets	1,268	1,143
Divestment of shares and participations	789	2,540
	<b>2,057</b>	<b>3,683</b>

#### \*\*\*\*) Net debt

	Dec 31, 2003	Dec 31, 2002
Interest-bearing liabilities and provisions	-85,631	-94,838
Loans to minority owners in foreign subsidiaries	4,094	4,158
Liquid assets	14,647	15,473
	<b>-66,890</b>	<b>-75,207</b>

## CONSOLIDATED CHANGE IN EQUITY

Amounts i SEK millions	Share capital	Equity method reserve	Other restricted reserves	Non-restricted equity	Total
Balance brought forward 2002	6,585	157	19,154	13,682	39,578
Dividends	-	-	-	-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
Security accounting	-	-	-	-31	-31
Net profit for the year	-	-	-	7,566	7,566
Balance carried forward 2002	6,585	1,077	15,218	22,249	45,129
Dividends	-	-	-	-1,675	-1,675
Transfers between restricted and non-restricted equity	-	-137	2,776	-2,639	0
Translation differences	-	11	-1,001	-223	-1,213
Security accounting	-	-	-	69	69
Transfers between equity and minority interests in equity*	-	-	-	1,073	1,073
Net profit for the year	-	-	-	9,123	9,123
Balance carried forward 2003	6,585	951	16,993	27,977	52,506

Accumulated translation differences in equity amount to SEK -800 million (344), of which SEK 38 million (-31) is attributable to security accounting. Of non-restricted equity at the end of the year, it is estimated that SEK 1 million will be used for allocations to restricted reserves, as proposed by the Boards of the Group companies.

\*) In connection with restructuring in Germany, operations have been transferred between companies in which minorities have interests. Restructuring has also involved a change in ownership relationships between the minority and the Group in those companies affected. On account of differences in local accounting and the principles applied within the Group, a transfer has arisen between equity and the minority interests.

# RISKS AND RISK MANAGEMENT

Vattenfall's operations are exposed to a number of risks. Vattenfall has established an organisation and a risk management process which is comprised of the following components:

- Common risk definitions.
- Identifying where in the Group risks arise.
- Reliable methods for measuring risks.
- Efficient risk management.
- Reporting in accordance with established routines.
- Management in accordance with established strategies and rules.

## Risk mandate and risk management structure

The Board has overall responsibility for internal control and risk management within Vattenfall.

Vattenfall's Board has, in turn, given Vattenfall's management a risk mandate. The management allocates this mandate to Vattenfall's units, in accordance with a delegation structure. Each unit manages its own risks and has some room to manoeuvre within its respective mandate. The results within units are continually followed up and reported to Executive Management and an independent risk control function, Group Risk Control, which is also responsible for supervision of the Group's overall risk mandate.

## The Risk Committee

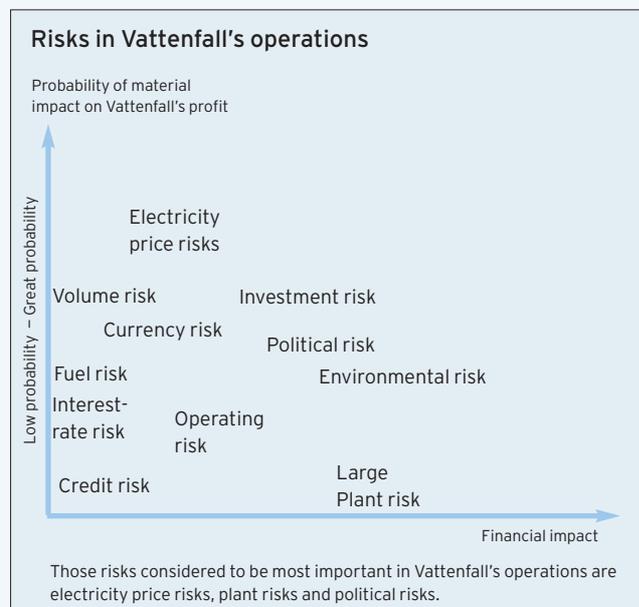
Group risk management and reporting is co-ordinated by a Risk Committee under the leadership of the CFO. The committee's task is to map out risks in the organisation and to develop appropriate models and measurement methods for management of these risks. The Risk Committee shall also scrutinise policies and mandates, and approve risk instructions and those risk models which are applied within the Group.

## Risks in Vattenfall's operations

Political risks, operational risks and legal risks are of a general nature and are present within all units of the Group. The more specific risks in each respective part of the value chain are presented in the figure on pages 74–75.

## Electricity price risk

The price of electricity is determined by supply and demand. In the Nordic Countries, the supply of water in water storage reservoirs is of considerable importance for power generation and, therefore, has considerable impact on the price of electricity. Demand, and with it the electricity price, is dependent to a large extent on temperature as, for example, during hot periods less electricity is required to heat housing.



In Germany and Poland, the electricity price is largely dependent on the price of coal, as coal is the input commodity in production. Demand is controlled, as it is in the Nordic Countries, largely by the weather.

In order to manage uncertainty in price developments, Vattenfall secures its production and sales using the forward market for electricity. Such hedging is made taking into account the liquidity in the market for different periods of time. The Group hedges in accordance with established mandates and, at present, up to three years ahead.

## Plant risk

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

Sweden's nuclear power plants have insurance cover for property damage through EMANI, a European mutual insurance company. The Nordic Nuclear Insurance Pool participates in this insurance programme in Sweden, and also issues nuclear liability insurance. The German nuclear liability risk is insured by the German Mutual Atomic Energy Reinsurance Pool, and by the mutual undertaking between German power plant operators.

In Sweden, 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 operating in each market.

Vattenfall Reinsurance S.A. in Luxembourg reinsures part of Vattenfall Insurance's insurance commitments. Economies of scale and direct access to the international reinsurance market mean that overall insurance costs can be kept low.

## Political risk

Political risk is defined as the business risk that may arise as a result of political decisions. Examples of this are price controls within electricity distribution and transmission, uncertainty with regards to a new political majority or changes in fiscal policy. In conjunction with acquisitions and other investments, this type of risk is managed by adjusting the cost of capital. Another type of political risk consists of changes in the regulations that affect the energy sector. Examples include changed taxes, environmental charges and changes in the way natural monopolies are regulated. This type of risk is difficult to predict and protect oneself against. Therefore, Vattenfall is actively engaged in monitoring the outside world and keeping in contact with decision-makers in all relevant markets. Vattenfall is also a member of national and international trade organisations.

## Operational risk

Operational risk is defined as the risk of incurring financial damage and loss, 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, i.e., risks of losses due to shortcomings in the Company's division of responsibility, competence, reporting routines, risk measurement and evaluation models, and in control and follow-up routines.
- Legal risks, i.e., a risk of losses arising from the non-fulfilment of contracts due to shortcomings in documentation, counterparts lacking the right to conclude contracts or uncertainties regarding the contract's validity.
- IT risks, risks that entail a risk of losses due to shortcomings in the IT systems.

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

## Environmental risk

Environmental risks can be divided into two categories – environmental

liabilities and environmental risks. Environmental liabilities refers to environmental problems that have been identified in production plants, installations or operations, and for which requirements on measures can be expected through more stringent legislation, restricted authorisation or stipulations in the Company's environmental policy. Environmental risk refers to the possibility of accidents and shortcomings in operations, and their impact on the environment. Work to prevent and control risks is carried out largely on a local basis, and is based on the knowledge and experience present within the Group's units.

During 2003, Vattenfall carried out an extensive mapping and analysis of the environmental risks and environmental liabilities in the Group's Business Units. This process, in which the Business Units are responsible for identifying and expressing risks in monetary terms, together with a probability factor, will continue on an ongoing basis. Making an inventory of risks has brought with it more detailed facts, which have increased the opportunities to make investments that reduce the Group's environmental impact.

Consequences of environmental risk can cover such things as:

- Cost of cleaning up
- Damage to property
- Personal injury
- Loss of production
- Costs in connection with the questioning of the Vattenfall brand
- Opinions and policies that lead to a more difficult permit process, and bring with them production limitations

The Business Units' reporting with regards to environmental liabilities includes the following areas:

- Air pollution
- Water pollution
- Pollution of land
- Noise
- Filling out land
- Oil-filled cables with lead encapsulation
- Mercury in electrical equipment
- Mercury in smoke gases
- Insulation gas in electrical equipment
- Asbestos in CHP plants and thermal power plants
- Magnetic fields from transformers and power lines
- Modernisation of measurement equipment

Environmental liabilities are mapped and analysed. At present, an action programme is underway for Vattenfall's hydro power plants in Sweden and Vattenfall's acquired operations in Poland. Vattenfall sees keeping ahead in the area as a way of strengthening the Group's competitiveness on a long-term basis. In the German companies, there are funds reserved for restoring polluted land, and action plans have been worked out in consultation with the authorities involved.

One of the considerable challenges for Vattenfall and the energy sector is to reduce emissions of climate-affecting carbon dioxide from fossil-fired power plants. The representatives of society give the question great attention, and Vattenfall is looking at the question on the basis of

## Risk management along the value chain

The illustration shows examples of risks along Vattenfall's value chain, and how Vattenfall manages these risks.

### Environmental risk and environmental liabilities

Environmental risk refers to the possibility of accidents and shortcomings in operations, and their effects on the environment. Environmental liabilities refers to identified environmental problems in which requirements for measures can be expected. These are handled through mapping, analysis and quantification.

### Plant risk

Risk of economic damage resulting from near accidents in Vattenfall's production plants. Plant risk is assessed using probability models. Plant maintenance is the factor which has the greatest effect on plant risk.

### Price area risk

Price area risks occur when electricity prices differ between geographical areas, due to shortages in transmission capacity between areas. This is managed through area swaps and special contracts (STOSEK) for electricity supplied in Sweden in Swedish kronor.

### Electricity price risk

Risk of loss on account of changes in the market price of the electricity in which Vattenfall conducts physical and financial trade. In order to measure electricity price risk, Vattenfall uses Value at Risk (VaR). Factors that influence electricity price risk include changes in electricity consumption, water supply and temperature changes. Trading manages electricity price risk within its trading mandate.

## Electricity generation/heat

### Electricity price risk

Earnings risk on account of changes in the market price of the electricity generated in Vattenfall's production plants. In order to evaluate electricity price risk, Vattenfall simulates earnings. Factors that affect the electricity price risk include changes in electricity consumption, the price of coal, availability of water and temperature changes. Vattenfall manages the electricity price risk by hedging its production through forward trading in electricity.

### Fuel price risk

Risk of loss on account of changes in the market price of the fuel that Vattenfall uses in its production plants. The measurement and management of fuel price risk is conducted within the individual production units. Fuel prices are affected by such things as micro-economic factors. Vattenfall manages fuel price risks by forecasting price developments and planning fuel purchases.

## Trading

### Credit risk

Risk of loss resulting from the counterpart in a transaction not fulfilling their commitment. Arises in so-called OTC trade. In order to limit the risk, only counterparts with approved credit ratings are dealt with, and this is supplemented by obtaining securities. Changes in agreements that permit the net calculation of liabilities and claims with the same counterpart are an additional method of reducing risk. When contracts are negotiated in markets with central counterpart clearing, the risk is in the market instead.

an integrated risk perspective, in which both technological and political aspects are included. Vattenfall has, among other things, taken the initiative for a project for large-scale separation and storage of carbon dioxide, which is being partly financed by the EU. The project is being carried out in co-operation with a number of larger representatives in the sector, including RWE.

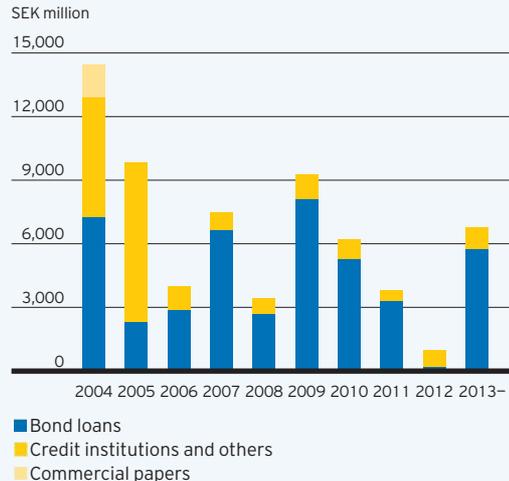
**Financial risk**

The Group's financial risks are mainly managed by Vattenfall Treasury AB, which houses the Group's internal bank and finance staff. The purpose of the financial activities is to manage the Group's financial risks in a cost-efficient way. The Group's funding, investments and currency trading are mainly carried out by Vattenfall Treasury AB and to a lesser extent Vattenfall by Europe AG. The Group's liquidity is centralised using so-called Group Cash pool Systems. Speculative investments are made to a limited extent within fixed risk limits.

The financial risks can be divided into:

- **Financing risk** – Financing and liquidity risks are defined as the loan requirement that cannot be covered in a stretched market situation.
- **Interest rate risk** – The risk of negative effects on the Group's earnings and balance sheet resulting from changes in interest rates.
- **Currency risk** – The risk of negative effects on Vattenfall's earnings and balance sheet as a result of exchange rate fluctuations.
- **Credit risk** – A credit risk arises with the investment of liquid assets

**Maturity Profile of the Debt Portfolio\***



\*) Excluding loans from associated companies and minority owners.

**Political risk**

Risk of economic loss resulting from political decisions. Parts of Vattenfall's operations are affected by regulations and political decisions. Vattenfall actively monitors such matters. In conjunction with investments, this risk is managed through adjustment of the cost of capital.

**Plant risk**

Risk of economic damage resulting from near accidents within Vattenfall's transmission and distribution network. Plant risk is estimated using probability models. Maintenance is one of the factors which has the greatest effect on plant risk.

**Environmental risk and environmental liabilities**

Environmental risk refers to the possibility of accidents and shortcomings in operations, and their effects on the environment. Environmental liabilities refers to identified environmental problems in which requirements for measures can be expected. These are handled through mapping, analysis and quantification.

**Electricity price risk**

Earnings risk due to of changes in the market price of the electricity sold to customers. Vattenfall manages this risk through the company's Trading Unit, using financial instruments available within Nord Pool.



**Credit risk**

Credit risk arises, for example, in transactions with customers and is defined as the risk of the counterpart not fulfilling their commitments. The measurement and management of credit risks is carried out within each individual sales unit. In order to limit the risk, Vattenfall closely monitors counterpart credit ratings.

**Network loss risk**

Variations in the loss of power in transmission. Measurement and management of plant risk is carried out within each individual unit and is calculated using energy measurements. Network loss risk is due to variations in generation and network load in both the short term and the long term. The risk is managed through improved forecasting and hedging electricity contracts.

**Credit risk**

Credit risk arises, for example, in transactions with customers and is defined as the risk of the counterpart not fulfilling their commitments. Measurement and management of credit risk is carried out within each individual sales unit. In order to limit the risk, Vattenfall closely monitors counterpart credit ratings.

**Volume risk**

Volume risk – consumption of electricity. In order to measure volume risk, Vattenfall uses simulation models. Vattenfall manages volume risk through improved forecasting, drawing up contracts and establishing prices with customers.

and with trade in for example electricity and financial contracts, and is defined as the risk of the counterpart not being able to fulfil their commitment.

## Financing risk

Financing risk is minimised through a debt portfolio with an even maturity structure and a long average remaining term. The maturity profile of Vattenfall's debt is shown in the diagram below. On December 31 the average maturity was 4.6 years (4.4). Calculated on the basis of net debt, the remaining average maturity amounted to 5.1 years. The aim is for it to exceed 5 years.

To safeguard the availability of funds and maintain flexibility, the Group has several types of debt issuance programmes. At present, there are three commercial paper programmes, two Medium Term Note (MTN) programmes and one Polish bond programme. In addition, Vattenfall has over SEK 18.3 billion in committed credit facilities, which partly serve as a backup for the commercial paper programme in the amount of SEK 1.6 billion. Other overdraft facilities were utilised in the amount of SEK 0.6 billion.

## Credit facilities

	Framework amount	Currency	Maturity	Proportion %	Booked amount
<b>Credit line</b>					
Domestic commercial paper programmes	15,000	SEK		0	0
Euro Commercial Paper	1,000	USD		21	1,565
US Commercial Paper	2,000	USD		0	0
Medium Term Note	10,000	SEK		64	6,305
Euro Medium Term Note	6,000	USD		71	37,814
Polish Commercial Paper	1,000	PLN		0	0
<b>Confirmed credit facilities</b>					
Revolving Credit Facility*	600	EUR	2008	0	0
364 Days Credit Facility*	650	USD	2004	0	0
Overdrafts and other credit facilities	8,143	SEK		7	560
<b>Total</b>					<b>46,244</b>

\*) Back-up facility for short-term borrowing.

The Group's target for short-term liquidity is always to have no less than 10 per cent of the Group's sales and at least the equivalent of the next 90 days' maturities in the form of liquid assets or committed credit facilities.

Vattenfall's credit rating for long-term and short-term borrowing respectively is A-/A-2 from Standard & Poor's and A3/P-2 from Moody's. Vattenfall's goal with regard to credit rating is to retain a rating in the Single A category.

## Loans of benchmark type

Type	Currency	Amount	Coupon, %	Maturity	Rating/ Outlook S&P	Rating/ Outlook Moody's
Euro Medium Term Note	EUR	500	6,125	2007	A-/Stable	A3/Stable
Euro Medium Term Note	EUR	650	6,0	2009	A-/Stable	A3/Stable
Euro Medium Term Note	EUR	500	6,0	2010	A-/Stable	A3/Stable
Euro Medium Term Note	EUR	500	5,0	2018	A-/Stable	A3/Stable

## Interest rate risk

Interest rate risk in the Group's debt portfolio is measured by the average fixed interest rate term.

At the end of the year, the average fixed interest rate term was 1.9 years (2.0). Calculated on net debt, the average interest rate term was

2.1 years. Fixed interest rate terms are permitted to vary from a norm of 2.5 years by up to 12 months either way. In order to adjust the fixed interest rate term in borrowing, interest rate swaps, interest rate terms and options, etc. are used.

The remaining fixed interest rate term for interest-bearing debt, per currency excluding loans from minority owners and associated companies

	SEK	EUR	Other	Total
< 3 months	22,564	10,147	179	32,890
3 months–1 year	2,373	6,723	10	9,106
1 year–5 years	8,092	5,970	82	14,144
> 5 years	6,729	3,370	40	10,139
<b>Total</b>	<b>39,758</b>	<b>26,210</b>	<b>311</b>	<b>66,279</b>
Average financing interest, %	4.8	3.9		4.5

Remaining fixed interest rate term for interest-bearing debt, per instrument excluding loans from minority owners and associated companies

	Debt	Swaps	Total
< 3 months	20,800	12,090	32,890
3 months–1 year	4,932	4,174	9,106
1 year–5 years	17,735	-3,591	14,144
> 5 years	21,789	-11,650	10,139
<b>Total</b>	<b>65,256</b>	<b>1,023</b>	<b>66,279</b>

An increase in interest rates of 1 per centage point increases the Group's interest rate costs by SEK 320 million over a 12-month period based on the present fixed interest rate structure. The interest rate risk in the Group's investment assets is measured as the change in value with a 1 per cent interest rate change and as of December 31 this amounted to SEK 150 million.

## Currency risk

Vattenfall is exposed to currency risk through exchange rate fluctuations attributable to future cash flows – so-called transaction exposure – and in revaluing net assets in non-Swedish subsidiaries, so-called translation exposure.

The Group's goal in managing currency risk is to minimise foreign exchange losses, while taking into account hedging and tax aspects.

Currency exposure in borrowing is eliminated using interest currency swaps for the purpose of avoiding the effect on earnings of exchange rate differences.

## Interest-bearing debt, break down per currency (MSEK)

Original currency	Liability	Swaps	Total
CHF	150	-150	0
CZK	140	-140	0
EUR	56,664	-15,055	41,609
GBP	1,317	-1,317	0
HKD	716	-716	0
JPY	6,951	-6,808	143
NOK	377	-377	0
PLN	1,651	-1,544	107
SEK	12,786	30,841	43,627
USD	3,772	-3,711	61
<b>Total</b>	<b>84,524</b>	<b>1,023</b>	<b>85,547</b>

The Group has limited transaction exposure, as the greater part of generation, distribution and sales of energy is made in each company's respective local market. In Nordic operations, most transaction exposure is in NOK and EUR in conjunction with the hedging of electricity prices, primarily in Nord Pool. In the German subsidiaries, transaction exposure arises primarily in USD in conjunction with the purchase of fuel.

**Consolidated operating income/expenses per currency (%)**

Currency	Income	Expenses
EUR	61	67
SEK	32	21
PLN	7	8
NOK	0	1
USD	0	1
Other	0	2
<b>Total</b>	<b>100</b>	<b>100</b>

The amounts are calculated from statistical operating income-/expenses. Changes in inventories and investments are not included in the calculation.

The Group's units shall hedge contracted transaction exposure when it exceeds the equivalent of SEK 10 million. Hedging shall be made through Vattenfall's treasury units in Sweden or Germany, in which currency risks are managed with a fixed risk limit for interest rates and currencies.

The Group's policy with regards to translation exposure was changed as of 2003 so that equity shall be fully hedged with regard to the effects of taxation and certain restrictions.

**Translation exposure**

Currency	Equity	Hedging transactions, after tax	Net position, after tax
EUR	33,860	11,892	21,968
PLN	5,147	0	5,147
Other	5	0	5
<b>Total</b>	<b>39,012</b>	<b>11,892</b>	<b>27,120</b>

**Credit risk**

The Group is exposed to credit risks in conjunction with trade in electricity, investments and derivative contracts. The Group's policy is to

primarily use liquid assets to repay loans. Remaining Group liquidity is invested in the short-term, to manage daily variations in the Group's liquidity flows, and the long-term. The Group's long-term investment portfolio is intended to secure legal requirements regarding capital availability for nuclear power operation in Germany. Investment is made in accordance with fixed investment rules, with counterparts with low credit risks. The proportion of shares may not exceed 30 per cent of assets in the long-term investment portfolio. As of December 31, the proportion of shares amounted to 22 per cent. The average interest rate was 3.4 per cent, and the average duration 1.4 years.

Credit risks are managed within the framework of fixed limits based on external ratings and internal credit assessment. Credit risks are monitored and quantified continually through market evaluation. Prior to long-term agreements being entered into, an ISDA agreement or equivalent\* is required. It is assessed that no significant credit risk concentrations exist. In the Nordic Countries the majority of financial electricity contracts are settled via Nord Pool in order to minimise credit risk. In Germany, this possibility is not yet available.

**Credit risks**

Type of instrument	Exposure
Electricity derivatives, positive market values	1,409
Electricity derivatives, settlement risks	3,402
Interest- and currency derivatives, positive market values	1,924
Interest-bearing deposits	9,239
Shares	784
<b>Total</b>	<b>16,758</b>

Credit risk in interest or currency derivatives not adjusted for ISDA agreement or equivalent amounts to 4,934.

\*) The concentration of credit risk is not considered to be significant.

# NOTES TO THE CONSOLIDATED ACCOUNTS

(Amount in SEK millions unless otherwise stated.)

## Note 1 Company information

The consolidated accounts for Vattenfall AB for 2003 have been approved for publication in accordance with a decision by the Board of Directors of February 19, 2004. The parent company, Vattenfall AB, is a limited liability company with its registered office in Sweden. The Group's Balance Sheet and Income Statement will be adopted at the Annual General Meeting.

The main activities of the Group are described in Note 4.

## Note 2 Accounting 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 2003, the following new recommendations, issued by the Swedish Financial Accounting Standards Council, are applied: RR22 Presentation of Financial Statements, RR24 Investment Property, RR25 Segment Reporting, RR26 Events after the Balance Sheet Date, RR27 Financial Instruments: Disclosure and Presentation, RR28 Accounting of Government Grants. None of the recommendations has led to any significant impact on Vattenfall's valuation principles, and thus nor are the income statements and balance sheets affected in comparison with the previous year.

During 2004, a new recommendation issued by the Swedish Financial Accounting Standards Council will come into effect: RR29 Employee Benefits. This recommendation regulates such things as the calculation of provisions for pensions. In the Group's Note 24 on provisions, an estimate is given of the effects that a transition to RR29 during 2004 is expected to have. The Vattenfall Group will apply this new recommendation.

In conjunction with preparing the financial statements in accordance with generally accepted accounting principles, the Company's Executive Management and Board of Directors make estimations and assumptions which affect assets and liabilities, and the recorded value of contingent liabilities, at the end of the accounting period. Recorded income and costs are also affected. The actual outcome can deviate from these estimations.

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

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.

Internal sales between Group companies and internal profits are eliminated, taking into account deferred tax.

An associated company is a unit in which the Group has considerable influence (normally at least 20 per cent and not more than 50 per cent of voting power) and which is not a subsidiary or joint venture. The Group's holdings in associated companies are accounted for in accordance with the equity method. In the consolidated income statement, participations in the results of associated companies are comprised of the consolidated proportion of the associated company's result minus the amortisation of surplus value. The Group's proportion of associated companies' recorded tax expenses is included in the consolidated tax expenses.

For practical reasons, the results of associated companies are, in certain cases, included in Vattenfall's accounts after a slight delay. In the consolidated balance sheet, the reported value of shareholdings is changed with Vattenfall's share of each respective company's result, less depreciation of surplus value and dividends received.

### Foreign activities

When preparing the consolidated accounts, all items in 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, for which reason all balance sheet items, apart from net profit/loss for the year, are therefore translated at the exchange rates prevailing at the end of the year (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 are subsequently handled in the same way as translation differences, and transferred to the Group's equity.

### Receivables and liabilities in foreign currencies

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

Exchange rate differences are reported under operating profit in the amount that applies to the operating balance, and the remainder under net financial income/expense.

The more important exchange rates used in the accounts are provided in Note 3 of the consolidated accounts.

### Revenue recognition

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.

Service and consultancy services are performed at cost plus a percentage or for a fixed price. Progressive profit deduction is applied to services at fixed prices. The per centage of completion method is applied to fixed price work.

Interest income is reported as income in the income statement in those periods in which it arises.

Dividends received are reported in the income statement when the right of the shareholder to receive the payment has been established.

### Depreciation

Depreciation is based on the acquisition value and is calculated on a linear basis over the estimated useful life of an asset. Depreciation is distributed according to function in the income statement.

### Borrowing costs

Borrowing costs directly attributable to larger investment projects in plants with long periods of completion are included in acquisition values during the construction period. Other interest is reported as a cost in the income statement in the period in which it arises. Issue costs are distributed over the term of the loan.

### Financial instruments

Purchases and sales of financial instruments are reported in accordance with the settlement date principle.

Investments are valued at acquisition value when first reported in the balance sheet. Thereafter they are reported at the lower of the acquisition value and the net realisable value. Unrealised losses are charged against unrealised profits per company in portfolios with similar risk profiles. Excess losses are reported in the income statement,

while equivalent profits are not included in the result. When establishing the actual value, the official market price on the balance sheet date is used. For investments intended to be held until maturity, the accrued acquisition value is reported.

#### Borrowing

Borrowing is initially reported at acquisition value, and subsequently at accrued acquisition value.

#### Derivatives

Currency agreements entered into to cover forward transactions are not recorded until the transaction to which the forward cover refers is completed.

Interest rate and currency contracts are entered into to hedge the interest rate and currency risks of borrowing. These financial instruments are valued at the exchange rate on balance sheet date, and exchange rate differences, together with accrued interest, are reported in the income statement.

Derivatives not entered into for hedging purposes are reported as follows: The result of a currency-related derivative is reported in the income statement. For other derivatives (not currency-related), unrealised losses are recorded in the income statement, while unrealised profits are not recognised in revenue until they become liquid or the position is closed. In establishing actual value, official quotations on the balance sheet date are used. For derivatives (primarily swaps) that lack quotations, the actual value is calculated by discounting the anticipated future cash flow.

For hedging of net investments in foreign subsidiaries, see the Foreign activities heading above.

#### Energy derivatives

Vattenfall is an active participant in the energy derivative market in Scandinavia (Nord Pool) and in northern Europe through the marketplaces Leipzig and Amsterdam, and on the European OTC market through bilateral contracts. Trading conducted for the purpose of production 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.

#### 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.

Development expenses is reported as intangible assets in those cases in which a number of criteria are fulfilled and include such information which is highly confidential and able to lead to future financial advantages for the Company. The Group's expenses for development do not normally meet the criteria for being set up as intangible assets. Such development expenses are instead written off as they arise in a manner similar to research expenses.

Depreciation of intangible assets is made over the period of utilisation of the respective asset, and in appropriate cases, with reference to underlying agreements. Goodwill is written off over a period of between 5 and 10 years.

#### Tangible fixed assets

Tangible fixed assets are valued at cost (acquisition value) adjusted for revaluation less accumulated depreciation. In appropriate cases, acquisition value at the time of acquisition includes an estimated present value for estimated expenses for decommissioning, removal of installation and restoring the site where the installation is located. In such cases, an equivalent estimated expenditure calculated on the basis of the present value is reported as a provision.

Depreciation periods (years) for tangible fixed assets are as follows:

	Machinery, equipment	Buildings	Land improvements
Property	30	25–50	25
Hydro power plant	40	50	25
Thermal power plant*	25	25	25
Gas pipes	20	–	–
Lines and transformer stations**	30	30	30
Machinery, etc., for mining	5–20	–	–
Equipment mm	3–10	–	–

\*) 15 years for renewal investment in nuclear power plant.

\*\*\*) 25–35 years on local distribution networks.

#### Write-downs

Any write-downs for intangible and tangible fixed assets are scrutinised when there are indications that a reduction in value could have occurred. The requirement for write-downs arises when the book value exceeds the higher of net selling price and recoverable amount.

#### Leasing

For the renting of assets via financial leasing/rental agreements of significant value, the asset is capitalised and reported as the acquisition of a fixed asset. An equivalent liability is reported under other short-term liabilities or other long-term liabilities as appropriate.

Leasing agreements in which all risks and advantages are essentially connected with ownership by the lessee are classified as operational leasing agreements. Leasing charges attributable to operational leasing agreements are normally reported linearly over the agreement period as a cost in the income statement.

#### Inventories

Inventories are valued at the lower of cost and 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.

#### Receivables

Receivables are reported in the amount likely to be received. Accounts receivable are initially reported at invoiced value. An assessment of doubtful receivables is made when it is no longer probable that the full amount will be recovered. Bad debt losses are written off in their entirety when the loss is confirmed.

#### Provisions for pensions

Pension commitments are reported in accordance with local regulations in addition to that which applies in the Group's company in Germany.

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 capital in a special pension fund.

The majority of the pension commitments for the Group's German companies are benefit-based. The provision reported in the balance sheet for German Group companies is reported as a net figure against capital in a separate so-called superannuation fund.

The pension provisions for the German companies are calculated on an actuarial basis in accordance with the so-called 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 of 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 by the German power companies in

## Continuation Note 2

their own balance sheets regarding future nuclear waste management expenses and decommissioning of nuclear operations. 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 and decommissioning of nuclear operations. Other types of provisions are given in Note 24 of the consolidated accounts.

**Government grants**

When a subsidy is connected to a fixed asset, this is reported in accordance with one of two methods, depending on local conditions for the subsidy. Either the contribution is entered as a liability, as deferred income, and is recorded as income in the income statement at the same rate as depreciation of the fixed asset that the contribution refers to, or, alternatively, the contribution reduces the book value of the fixed asset.

When the contribution is tied to a cost it is recorded as income over the period required for it to equal the recorded cost that the contribution is intended to compensate.

**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 so-called 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 policies 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. A deferred tax liability is reported in cases where recovery of the 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 applicable on the balance sheet date in the relevant country without discounting.

Temporary differences attributable to shares in subsidiary companies have not been taken into account in the respective parent company's accounts, as yield from these is expected to be reinvested.

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.

**Preparations prior to the introduction of IAS/IFRS**

At the end of 2002, Vattenfall began a project, the goal of which was to prepare the Group for a transition to International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS). Vattenfall is planning for a transition to the new principles during 2005. Work is progressing according to plan.

Vattenfall's accounting and reporting principles will be affected by the transition primarily within the areas of financial instruments (IAS 39), company acquisitions and mergers (managing negative goodwill) (IAS 22) and pensions (IAS 19). Another area is the accounting of estimated costs for decommissioning plants and restoring sites.

As a result of the Swedish Financial Accounting Standards Council's requirements in accordance with RR 29 Employee Benefits, which is based on IAS19, international accounting standards will affect the valuation of accounts and the reporting as of 2004.

**Note 3 Exchange rates**

Key exchange rates applied in the consolidated accounts:

Country	Currency	Average exchange rates		Closing rates	
		2003	2002	Dec 31, 2003	Dec 31, 2002
Euro	EUR	9,1245	9,1552	9,0940	9,1930
Denmark	DKK	1,2283	1,2320	1,2215	1,2375
Norway	NOK	1,1450	1,2180	1,0805	1,2595
Poland	PLN	2,0785	2,3923	1,9400	2,3000
USA	USD	8,0788	9,7232	7,2750	8,8250

**Note 4 Information on segments**

The Group's activities are mainly conducted within three separate geographical areas. These primary segments are the Nordic Countries, Germany and Poland. The Nordic Countries segment mainly covers operations in the Nordic countries, but also includes activities in the Baltic states and the Netherlands. The primary segments consist of geographical areas based on the locations of assets.

The Group's activities are also divided into business segments (secondary segments), namely Electricity (electricity generation, electricity trading and electricity sales), Electricity Networks (distribution of electricity) and Heat (production, distribution and sale of heat). Other activities include Vattenfall's treasury activities, research activities, service companies and Group administration staff. The considerable restructuring of Vattenfall's activities in Germany means that the information concerning secondary segments for 2002 is not available for the Group as a whole.

**Primary segments**

2003	Nordic Countries			Eliminations	Total
	Nordic Countries	Germany	Poland		
External net sales	41,520	62,570	7,845	-	111,935
Sales between segments	994	1,404	-	-2,398	0
<b>Total</b>	<b>42,514</b>	<b>63,974</b>	<b>7,845</b>	<b>-2,398</b>	<b>111,935</b>
Operating profit	8,535	6,318	443	-	15,296
Assets	95,146	167,855	10,639	-8,675	264,965
Liabilities and provisions	75,870	127,209	9,393	-9,392	203,080
Investments	6,325	5,174	1,153	-1,296	11,356
Depreciation	4,503	9,164	669	-	14,336
Participations in the results of associated companies	85	495	-	-	580
2002	Nordic Countries			Eliminations	Total
	Nordic Countries	Germany	Poland		
External net sales	37,969	59,889	3,167	-	101,025
Sales between segments	-	807	-	-807	0
<b>Total</b>	<b>37,969</b>	<b>60,696</b>	<b>3,167</b>	<b>-807</b>	<b>101,025</b>
Operating profit	8,625	4,733	5	-	13,363
Assets	98,145	177,802	8,218	-7,889	276,276
Liabilities and provisions	80,759	140,809	7,260	-7,641	221,187
Investments	10,989	35,979	889	-7,925	39,932
Depreciation	4,446	10,188	484	-	15,118
Participations in the results of associated companies	33	-584	-106	-	-657

**Secondary segments**

2003	Electricity	Electricity Network	Heat	Other	Eliminations	Total
External net sales	70,475	26,740	11,351	3,369	–	111,935
Assets	180,288	82,191	38,548	109,825	–145,887	264,965
Investments	4,611	2,248	1,226	4,567	–1,296	11,356

In 2003, Group operations in profit areas have also been described under the following in interim reports and the year-end report:

	Net sales		Operating profit		Operating profit excluding items affecting comparability	
	2003	2002	2003	2002	2003	2002
<b>Nordic Countries</b>						
Electricity generation Nordic Countries	29,531	25,667	6,266	6,459	6,319	6,465
Market Nordic Countries	24,994	21,275	369	286	372	285
Heat Nordic Countries	2,868	2,761	348	343	345	326
Electricity Networks Nordic Countries	7,809	7,674	2,131	1,834	2,127	1,828
Services Nordic Countries	3,042	2,974	100	118	98	117
Other operations	1,855	1,830	–690	–386	–841	–828
Eliminations*	–27,585	–24,212	11	–29	11	–29
<b>Total Nordic Countries</b>	<b>42,514</b>	<b>37,969</b>	<b>8,535</b>	<b>8,625</b>	<b>8,431</b>	<b>8,164</b>
Germany	63,974	60,696	6,318	4,733	6,160	4,747
Poland	7,845	3,167	443	5	442	5
Eliminations**	–2,398	–807	–	–	–	–
<b>Total</b>	<b>111,935</b>	<b>101,025</b>	<b>15,296</b>	<b>13,363</b>	<b>15,033</b>	<b>12,916</b>

\*) Applies mainly to trade between Market Nordic Countries, Electricity Networks Nordic Countries and Electricity Generation Nordic Countries.

\*\*\*) Applies to trade between Germany and Nordic Countries.

**Note 5 Net sales**

	2003	2002
Sales including indirect taxes	118,224	106,248
Indirect taxes	–6,289	–5,223
<b>Net sales</b>	<b>111,935</b>	<b>101,025</b>

**Note 6 Costs of products sold**

Direct costs include production taxes and duties of SEK 4,562 million (4,672) and property taxes of SEK 587 million (327). The costs also include interest components relating to annual pension costs SEK 739 million (800), nuclear power provisions and other provisions SEK 1,121 million (1,100) in the German companies

**Note 7 Cost of nuclear waste management**

	2003	2002
Fees to the Nuclear Waste Fund		
– Own high-level waste*	292	479
– SVAFO**	74	73
Provisions for future expenses of managing low and intermediate-level waste	52	56
<b>Total</b>	<b>418</b>	<b>608</b>

\*) According to the Swedish Act (1995:1544) on the Financing of Future Expenses of Spent Nuclear Fuel, etc., the holder of a licence to 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 to 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 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, the decommissioning and demolition of the nuclear installation and the research and development required to perform this. According to the agreement between the Swedish Government, Sydkraft and Vattenfall, and agreements on liability, payments from the fund for Ringhals AB shall be managed via Vattenfall AB, and payments for Barsebäck Kraft AB via Sydkraft Nuclear power AB. During 2003, SEK 648 million (435) was disbursed from the fund with regard to costs for which the Vattenfall Group is liable. On December 31, the market value of Vattenfall Group's share of the Nuclear Waste Fund was SEK 20,012 million (19 047).

\*\*\*) According to the Swedish 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 8 Other operating income**

Other operating income primarily comprises capital gains from the sale of fixed assets, operationally derived exchange-rate profits, rental income and insurance compensation.

**Note 9 Other operating expenses**

Other operating expenses primarily comprise capital losses from the sale of fixed assets, currency losses from operations and closedown and restructuring costs.

**Note 10 Depreciation**

	2003	2002
Costs of products sold	14,095	14,662
Sales expenses	28	86
Administrative expenses	212	366
Research and development costs	1	4
<b>Total</b>	<b>14,336</b>	<b>15,118</b>

**Note 11 Result from other long-term security holdings**

	2003	2002
Dividends	162	104
Write-downs	-69	-17
Reversal of write-downs	-	24
Capital gains/losses on divestments	52	118
<b>Total</b>	<b>145</b>	<b>229</b>

**Note 12 Other interest income and similar profit/loss items**

	2003	2002
Interest income	1,552	2,363
Foreign exchange gains	570	418
<b>Total</b>	<b>2,122</b>	<b>2,781</b>

Operations-related foreign exchange gains amount to SEK 154 million (79).

**Note 13 Interest expenses and similar profit/loss items**

	2003	2002
Interest expenses	4,683	6,196
Foreign exchange losses	520	190
<b>Total</b>	<b>5,203</b>	<b>6,386</b>

See also Note 6 concerning interest relating to provisions in the German companies.

Operations-related foreign exchange losses for the Group amount to SEK 128 million (111).

**Note 14 Taxes**

Profit before tax and minority interests for the year amounted to:

	2003	2002
Sweden, Group companies	6,270	6,537
Sweden, associated companies	85	33
Other countries, Group companies	5,510	4,107
Other countries, associated companies	495	-690
<b>Total</b>	<b>12,360</b>	<b>9,987</b>

The reported tax expense is allocated as follows:

	2003	2002
<b>Current tax</b>		
Sweden	1,507	1,089
Other countries	2,279	-1,891
<b>Deferred tax</b>		
Sweden	-106	250
Other countries	-849	2,315
<b>Total</b>	<b>2,831</b>	<b>1,763</b>

The year's current tax expense attributable to profits for previous years amounts to SEK 381 million (-1,508).

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

Per cent	2003	2002
Swedish income tax rate	28.0	28.0
Difference in tax rate in non-Swedish operations	-3.3	4.1
Adjustment of tax for previous periods	3.1	-9.4
Changed tax rates	-2.5	-
Value adjustment of loss carry-forwards	-	-0.6
Non-deductible expenses and non-taxable income, net	5.4	6.0
Dissolution of negative goodwill and depreciation of goodwill, net	-10.1	-12.9
Other	2.3	2.5
<b>Effective tax rate*</b>	<b>22.9</b>	<b>17.7</b>
Tax rate, current tax**	30.7	-8.0

\*) 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 interests.

Accumulated tax loss carry-forwards are allocated as follows:

	2003	2002
Sweden	83	395
Other countries	1,269	341
<b>Total</b>	<b>1,352</b>	<b>736</b>

The increase in the reported amounts is due to tax loss carry-forwards created in 2003.

Tax loss carry-forwards are due as follows:

	2003
2004	10
2005	96
2006	10
2007	12
2008	2
No time limit	1,222
<b>Total</b>	<b>1,352</b>

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

Deferred tax liability	2003	2002
Fixed assets	32,381	32,881
Current receivables	4	51
Provisions and long-term liabilities	2,463	1,199
Current liabilities	6	279
<b>Total</b>	<b>34,854</b>	<b>34,410</b>
Deferred tax assets	2003	2002
Fixed assets	555	272
Current receivables	984	855
Provisions and long-term liabilities	2,471	1,939
Current liabilities	92	94
Loss carry-forwards, etc.	308	122
<b>Total</b>	<b>4,410</b>	<b>3,282</b>

**Note 15 Minority interest in the profit for the year**

	2003	2002
Minority interest in profit before tax	743	720
Minority interest in tax	-337	-62
<b>Total</b>	<b>406</b>	<b>658</b>

## Not 16 Intangible fixed assets

	Concessions and similar rights		Renting and similar rights		Goodwill		Total	
	2003	2002	2003	2002	2003	2002	2003	2002
<b>Acquisition values</b>								
Acquisition values brought forward	6,221	2,489	4,038	1,878	2,038	2,264	12,297	6,631
Companies acquired	1	501	2	2,508	6	248	9	3,257
Investments	118	3,330	17	8	-	-	135	3,338
Sales/Disposals	7	-103	-69	-203	310	-338	248	-644
Reclassifications	125	12	-10	-150	45	-12	160	-150
Companies sold	-842	-	-76	-	-	-	-918	0
Translation differences	-58	-8	-27	-3	-86	-124	-171	-135
<b>Accumulated acquisition values carried forward</b>	<b>5,572</b>	<b>6,221</b>	<b>3,875</b>	<b>4,038</b>	<b>2,313</b>	<b>2,038</b>	<b>11,760</b>	<b>12,297</b>
<b>Accumulated depreciation according to plan</b>								
Depreciation brought forward	-2,067	-1,357	-1,877	-414	-1,212	-1,291	-5,156	-3,062
Companies acquired	-	-351	-	-1,548	-	-	0	-1,899
Depreciation for the year	-430	-229	-130	-124	-288	-315	-848	-668
Sales/Disposals	-9	-20	59	197	-268	338	-218	515
Companies sold	295	-	-	-	-	-	295	0
Translation differences	19	-110	17	12	28	56	64	-42
<b>Accumulated depreciation carried forward</b>	<b>-2,192</b>	<b>-2,067</b>	<b>-1,931</b>	<b>-1,877</b>	<b>-1,740</b>	<b>-1,212</b>	<b>-5,863</b>	<b>-5,156</b>
<b>Write-downs</b>								
Write-downs brought forward	-586	-586	-305	-305	-	-	-891	-891
Write-downs for the year	-	-117	-	-	-	-	0	-117
Sales/Disposals	-	119	-	-	-	-	0	119
Companies sold	547	-	5	-	-	-	552	0
Translation differences	-	-2	-	-	-	-	0	-2
<b>Accumulated depreciation carried forward</b>	<b>-39</b>	<b>-586</b>	<b>-300</b>	<b>-305</b>	<b>0</b>	<b>0</b>	<b>-339</b>	<b>-891</b>
<b>Residual value according to plan carried forward</b>	<b>3,341</b>	<b>3,568</b>	<b>1,644</b>	<b>1,856</b>	<b>573</b>	<b>826</b>	<b>5,558</b>	<b>6,250</b>

## Not 17 Tangible fixed assets

	Land and buildings		Plants and machinery		Equipment, tools, fixtures and fittings		Construction in progress****		Total	
	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002
<b>Acquisition values</b>										
Acquisition values brought forward**	64,578	50,095	312,479	246,901	9,686	8,255	5,870	8,493	392,613	313,744
Companies acquired	332	15,677	3,967	66,082	56	1,734	218	922	4,573	84,415
Investments***	227	353	1,830	2,309	497	630	6,083	4,771	8,637	8,063
Transfer from construction in progress	424	570	4,728	7,340	102	98	-5,254	-8,008	0	0
Sales/Disposals	-1,252	-689	-2,368	-5,446	-1,015	-516	-40	-98	-4,675	-6,749
Reclassifications	-187	-451	-236	281	376	-100	-156	-9	-203	-279
Reclassification of Government grants*****	-	-	4,304	-	-	-	-	-	4,304	0
Companies sold	-	-	-347	-	-19	-	-60	-	-426	0
Translation differences	-868	-977	-4,077	-4,988	-64	-415	-166	-201	-5,175	-6,581
<b>Accumulated acquisition values carried forward*</b>	<b>63,254</b>	<b>64,578</b>	<b>320,280</b>	<b>312,479</b>	<b>9,619</b>	<b>9,686</b>	<b>6,495</b>	<b>5,870</b>	<b>399,648</b>	<b>392,613</b>
<b>Accumulated depreciation according to plan</b>										
Depreciation brought forward	-28,367	-18,987	-167,980	-126,830	-7,711	-6,581	-	-	-204,058	-152,398
Merged plants/companies acquired	-	-8,499	-15	-37,787	-6	-1,333	-	-	-21	-47,619
Write-downs for the year	-1,541	-1,619	-11,000	-10,639	-816	-745	-	-	-13,357	-13,003
Sales/Disposals	551	290	1,867	4,619	908	481	-	-	3,326	5,390
Reclassifications	116	18	396	-132	-310	75	-	-	202	-39
Reclassification of Government grants*****	-	-	-3,333	-	-	-	-	-	-3,333	0
Companies sold	-	-	58	-	8	-	-	-	66	0
Translation differences	442	430	2,294	2,789	70	392	-	-	2,806	3,611
<b>Accumulated depreciation carried forward</b>	<b>-28,799</b>	<b>-28,367</b>	<b>-177,713</b>	<b>-167,980</b>	<b>-7,857</b>	<b>-7,711</b>	<b>0</b>	<b>0</b>	<b>-214,369</b>	<b>-204,058</b>

## Continuation Note 17

	Land and buildings		Plants and machinery		Equipment, tools, fixtures and fittings		Construction in progress****		Total	
	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002
<b>Write-downs</b>										
Write-downs brought forward	-1,104	-1,138	-2,673	-1,345	-50	-37	-1	-14	-3,828	-2,534
Companies acquired	-	-	-1	-	-1	-	-1	-	-3	0
Write-downs for the year	-98	-27	-61	-1,297	-2	-6	-1	-	-162	-1,330
Sales/Disposals	11	35	287	-72	8	1	1	-	307	-36
Other changes	20	1	-79	16	-7	-9	-	13	-66	21
Translation differences	13	25	25	25	1	1	-	-	39	51
<b>Write-downs carried forward</b>	<b>-1,158</b>	<b>-1,104</b>	<b>-2,502</b>	<b>-2,673</b>	<b>-51</b>	<b>-50</b>	<b>-2</b>	<b>-1</b>	<b>-3,713</b>	<b>-3,828</b>
<b>Residual value according to plan carried forward</b>	<b>33,297</b>	<b>35,107</b>	<b>140,065</b>	<b>141,826</b>	<b>1,711</b>	<b>1,925</b>	<b>6,493</b>	<b>5,869</b>	<b>181,566</b>	<b>184,727</b>

\*) Acquisition values for land and buildings include acquisition values for land and water rights amounting to SEK 15,214 million (15,446), which cannot be depreciated.

\*\*) Government grants received, opening balance, amount to SEK 4,682 million (4,426). Accumulated interest reported as an asset of SEK 497 million is included in the acquisition value of buildings.

\*\*\*) Government grants received during the year amount to SEK 192 million (256).

\*\*\*\*) For the year, interest during the construction period has been reported as an asset in the amount of SEK 96 million (271).

\*\*\*\*\*) During 2003, certain Government grants were reclassified as liabilities. This has caused an increase in the acquisition value equal to the received grant and an increase in the accumulated depreciation equal to the difference if the grant been classified as a liability from the start.

Tax assessment values (refer to Swedish real-estate)

	2003	2002
Buildings	78,351	79,682
Land	30,310	30,499
<b>Total</b>	<b>108,661</b>	<b>110,181</b>

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

## Note 18 Advances and long-term receivables

	Advance payments, to suppliers, tangible fixed assets		Receivables from associated companies		Other long-term receivables	
	2003	2002	2003	2002	2003	2002
Balance brought forward	245	172	1,978	2,184	5,054	8,681
Companies acquired	-	121	-	-	151	772
New advances/receivables	235	147	104	1	80	356
Loan to minority owners in non-Swedish companies	-	-	-	-	4,094	-
Deferred tax assets	-	-	-	-	1,029	-3,452
Payments received	-	-	-89	-254	-235	-487
Write-downs/write-offs	-	-	-	-40	-	-
Companies sold	-	-	-1	-	-	-
Exchange-rate differences	-2	-	-30	-7	-56	-174
Reclassifications	-104	-195	-1	94	-71	-642
<b>Balance carried forward</b>	<b>374</b>	<b>245</b>	<b>1,961</b>	<b>1,978</b>	<b>10,046</b>	<b>5,054</b>

Breakdown of other long-term receivables:

	2003	2002
Deferred tax assets	4,410	3,282
Long-term interest-bearing receivables	4,492	450
Long-term non-interest-bearing receivables	1,144	1,322
<b>Total</b>	<b>10,046</b>	<b>5,054</b>

## Note 19 Participations in associated companies and other long-term security holdings

	Participations in associated companies		Other fixed asset securities held	
	2003	2002	2003	2002
Balance brought forward	18,042	23,021	1,354	19,449
Companies acquired	-	4,478	62	398
Investments	487	4,126	19	107
New issues and shareholders' contributions	47	10	-	-
Divestments	-301	-423	-262	-736
Reclassifications	-1,383	-12,346	-65	-17,813
Changed value, associated companies	-791	-110	-	-
Write-downs	-88	-6	-69	-6
Translation differences	-337	-708	-17	-45
<b>Balance carried forward</b>	<b>15,676</b>	<b>18,042</b>	<b>1,022</b>	<b>1,354</b>

**Note 20 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 Number	Reg. office	% holding	Number	Book value
<b>Nordic Countries</b>					
Abonnera i Sverige AB	556572-9869	Stockholm	100	50,000	5
Arrowhead Services AB	556463-7683	Östersund	100	161,433,752	0
Energibolaget Botkyrka-Salem Försäljn. AB	556014-7406	Botkyrka	100	24,000	35
Forsaströms Kraft AB	556010-0819	Åtvidaberg	100	400,000	65
Forsmarks Kraftgrupp AB	556174-8525	Östhammar	66	198,000	198
Försäkrings AB Vattenfall Insurance	516401-8391	Stockholm	100	200,000	200
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
Sensel AB	556573-5965	Stockholm	100	300,000	26
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 Bränsle AB	556440-2609	Stockholm	100	100	96
Vattenfall Denmark A/S	250526	Gentofte	100	8,200,000	24
Vattenfall Data AB	556439-0614	Stockholm	100	100	10
Vattenfall Fastigheter AB	556438-5952	Sundsvall	100	100	120
Vattenfall Oy	1071366-1	Helsinki	100	10,000	1,483
Vattenfall Power Management AB	556573-5940	Stockholm	100	6,570	7
Vattenfall Eldistribution AB	556417-0800	Stockholm	100	8,000	11
Vattenfall Service Syd AB	556417-0859	Trollhättan	100	16,000	18
Vattenfall Support AB	556438-6026	Stockholm	100	100	1
Vattenfall Treasury AB (publ)	556439-0606	Stockholm	100	500	6
Vattenfall Utveckling AB	556390-5891	Älvkarleby	100	14,000	17
Vattenfall Heat Uppsala AB	556117-9929	Uppsala	100	110,000	977
Vattenfall Vätter Electricity AB	556528-3180	Motala	100	100	291
VGS AB	556013-1574	Stockholm	100	150,000	16
Västerbergslagens Energi AB	556565-6872	Ludvika	51	7,590	8
Västerbergslagens Kraft AB	556194-9784	Ludvika	58	89,726	19
Västerbergslagens Heat AB	556565-6856	Fagersta	51	5,566	6
Österede Kraft AB	556362-8469	Stockholm	100	1,000	1,086
Other companies					19
<b>Germany</b>					
Vattenfall Deutschland GmbH	(HRB) 62659	Hamburg	100	2	18,868
Vattenfall Europe AG**	HRB 1955	Berlin	36	72,689,384	9,662
<b>Poland</b>					
Elektrociepłownia Warszawskie S.A.	38 440	Warszaw	70	14,352,090	2,697
Gornoslaski Zaklad Elektroenergetyczny S.A.	RHB 9861	Gliwice	54	671,527	3,812
<b>Other countries</b>					
Vattenfall Estonia OÜ	10142764	Tallinn	100	100	6
Vattenfall Reinsurance S.A.	(B) 49528	Luxembourg	100	12,999	13
Other companies					1
<b>Total parent company</b>					<b>40,532</b>

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

\*\*) The Group owns a total of 94 per cent including the holding of Vattenfall Deutschland GmbH.

Continuation Note 20

## Major shareholdings held by Group companies

	Reg. office	% holding
<b>Nordic Countries</b>		
Barsebäck Kraft AB	Malmö	74
Pamilo Oy	Uimaharju	100
Vattenfall Indalsälven AB	Bispgården	74
Vattenfall Verkko Oy	Helsinki	100
<b>Germany</b>		
Bewag AG & Co. KG	Berlin	94
Fernheizwerk Neukölln	Berlin	71
Hamburgische Electricitäts-Werke AG	Hamburg	94
HEW Power Venture Hanfeng GmbH	Hamburg	94
Vattenfall Europe AG	Berlin	94
Vattenfall Europe Generation GmbH	Berlin	94
Vattenfall Europe Mining AG	Cottbus	94
Vattenfall Europe Sales GmbH	Berlin	94
Vattenfall Europe Transmission GmbH	Berlin	94
VEAG Kraftwerke Schwarze Pumpe GmbH	Vetschau	94
WEMAG AG	Schwerin	74

Associated companies	Corporate ID Number	Reg. office	% holding	Number	Book value Group	Book value Parent Company
<b>Direct holdings</b>						
<b>Nordic Countries</b>						
i/s Avedøreværket 2	(LEV) 221005	Gentofte	40		14	14
Bodens Energi AB	556200-9117	Boden	40	20	55	0
Gulsele AB	556001-1800	Sollefteå	35	84,000	333	332
Luleå Energi AB	556139-8255	Luleå	30	54,000	187	3
PiteEnergi AB	556330-9227	Piteå	50	70,000	182	7
Plusenergi AB	556572-4696	Göteborg	50	50,000	136	170
Preem Gas AB	556037-2970	Stockholm	30	750	8	7
SwePol Link AB	556530-9829	Stockholm	48	288,000	6	3
Other companies					2	2
<b>Indirect holdings</b>						
<b>Nordic Countries</b>						
A-Train AB	556500-3745	Stockholm	20	1,000,000	27	-
Empower Oy	0659323-0	Helsingfors	34	73,731	25	-
Terki Oy	0953-041-1	Helsingfors	20	500	12	-
Åtvidabergs Fjärrvärme AB	556543-1607	Åtvidaberg	50	10,000	10	-
Other companies					29	-
<b>Germany</b>						
AVG Abfall-Verwertungs-Gesellschaft mbH	B42798	Hamburg	20		24	-
EHA Energie Handels GmbH & Co KG	HRA 92729	Hamburg	50		13	-
ESAG Energieversorgung Sachsen Ost AG	HRB 965	Dresden	29		1,019	-
GASAG Berliner Gaswerke AG	HRB 44343	Berlin	32		3,762	-
Kernkraftwerk Krümmel GmbH	HRB 15033	Hamburg	50		4,783	-
Kernkraftwerk Stade GmbH	HRB 12163	Hamburg	33		1,167	-
Kernkraftwerk Brokdorf GmbH	HRB 17623	Hamburg	20		1,340	-
KOROS GmbH & Co KG	HRA 17858	Köln	95		1,683	-
Städtische Werke Kassel AG	HRB 2150	Kassel	25		543	-
Stadtwerke Eilenburg GmbH	HRB 12673	Leipzig	49		51	-
Stadtwerke Wittenberg GmbH	HB 2407	Wittenberg	23	22,700	27	-
TVF GmbH	HRB 3506	Lübbenau	50	2,500	16	-
Other companies					49	-
<b>Other countries</b>						
Compania Electricia de Sochagota	46782	Colombia	25		173	-
<b>Total</b>					<b>15,676</b>	<b>538</b>

## Other long-term securities held

	% holding	Number	Book value Group	Book value Parent-Company
<b>Direct holdings</b>				
<b>Nordic Countries</b>				
Jämtkraft AB, Sweden	20*	13,000	23	23
Leksand-Rättvik Energi AB, Sweden	8	11,763	23	23
Other companies			4	4
<b>Other countries</b>				
Eutilla, Netherlands	8	7,830	8	8
<b>Indirect holdings</b>				
<b>Germany</b>				
AO Mosenergo	1		28	–
GNS Gesellschaft für Nuklear service GmbH	6		23	–
KOM-Strom AG	10		16	–
Stadtwerke Parchim GmbH	15		27	–
Stadtwerke Rostock AG	12		365	–
Other companies			56	–
<b>Other countries/companies</b>				
Poland			22	–
Nordic Countries			30	–
HHPGC China, China	16		397	–
<b>Total</b>			<b>1,022</b>	<b>58</b>

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

## Note 21 Inventories

	2003	2002
<b>Raw materials and consumables</b>		
Nuclear fuel	4,023	3,986
Oil	330	269
Coal, etc.	1,107	1,027
Materials and spare parts	1,823	1,830
<b>Total</b>	<b>7,283</b>	<b>7,112</b>

## Note 22 Current receivables

	2003	2002
Accounts receivable – trade	16,283	17,833
Receivables from associated companies	2,466	4,319
Loans to minority owners in non-Swedish companies	–	4,158
Other receivables	4,469	5,506
Prepaid expenses and accrued income	3,614	4,225
<b>Total</b>	<b>26,832</b>	<b>36,041</b>

Breakdown of prepaid expenses and accrued income:

	2003	2002
Prepaid insurance premiums	29	74
Prepaid expenses, other	648	1,091
Prepaid expenses and accrued income, electricity	778	427
Accrued income, other	2,159	2,633
<b>Total</b>	<b>3,614</b>	<b>4,225</b>

## Note 23 Short-term investments

	2003	2002
Interest-bearing investments	11,179	7,659
Shares	774	1,272
Derivatives	21	27
<b>Total</b>	<b>11,974</b>	<b>8,958</b>

## Note 24 Provisions

Provisions are made for known commitments or anticipated risks on the basis of individual assessments. A closer scrutiny of provisions in Germany will be made during the first half of 2004. This may lead to reclassifications or revised assessments.

	2003	2002
Pension provisions	14,946	16,643
Provisions for deferred tax liability	34,854	34,410
Provisions for future expenses of nuclear waste management	6,592	6,517
Provisions for future expenses of mining operations and other environmental measures/undertakings	10,219	10,898
Personnel-related provisions for non-pension purposes	6,498	3,164
Provisions for tax and legal disputes	6,752	8,260
Negative goodwill	10,123	15,479
Other provisions	1,900	2,207
<b>Total</b>	<b>91,884</b>	<b>97,578</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 capital in Vattenfall's Pension Fund.

At the end of 2003, Vattenfall's Pensions Fund had 12 Swedish Group companies as co-owners, and they had dissolved their pension liabilities under the Swedish Pension Liabilities Act through payments into the Pension Fund. During the year, the return on the Pension Fund was 8.2 per cent (2.9).

Pension commitments for employees in Sweden are calculated on standard actuarial bases in accordance with generally accepted Swedish practices and amount to SEK 4,285 million.

The majority of the pension commitments in the Group's German companies are so-called 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 (Pensionskasse 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 in line with RR29 Employee Benefits (IAS19). 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 companies have applied the so-called "corridor rule", in which actuarial profits and losses are distributed over the anticipated remaining period of employment.

	2003	2002
Pension commitments	30,279	30,467
Less: Capital in pension funds	–15,333	–13,824
<b>Total provision for pensions at the end of the year</b>	<b>14,946</b>	<b>16,643</b>
Information registered by PRI	3,207	3,001

Continuation Note 24

## Pension provisions (changes in 2003)

Balance brought forward	16,643
Companies acquired	14
Provisions for the period	1,276
Utilised provisions	-1,329
Reclassified provisions	-1,426
Reversed provisions	-59
Translation differences	-173
<b>Balance carried forward</b>	<b>14,946</b>

In calculating undertakings in the Group's German companies, the following actuarial assumptions have been made:

	%
Discount rate	5.5
Anticipated yield from managed assets	6.5
Future annual salary increases	2.5
Future annual pension increases	2.0

As of 2004, the Vattenfall Group will apply the projected unit credit method in accordance with RR 29 on all benefit plans. The one-off effect of this change in reporting principles is estimated at about SEK 0.8 billion after tax and is reported directly against equity for 2004 in accordance with the transitional rules in RR 29, with which all actuarial profits and losses will be reported in the balance sheet.

Calculated provisions, in accordance with RR 29 as of January 1 2004	16,242
Reported pension provisions as of December 31 2003	14,946
<b>Increased pension liability through transition to RR29</b>	<b>1,296</b>

## Provisions for deferred tax liability:

These relate to deferred tax in so-called untaxed reserves, SEK 30,225 million, the provision for deferred tax that is made when acquisition analyses are approved in conjunction with company acquisitions, SEK 2,526 million, as well as other provisions for deferred tax liabilities attributable to so-called temporary differences, SEK 2,103 million. The main part of the deferred tax liabilities is attributable to tax calculated on the difference between the book value of fixed assets and the equivalent tax value. As the greater part of deferred tax liabilities is attributable to untaxed reserves, with the assumption of a normal rate of investment for Vattenfall in the future, combined with unchanged regulations regarding depreciation for tax purposes, it is probable that no cash outflow will be necessary.

## Provisions for deferred tax liabilities (changes in 2003)

Balance brought forward	34,410
Companies acquired	636
Provisions for the period	-147
Translation differences	-45
<b>Balance carried forward</b>	<b>34,854</b>

## Provisions for future expenses of nuclear waste management:

In Germany, provisions are made in the balance sheet by the companies themselves for the future management of nuclear waste and the decommissioning of nuclear power operations. 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 and the decommissioning of nuclear power operations.

Existing plans for the decommissioning of the German nuclear power operations involve about 85 per cent of the provisions for future expenses of nuclear waste management and will result in cash flows after 2009/2010. Disbursements for the remaining approximately 15 per cent of the provisions are estimated to be evenly distributed over the years 2004–2008.

## Provisions for nuclear power (changes in 2003)

Balance brought forward	6,517
Provisions for the period (incl. the effects of discounting)	418
Utilised provisions	-170
Reclassified provisions	22
Reversed provisions	-125
Translation differences	-70
<b>Balance carried forward</b>	<b>6,592</b>

## Provisions for: mining operations and other environmental measures/undertakings

Provisions are made for restoring sites, and other undertakings connected with the Group's permits for conducting lignite mining in Germany. Provisions are also made for equivalent environmentally related measures/undertakings within other activities carried out by the Group.

In accordance with current assessments, some 75 per cent of the remaining provisions will result in cash outflows later than 2009/2010. It is estimated that disbursements for the remaining approximately 25 per cent of provisions will be relatively evenly distributed over the years 2004–2008.

## Provisions for future expenses of mining operations etc. (changes in 2003)

Balance brought forward	10,898
Provisions for the period (including effects of discounting)	1,571
Utilised provisions	-570
Reclassified provisions	-12
Reversed provisions	-1,553
Translation differences	-115
<b>Balance carried forward</b>	<b>10,219</b>

## Personnel-related provisions for non-pension purposes:

Provisions are made for future expenditure relating to redundancy in the form of severance pay and other expenditure for giving notice to personnel in the ongoing restructuring of activities, primarily in Germany.

About 60 per cent of provisions made are expected to result in disbursements evenly allocated over the period 2004–2006. It is calculated that the remaining 40 per cent will result in cash flows evenly allocated over the period 2007–2009.

## Personnel-related provisions for non-pension purposes (changes in 2003)

Balance brought forward	3,164
Companies acquired	61
Provisions for the period (including effects of discounting)	2,274
Utilised provisions	-822
Reclassified provisions	1,998
Reversed provisions	-111
Translation differences	-66
<b>Balance carried forward</b>	<b>6,498</b>

## Provisions for tax and legal disputes:

Provisions are being made for possible future expenditure on tax due to ongoing tax audits and for ongoing legal disputes and actions. Included in this are provisions relating to ongoing legal actions referring to encroachment as regards cable laying on land in former East Germany.

About 65 per cent of provisions for tax and legal actions are expected to result in disbursements within the coming five-year period. It is estimated that the remaining 35 per cent of disbursements will result in cash flows evenly allocated over the year up until 2011.

## Provisions for tax and legal disputes (changes in 2003)

Balance brought forward	8,260
Companies acquired	4
Provisions for the period (including effects of discounting)	1,609
Utilised provisions	-3,082
Reclassified provisions	291
Reversed provisions	-246
Translation differences	-84
<b>Balance carried forward</b>	<b>6,752</b>

**Negative goodwill:**

Negative goodwill is attributed to acquired operations in Germany. At present, considerable restructuring work is underway in Germany, and is estimated to be completed in 2005. Negative goodwill is dissolved against losses and restructuring costs as they arise. Vattenfall's assessment is that remaining restructuring costs will be accommodated within the reported negative goodwill.

Negative goodwill corresponding to losses and restructuring costs was dissolved in the amount of SEK 4,754 million (3,626) in 2003.

Provisions for negative goodwill	
Acquisition value	22,088
Utilised provisions 2001 and 2002	-6,165
Translation differences	-444
<b>Balance brought forward 2003</b>	<b>15,479</b>
Companies acquired	-449
Utilised provisions 2003	-4,754
Translation differences	-153
<b>Balance carried forward</b>	<b>10,123</b>

**Other provisions:**

Other provisions include provisions for future losses, restructuring and guarantee commitments.

Other provisions (changes in 2003)	
Balance brought forward	2,207
Companies acquired	192
Provisions for the period (including effects of discounting)	660
Utilised provisions	-532
Reversed provisions	-464
Reclassified provisions	-109
Translation differences	-54
<b>Balance carried forward</b>	<b>1,900</b>

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

	2003	2002
Bond loans	36,918	39,679
Liabilities to credit institutions	9,843	18,171
Liabilities to minority owners	3,967	3,769
Liabilities to associated companies	13,994	6
Other liabilities	5,123	5,533
<b>Total</b>	<b>69,845</b>	<b>67,158</b>

Of the above liabilities, the following amounts are due after more than five years: Bond loans SEK 25,156 million (20,579), Liabilities to credit institutions SEK 4,371 million (4,495), Liabilities to minority owners SEK 3,529 million (3,103), other long-term borrowings SEK 486 million (625).

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

Of the total liabilities of SEK 2,236 million (1,588), SEK 543 million (713) is due after five years.

**Note 27 Current interest-bearing liabilities**

	2003	2002
Bond loans	7,231	3,850
Commercial papers	1,565	4,084
Liabilities to credit institutions	5,272	2,340
Liabilities to minority owners	323	234
Liabilities to associated companies	984	16,684
Other liabilities	327	390
<b>Total</b>	<b>15,702</b>	<b>27,582</b>

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

	2003	2002
Advance payments from customers	517	359
Accounts payable – trade	9,095	10,406
Liabilities to associated companies	167	98
Tax liabilities	490	752
Other liabilities	3,592	4,083
Accrued expenses and deferred income	9,552	11,583
<b>Total</b>	<b>23,413</b>	<b>27,281</b>

**Breakdown of accrued expenses and deferred income:**

	2003	2002
Accrued personnel costs	2,736	2,426
Accrued nuclear-related fees and taxes	44	171
Accrued interest expenses	911	957
Other accrued expenses	3,126	6,810
Deferred income and accrued expenses, electricity	780	327
Other deferred income	1,955	892
<b>Total</b>	<b>9,552</b>	<b>11,583</b>

**Note 29 Fair value**

The table below shows book value and fair value per type of item. Financial instruments in which book value does not deviate from fair value have not been included in the table below.

	2003	
	Book value	Fair value
<b>Short-term investments</b>		
Interest-bearing investments	11,179	11,229
Shares	774	810
Derivatives	21	28
<b>Total</b>	<b>11,974</b>	<b>12,067</b>
<b>Interest-bearing liabilities</b>		
Bond loans, excl. derivatives	43,197	46,121
Commercial papers, excl. derivatives	1,554	1,546
Liabilities to credit institutions		
And others, excl. derivatives	20,515	20,999
Liabilities to minority owners*	4,290	4,290
Liabilities to associated companies*	14,978	14,978
Derivatives	1,023	208
<b>Total</b>	<b>85,547</b>	<b>88,142</b>
<b>Other derivatives</b>		
Transaction exposure**	–	-1,281
Translation exposure	–	76
<b>Total</b>	<b>–</b>	<b>-1,205</b>

\*) The fair value for liabilities to minority owners and associated companies has been assumed to be the same as the book value.

\*\*) Fair value does not include accrued interest, which in this context should, however, be of little importance. Fair value is not adjusted for termination costs, which are however of little importance in this context.

**Transaction exposure**

Unrealised profit/loss, net per delivery year		Year
2004		-1,094
2005–2008		-248
2009–		61
<b>Total</b>		<b>-1,281</b>

**Note 30 Pledged assets**

	2003	2002
<b>For own liabilities and provisions</b>		
<b>Liabilities to credit institutions:</b>		
Floating charges	78	83
Real-estate mortgages	10	11
Blocked bank funds as security for trading on Nord Pool	8	3,273
Other	16	86
<b>Total</b>	<b>112</b>	<b>3,453</b>

**Note 31 Contingent liabilities**

	2003	2002
Guarantees	2,661	687
Other contingent liabilities	6,023	6,994
Nuclear Waste Fund	3,673	3,673
<b>Total</b>	<b>12,357</b>	<b>11,354</b>
Other contingent liabilities		
<b>Compensatory and free power supplied:</b>		
Wholesale power supplied		
Number of commitments	13	14
Capacity MW	217	226
Energy supplied TWh/year	0.9	1.0

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, Vattenfall has taken out liability cover which will pay out a maximum of SEK 6,000 million for this kind of loss.

As a natural part of the Group's business and in addition to that specified above, guarantees are put in place 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 counterparts as part of so-called main leases, lasting a maximum of 99 years, and thereafter leased back for 24 years, as part of so-called subordinated leases. After the subordinated leases expire, Vattenfall has the right to regain the right of use through a purchase option. Rent from the US counterparts has been received in advance and has been deposited in financial institutions with high credit ratings for the payment of sums due in accor-

dance with the subordinated leases. The net difference between rental payments received and deposits made has been reported as a net figure at the time the lease contracts were concluded. Should the leasing party or the underlying customers fail to meet their obligations during the leasing period, this will incur costs for Vattenfall. On the balance sheet date, these costs amounted to a maximum of SEK 1.177 million, which is included in the reported contingent liabilities.

In its Swedish activities, Vattenfall has carried out a leasing transaction on a power plant. The basis of the transaction is a sale and lease-back agreement for the power installation, which was sold to a French counterpart and rented back for 15 years. After the expiry of the leasing period, Vattenfall has the right to purchase the plant via a purchase option. Revenue from the sale to the French counterpart has been deposited with a financial institution with a high credit rating for the payment of the sums due in accordance with the lease, including the purchase option. The net difference between the purchase sum received and deposited has affected the year's profit positively by SEK 1 million. If Vattenfall should wish to prematurely redeem the leasing agreement, this would incur costs that would burden Vattenfall. On closing day, these costs amounted to a maximum of SEK 32 million.

In Germany, businesses operating nuclear power plants have an unlimited liability. The combined mandatory insurance coverage for all these businesses is EUR 2,500 million. Claims of up to EUR 256 million are covered by the German Mutual Atomic Energy Reinsurance Pool. Claims in excess of EUR 256 million 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 194.75 million per claim, or EUR 389.50 million, a total equivalent to SEK 3,542 million.

Vattenfall AB and Vattenfall Europe AG have provided security for the subsidiary Vattenfall Europe Trading GmbH consisting of guarantees to a total value of EUR 565 million. As of the balance sheet date EUR 61 million, equivalent to SEK 554 million, of these guarantees was utilised, and this amount has been reported under contingent liabilities.

**Note 32 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 entails 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 33 Average number of employees and personnel costs

Average number of employees	2003			2002		
	Men	Women	Total	Men	Women	Total
Sweden	6,287	1,707	7,994	6,279	1,704	7,983
Finland	342	195	537	353	214	567
Germany	16,653	5,066	21,719	17,262	5,142	22,404
Poland	3,728	1,207	4,935	2,519	651	3,170
Other countries	89	22	111	97	27	124
<b>Total</b>	<b>27,099</b>	<b>8,197</b>	<b>35,296</b>	<b>26,510</b>	<b>7,738</b>	<b>34,248</b>

Personnel costs	2003	2002
Salaries and other remuneration	12,977	12,455
Social security expenses (of which pension costs)*	4,201 (961)	4,461 (1,464)
<b>Total</b>	<b>17,178</b>	<b>16,916</b>

\*) SEK 55 million (21) of the pension costs are attributable to presidents, deputy presidents, and former presidents and deputy presidents. The Group's outstanding pension commitments in respect of these officers total SEK 371 million (373).

Salaries and other remuneration	2003			2002		
	Board members and presidents*	Other employees	Total	Board members and presidents*	Other employees	Total
Sweden	46	3,061	3,107	47	3,012	3,059
Finland	6	196	202	4	133	137
Germany	87	8,886	8,973	104	8,699	8,803
Poland	18	660	678	12	425	437
Other countries		17	17	2	17	19
<b>Total**</b>	<b>157</b>	<b>12,820</b>	<b>12,977</b>	<b>169</b>	<b>12,286</b>	<b>12,455</b>

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

\*\*) Total salaries and other remunerations to board members and presidents include variable salaries of MSEK 32 (26).

#### Board members' and senior managements' benefits

A summary of taxable remuneration and benefits, as well as pension costs, for 2003 is presented in the table below.

SEK thousands	Board fees/Basic salary incl. holiday pay	Variable rem.	Company car	Pension costs	Other rem.	Total
Dag Klackenborg, Chairman	367					367
Carl-Gustaf Angelin, Board Member	26					26
Johnny Bernhardsson, Board Member	33					33
Annette Brodin Rampe, Board Member	150					150
Christer Bådholm, Board Member	229					229
Ronny Ekwall, Board Member	26					26
Peter Fallenius, Board Member	229					229
Jan Grönlund, Board Member	200					200
Göran Johansson, Board Member	67					67
Peter Lindell, Board Member	229					229
Elisabet Salander Björklund, Board Member	83					83
Kent Ögren, Board Member	67					67
Lars Carlsson, Alternate	26					26
Stig Lindberg, Alternate	26					26
Per-Ove Lööf, Alternate	26					26
Lars G Josefsson, Chief Executive Officer, President	5,130	1,665	67	3,078	10	9,950
Matts Ekman, First Senior Executive Vice President, CFO	2,672	630	50	2,125	8	5,485
Klaus Rauscher, Senior Executive Vice President	5,583	931	7	465	6	6,992
Hans von Uthmann, Senior Executive Vice President	366					366
Alf Lindfors, Executive Vice President	2,333	525	49	3,884	46	6,837
Mats Fagerlund, Executive Vice President	2,453	525	62	1,728	9	4,777
Lennart Billfalk, Executive Vice President	2,017	450	49	3,607	3	6,126
Ann-Charlotte Dahlström, Head of Human Resources	2,048	480	63	1,697	8	4,296
Knut Leman, Head of Communications	1,689	390		1,761	38	3,878
<b>Total</b>	<b>26,075</b>	<b>5,596</b>	<b>347</b>	<b>18,345</b>	<b>128</b>	<b>50,491</b>

## Continuation Note 33

**Board of Directors**

In 2003, the Chairman of the Board received fees in the amount of SEK 367 thousand while other board members received fees totalling SEK 1,321 thousand, distributed as shown in the table above on page 91.

The four board members in the internal audit committee also received fees as follows: SEK 29 thousand for those not employed by Vattenfall and SEK 8 thousand for those employed by Vattenfall. These amounts are included in the table above under the heading Board fees.

**Chief Executive Officer and President**

In 2003, Lars G Josefsson, who is Chief Executive Officer and President of Vattenfall AB, received a salary and other remuneration, including the value of a company car, amounting to SEK 6,872 thousand, of which the variable remuneration for 2002 was SEK 1,665 thousand. Josefsson's variable remuneration for 2003 amounted to SEK 1,732 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, retirement benefits 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 a fifth for each consecutive year and ceases completely at the age of 80. Variable remuneration is not in any way a basis for the pension. The pension commitment is covered by premiums paid to an insurance company on a regular basis. The benefits are vested, that is, not conditional on future employment.

In the event of termination of employment by Vattenfall, the CEO 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 a third of the aggregate of the variable portion of the salary 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.

**Other senior management**

For other members of senior management who are part of the Group's executive management, a total of 8 people, the total sum of salary and other remuneration, including the value of company cars, amounted to SEK 23,490 thousand, of which the variable remuneration for 2002 was SEK 3,931 thousand.

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

In the case of Dr.Klaus Rauscher, remuneration for pension benefits is paid as a salary supplement.

For other members of Group management retirement age varies between 60 and, for those employed after October 1, 2003, 62.

For those with the opportunity to retire at 60, between the ages of 60 and 65 years, 70 per cent of the fixed salary is paid. Variable remuneration is not in any way a basis for pensions between the ages of 60 and 65. The ITP plan applies from the age of 65, together with a supplementary pension, a so-called extension. The extension consists of 32.5 per cent of the part of the salary upon which the pension is based in excess of 20 basic amounts. Salary upon which the pension is based comprises basic salary and annual variable remuneration, in accordance with ITP. Service pension from 65 is between 44 per cent and 49 per cent of the fixed salary.

In those cases where the pension applies from 62, ITP is applied with a so-called extension, equal to 32.5 per cent of salary in excess of 30 basic amounts. Furthermore, the average of the past five years' fixed salaries provides a basis for the pension, while variable remuneration is not included in the basis. The pension is about 40 per cent of the fixed salary from age 62.

All pension benefits are vested, that is, not conditional on future employment. For these other members of Group management, premiums were paid to Alecta and ITP-K in amounts varying from SEK 138 thousand to SEK 172 thousand. The remainder of the pension costs,

the major part, is an actuarially calculated cost comprised of the ITP debt and the annual change in the capital value of the components over and above ITP. This is entered as a liability and secured through Vattenfall's Pension Foundation.

For these 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 comprising 18 months' salary, which is paid monthly with a deduction for the amount corresponding to new income during the period in question. Dr. Rauscher's employment is for a fixed contractual term.

**Preparatory and decision processes**

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 management, the Chief Executive Officer decides on remuneration following consultations with the Chairman of the Board, after which the Board is informed.

**Incentive programmes**

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

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

In October 2003, the Swedish Government issued guidelines concerning employment conditions for persons in executive positions and for incentive programmes for employees of state-owned companies. In light of this, the incentive programmes are to be reviewed prior to 2005. A previously made decision concerning a Group-wide programme from 2004 has been reversed, and the programmes that have existed until now will continue throughout 2004.

**Variable salary for managers**

For the period 2002–2004, a variable salary will be directly linked to value creation\*. For senior management, heads of group functions and business unit managers, an annual variable salary supplement is paid, as is a 'long-term incentive' (LTI). The latter shall not exceed two annual variable salary supplements and will be paid after 2004 if the Group's financial targets are exceeded. This 'long-term incentive' does not provide a basis for pensions.

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 unit management groups, the Group level value creation goal is used, corresponding to the business unit goal, as well as the unit's own goals and management goals that help to enhance value creation.

The CEO has a contractual right to a special performance-based variable salary equal to a maximum of 33 per cent of the fixed salary per year, and an LTI equal to two annual variable salary supplements for the three-year period 2002–2004, as detailed above.

For other Group management members and heads of group functions, the variable salary may total a maximum of 25 per cent of the fixed salary and the LTI as detailed above. In the case of certain managers/key individuals within Group Functions, a maximum of 10–15 per cent applies.

In the case of business unit managers, a maximum of 20 per cent of fixed salary and the LTI applies.

For management groups within business units, primarily CEOs of larger companies and managers of larger operational units, a maximum of 15 per cent applies.

A maximum of 8–10 per cent applies for staff members of the management groups.

A maximum of 15 per cent applies for heads of service companies, while a maximum of 8 per cent applies for managers in management groups.

The above applies to a total of about 100 managers. In other countries, Finland, Poland and Germany, the same value creation goals apply in agreements on variable salary for senior managers.

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

**Incentive programmes for other employees**

Within the Swedish part of the Group, there are different types of incentive programme in most business units and companies. These programmes are designed to suit each unit's goals and needs. The maximum level averages about SEK 15 thousand per year.

The Board of Directors supports the programmes described above.

In light of the Swedish Government's guidelines issued in October 2003, the incentive programmes are to be reviewed prior to 2005.

**Note 34 Gender distribution in Executive Management Personnel**

	Women, %	Men, %
Gender distribution of Board Members (2003)	7	93
Gender distribution of other Executive Management (2003)	11	89

**Note 35 Leasing****Leasing expenses**

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

	2003	2002
<b>Machinery/equipment</b>		
Acquisition value	504	506
Accumulated depreciation according to plan	124	101
Write-downs	71	89
<b>Residual value according to plan</b>	<b>309</b>	<b>316</b>

Future payment commitments within the Group, as of December 31, 2003, for leasing and rental contracts are distributed as follows:

	Finance leases	Operating leases
2004	52	408
2005	30	382
2006	13	341
2007	8	329
2008	8	319
2009 and beyond	274	2,244
<b>Total</b>	<b>385</b>	<b>4,023</b>

The year's leasing expenses in connection with Group assets amounted to SEK 353 million (350).

**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 can be classified with standard leasing principles, based on the fixed income part.

On December 31 2003, the acquisition value of assets reported under operating leases amounted to SEK 1,113 million. Accumulated depreciation amounted to SEK -451 million and accumulated write-downs to SEK -5 million.

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

	Financial leases	Operating leases
2004	12	150
2005	11	92
2006	10	83
2007	10	77
2008	14	71
2009 and beyond	20	181
Less: Financial income	-25	-122
<b>Total</b>	<b>52</b>	<b>532</b>

**Note 36 Remuneration to auditors, etc.**

	2003	2002
<b>Statutory audit</b>		
Ernst & Young*	15	13
PricewaterhouseCoopers**	10	17
BDO (Germany)	17	8
KPMG (Germany)	0	11
The Swedish National Audit Office	0	0
Other	1	1
<b>Total</b>	<b>43</b>	<b>50</b>
<b>Other fees</b>		
Ernst & Young***	11	6
PricewaterhouseCoopers	6	16
KPMG	0	3
Other	3	4
<b>Total</b>	<b>20</b>	<b>29</b>

- \*) In addition to the parent company's audit costs totalling SEK 4 million (5), these costs relate to audits of Swedish, Polish, Finnish and German companies.
- \*\*) SEK 2 million (3) concerns the audit of network operations in Sweden, and the remaining amount is for audits of German companies.
- \*\*\*) Of the Group's fee amounts, about SEK 6 million applies to 2003 for activities in Germany and Poland.

## THE PARENT COMPANY

### Parent company income statement

Amounts in SEK millions, January 1–December 31	Note	2003	2002
Net sales	4, 5	26,741	23,383
Costs of products sold	6	-20,794	-16,650
<b>Gross profit</b>		<b>5,947</b>	<b>6,733</b>
Selling expenses		-865	-708
Administrative expenses		-1,003	-1,254
Research and development costs		-106	-119
Other operating income	7	307	248
Other operating expenses	8	-233	-101
<b>Operating profit</b>	<b>9</b>	<b>4,047</b>	<b>4,799</b>
Result from participations in Group companies	10	673	-409
Result from participations in associated companies	11	185	21
Result from other long-term securities held	12	-28	439
Other interest income and similar profit/loss items	13	1,409	1,293
Interest expenses and similar profit/loss items	14	-2,281	-2,185
Group contributions		2,167	2,090
<b>Profit before appropriations and tax</b>		<b>6,172</b>	<b>6,048</b>
Appropriations	15	-371	115
<b>Profit before tax</b>		<b>5,801</b>	<b>6,163</b>
Tax	16	-1,224	-1,649
<b>Net profit for the year</b>		<b>4,577</b>	<b>4,514</b>

### Parent Company Balance Sheet

Amounts in SEK millions	Note	Dec. 31, 2003	Dec. 31, 2002
<b>Assets</b>			
<b>Fixed assets</b>			
<b>Intangible assets</b>			
Concessions, patents, licences, trademarks and similar rights	17	31	34
Renting and similar rights	17	537	569
<b>Total intangible assets</b>		<b>568</b>	<b>603</b>
<b>Tangible assets</b>			
Land and buildings	18	11,060	11,640
Plants and machinery and other technical installations	18	6,391	6,795
Equipment, tools and fixtures and fittings	18	34	49
Construction in progress	18	454	221
<b>Total tangible assets</b>		<b>17,939</b>	<b>18,705</b>
<b>Financial assets</b>			
Participations in Group companies	19, 20	40,532	38,093
Receivables from Group companies	21	4,022	4,187
Participations in associated companies	19, 20	538	2,687
Receivables from associated companies	21	1,909	1,932
Other securities held as fixed assets	19, 20	58	82
Other long-term receivables	21	213	173
<b>Total financial assets</b>		<b>47,272</b>	<b>47,154</b>
<b>Total fixed assets</b>		<b>65,779</b>	<b>66,462</b>
<b>Current assets</b>			
Inventories	22	120	65
<b>Current receivables</b>	23	<b>16,982</b>	<b>16,077</b>
<b>Cash and bank balances</b>	24	<b>33</b>	<b>3,313</b>
<b>Total current assets</b>		<b>17,135</b>	<b>19,455</b>
<b>Total assets</b>		<b>82,914</b>	<b>85,917</b>
<b>Equity, provisions and liabilities</b>			
<b>Equity</b>			
<b>Restricted equity</b>			
Share capital			
(1 31,700,000 shares at a par value of SEK 50 each)		6,585	6,585
Statutory reserve		1,286	1,317
<b>Non-restricted equity</b>			
Profit brought forward		7,440	5,197
Net profit for the year		4,577	4,514
<b>Total equity</b>		<b>19,888</b>	<b>17,613</b>
<b>Untaxed reserves</b>	15	<b>11,734</b>	<b>11,320</b>
<b>Provisions</b>	25	<b>67</b>	<b>142</b>
<b>Long-term interest-bearing liabilities</b>	26	<b>33,731</b>	<b>35,926</b>
<b>Long-term non-interest-bearing liabilities</b>	27	<b>3,210</b>	<b>3,690</b>
<b>Total long-term liabilities</b>		<b>36,941</b>	<b>39,616</b>
<b>Current interest-bearing liabilities</b>	28	<b>1,531</b>	<b>8,071</b>
<b>Current non-interest-bearing liabilities</b>	29	<b>12,753</b>	<b>9,155</b>
<b>Total equity, provisions and liabilities</b>		<b>14,284</b>	<b>17,226</b>
<b>Total equity, provisions and liabilities</b>		<b>82,914</b>	<b>85,917</b>
Pledged assets	30	9	3,273
Contingent liabilities	31	78,731	82,934
Commitments under consortium agreements	32		

# NOTES FOR THE PARENT COMPANY

(Amounts in SEK millions unless otherwise stated.)

## Parent Company change in equity

Amounts in SEK millions	Share capital	Statutory reserve	Non-restricted equity	Total
Balance brought forward 2002	6,585	1,316	8,369	16,270
Transfer from non-restricted equity to statutory reserve	-	1	-1	-
Dividends	-	-	-1,030	-1,030
Group contributions	-	-	-2,986	-2,986
Tax effect on account of Group contributions	-	-	836	836
Result from mergers	-	-	9	9
Net profit for the year	-	-	4,514	4,514
<b>Balance carried forward 2002</b>	<b>6,585</b>	<b>1,317</b>	<b>9,711</b>	<b>17,613</b>
Dividends	-	-	-1,675	-1,675
Group contributions	-	-	-827	-827
Tax effect on account of Group contributions	-	-	231	231
Result from mergers	-	-31	-	-31
Net profit for the year	-	-	4,577	4,577
<b>Balance carried forward 2003</b>	<b>6,585</b>	<b>1,286</b>	<b>12,017</b>	<b>19,888</b>

Vattenfall AB's share capital consists of 131,700,000 shares of nominal SEK 50.

## Parent Company cash flow statement

Amounts in SEK millions, July 1–December 31	2003	2002
<b>Current operations</b>		
<b>Funds from operations</b>		
Net profit for the year	4,577	4,514
Adjustments for the effects of items not included in the cash flow	-1,525	-482
Cash flow from changes in operating assets and liabilities	-1,406	-1,291
<b>Cash flow from operating activities</b>	<b>1,646</b>	<b>2,741</b>
<b>Investment activities</b>		
Investments in Group companies, associated companies and other long-term securities	-4,069	-7,611
Investments in tangible and intangible fixed assets	-569	-512
Divestments of tangible fixed assets	643	96
Divestments of shares and participations	4,017	1,422
<b>Cash flow from investment activities</b>	<b>22</b>	<b>-6,605</b>
<b>Cash flow from financing activities</b>	<b>1,668</b>	<b>-3,864</b>
<b>Financing activities</b>		
Loans raised	-3,273	8,083
Dividend paid	-1,675	-1,030
<b>Cash flow from financing activities</b>	<b>-4,948</b>	<b>7,053</b>
<b>Cash flow for the year</b>	<b>-3,280</b>	<b>3,189</b>
<b>Liquid assets</b>		
Liquid assets at the beginning of the year	3,313	124
Cash flow for the year	-3,280	3,189
<b>Liquid assets at the end of the year</b>	<b>33</b>	<b>3,313</b>

Interest paid amounted to SEK 2,027 million (2,086) and interest received amounted to SEK 983 million (1,011). The tax paid amounted to SEK 1,224 million (1,215).

## Note 1 Company information

The Annual Report for Vattenfall AB for 2003 has been approved for publication in accordance with a decision by the Board of Directors of February 19, 2004. Vattenfall AB, which is the parent company in the Vattenfall Group, is a limited liability company with its registered office in Sweden. The Balance Sheet and Income Statement of the parent company will be adopted at the Annual General Meeting.

## Note 2 Accounting principles

### General

The accounts of the parent company, Vattenfall AB, have been prepared in accordance with the Swedish Annual Accounts Act, and the Swedish Financial Accounting Standards Council's recommendations have been applied.

The accounting principles applied are stated in the applicable parts of Note 2 of the consolidated accounts, with the following addition for the parent company, Vattenfall AB.

### Depreciation and amortisation

Depreciation is calculated, as in the consolidated accounts, from the acquisition value and is applied on a straight-line basis over the estimated useful life of the asset. In addition, in the parent company, accelerated depreciation (the difference between depreciation according to plan and depreciation for tax purposes) is reported under appropriations and under untaxed reserves respectively.

### Taxes

Tax legislation in Sweden allows companies to defer tax payments by making provisions to untaxed reserves. In the 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 of the parent company, Vattenfall AB, consists of tax on the profit after appropriations.

## Note 3 Exchange rates

See Note 3 of the consolidated accounts.

## Note 4 Net sales

	2003	2002
Sales including indirect taxes	28,502	25,056
Indirect taxes	-1,761	-1,673
<b>Net sales</b>	<b>26,741</b>	<b>23,383</b>

## Note 5 Intra-Group transactions

Of the parent company's total income from sales and total purchase costs, transactions with Group companies account for 10 per cent (13) of sales and 43 per cent (48) of purchase costs.

## Note 6 Costs of products sold

Direct costs include production taxes and duties of SEK 161 million (155) and property taxes of SEK 272 million (275).

## Note 7 Other operating income

Other operating income primarily consists of capital gains on sales of fixed assets and operationally derived exchange-rate profits.

### Note 8 Other operating expenses

Other operating costs primarily cover capital losses on the sale of fixed assets and currency losses from operations.

### Note 9 Depreciation

	2003	2002
Costs of products sold	649	706
Selling expenses	16	17
Administrative expenses	1	2
<b>Total</b>	<b>666</b>	<b>725</b>

### Note 10 Result from participations in Group companies

	2003	2002
Dividends	604	523
Write-downs	-25	-935
Capital gains/losses on divestments	94	3
<b>Total</b>	<b>673</b>	<b>-409</b>

### Note 11 Result from participations in associated companies

	2003	2002
Dividends	10	13
Capital gains/losses on divestments	175	8
<b>Total</b>	<b>185</b>	<b>21</b>

### Note 12 Result from other long-term securities held

	2003	2002
Dividends	2	5
Write-downs	-27	-
Capital gains/losses on divestments	-3	434
<b>Total</b>	<b>-28</b>	<b>439</b>

### Note 13 Other interest income and similar profit/loss items

	2003	2002
Interest income from subsidiary companies	666	680
Other interest income	316	331
Foreign exchange gains	427	282
<b>Total</b>	<b>1,409</b>	<b>1,293</b>

### Note 14 Interest expenses and similar profit/loss items

	2003	2002
Interest expenses to subsidiaries	1,999	1,985
Other interest expenses	28	101
Foreign exchange losses	254	99
<b>Total</b>	<b>2,281</b>	<b>2,185</b>

### Note 15 Appropriations and untaxed reserves

	Opening Balance	Transfer to/from (-)	Merged companies	Opening balance
Accelerated depreciations	6,582	-209	-	<b>6,373</b>
1998 Tax allocation reserve	715	-715	-	<b>0</b>
1999 Tax allocation reserve	383	-	-	<b>383</b>
2000 Tax allocation reserve	842	-	-	<b>842</b>
2001 Tax allocation reserve	464	-	-	<b>464</b>
2002 Tax allocation reserve	1,371	-	-	<b>1,371</b>
2003 Tax allocation reserve	963	-	-	<b>963</b>
2004 Tax allocation reserve	-	1,295	-	<b>1,295</b>
Adjustments for previous years	-	-	43	<b>43</b>
<b>Total</b>	<b>11,320</b>	<b>371</b>	<b>43</b>	<b>11,734</b>

Changes in untaxed reserves in 2003 were as follows: SEK -209 million in accelerated depreciation was dissolved, -715 for the 1996 tax allocation reserve was dissolved, and SEK 1,295 million was transferred to the tax allocation reserve.

### Note 16 Taxes

The reported tax expense is allocated as follows:

	2003	2002
Current tax	1,304	1,591
Deferred tax	-80	58
<b>Total</b>	<b>1,224</b>	<b>1,649</b>

The year's current tax expense attributable to previous years amounts to SEK -15 million (-14).

## Note 17 Intangible fixed assets

	Concessions and similar rights		Renting and similar rights		Goodwill		Total	
	2003	2002	2003	2002	2003	2002	2003	2002
<b>Acquisition values</b>								
Acquisition values brought forward	341	340	813	789	13	13	1,167	1,142
Companies acquired	-	-	-	26	-	-	0	26
Investments	-	1	-	-	-	-	0	1
Sales/Disposals	-	-	-2	-2	-	-	-2	-2
Reclassifications	13	-	-	-	-	-	13	0
<b>Accumulated acquisition values carried forward</b>	<b>354</b>	<b>341</b>	<b>811</b>	<b>813</b>	<b>13</b>	<b>13</b>	<b>1,178</b>	<b>1,167</b>
<b>Accumulated depreciations in accordance to plan</b>								
Depreciation brought forward	-307	-244	-244	-196	-13	-12	-564	-452
Companies acquired	-	-	-	-16	-	-	0	-16
Depreciation for the year	-14	-63	-33	-34	-	-1	-47	-98
Sales/Disposals	-	-	3	2	-	-	3	2
Reclassifications	-2	-	-	-	-	-	-2	0
<b>Accumulated depreciation carried forward</b>	<b>-323</b>	<b>-307</b>	<b>-274</b>	<b>-244</b>	<b>-13</b>	<b>-13</b>	<b>-610</b>	<b>-564</b>
<b>Residual value according to plan carried forward</b>	<b>31</b>	<b>34</b>	<b>537</b>	<b>569</b>	<b>0</b>	<b>0</b>	<b>568</b>	<b>603</b>
Accumulated accelerated depreciation	-31	-34	-536	-569	-	-	-567	-603
<b>Book value</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

## Note 18 Tangible fixed assets

	Land and buildings		Plants and machinery		Equipment, tools, fixtures and fittings		Construction in progress		Total	
	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002
<b>Acquisition values</b>										
Acquisition values brought forward	16,661	16,434	13,005	11,262	192	198	221	825	30,079	28,719
Companies acquired	-	41	-	994	-	8	-	26	0	1,069
Investments	-	33	2	148	12	29	557	420	571	630
Transfer from construction in progress	102	178	212	845	-	-	-313	-1,023	1	0
Sales/Disposals	-528	-25	-526	-244	-20	-43	-11	-	-1,085	-312
Reclassifications	-88	-	88	-	-14	-	-	-27	-14	-27
<b>Accumulated acquisition values carried forward*</b>	<b>16,147</b>	<b>16,661</b>	<b>12,781</b>	<b>13,005</b>	<b>170</b>	<b>192</b>	<b>454</b>	<b>221</b>	<b>29,552</b>	<b>30,079</b>
<b>Accumulated depreciations according to plan</b>										
Depreciation brought forward	-5,021	-4,758	-6,210	-5,464	-143	-146	-	-	-11,374	-10,368
Merged plants	-	-11	-	-482	-	-8	-	-	0	-501
Depreciation for the year	-232	-243	-374	-370	-13	-14	-	-	-619	-627
Sales/Disposals	141	11	220	166	22	41	-	-	383	218
Reclassifications	25	-	-26	-	-	-	-	-	-1	0
Accumulated depreciation fixed assets purchased from Group companies	-	-20	-	-60	-2	-16	-	-	-2	-96
<b>Accumulated depreciation carried forward</b>	<b>-5,087</b>	<b>-5,021</b>	<b>-6,390</b>	<b>-6,210</b>	<b>-136</b>	<b>-143</b>	<b>0</b>	<b>0</b>	<b>-11,613</b>	<b>-11,374</b>
<b>Residual value according to plan carried forward</b>	<b>11,060</b>	<b>11,640</b>	<b>6,391</b>	<b>6,795</b>	<b>34</b>	<b>49</b>	<b>454</b>	<b>221</b>	<b>17,939</b>	<b>18,705</b>
Accumulated accelerated depreciation	-	-	-5,775	-5,930	-31	-49	-	-	-5,806	-5,979
<b>Book value</b>	<b>11,060</b>	<b>11,640</b>	<b>616</b>	<b>865</b>	<b>3</b>	<b>0</b>	<b>454</b>	<b>221</b>	<b>12,133</b>	<b>12,726</b>

\* Acquisition values for land and buildings include acquisition values of land and water rights amounting to SEK 6,683 million (6,785), which cannot be depreciated.

## Tax assessment values (refer to Swedish real-estate)

	2003	2002
Buildings	37,277	34,475
Land	22,453	21,065
<b>Total</b>	<b>59,730</b>	<b>55,540</b>

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

**Note 19 Participations in Group companies, associated companies and other long-term securities held**

	Participations in Group companies		Participations in associated companies		Other long-term securities held	
	2003	2002	2003	2002	2003	2002
Balance brought forward	38,093	31,659	2,687	2,692	82	802
Investments/purchases	11,336	629	295	-	-	4
Shareholders' contributions*	-7,573	7,001	4	-	-	-
Divestments*	-3,448	-232	-295	-5	2	-724
Reclassifications	2,149	-	-2,149	-	-	-
Merged shareholdings	-	-22	-	-	-	-
Write-downs	-25	-942	-4	-	-26	-
<b>Balance carried forward</b>	<b>40,532</b>	<b>38,093</b>	<b>538</b>	<b>2,687</b>	<b>58</b>	<b>82</b>

\*) Shareholders' contributions and divestments made are mainly attributable to restructuring within the Group.

**Note 20 Shares and participations**

See Note 20 of the consolidated accounts.

**Note 21 Advances and long-term receivables**

	Receivables from Group companies		Receivables from associated companies		Other long-term receivables	
	2003	2002	2003	2002	2003	2002
Balance brought forward	4,187	2,525	1,932	1,837	173	850
New advances/receivables	-	1,662	94	97	99	74
Payments received	-165	-	-87	-	-59	-97
Reclassifications	-	-	-30	-2	-	-654
<b>Balance carried forward</b>	<b>4,022</b>	<b>4,187</b>	<b>1,909</b>	<b>1,932</b>	<b>213</b>	<b>173</b>

**Note 22 Inventories**

	2003	2002
<b>Raw materials and consumables</b>		
Oil	92	55
Coal, etc.	25	8
Materials and spare parts	3	2
<b>Total</b>	<b>120</b>	<b>65</b>

**Note 23 Current receivables**

	2003	2002
Accounts receivable - trade	2,649	3,599
Receivables from Group companies	8,889	5,285
Receivables from associated companies	2,148	2,454
Other receivables	1,557	2,266
Prepaid expenses and accrued income	1,739	2,473
<b>Total</b>	<b>16,982</b>	<b>16,077</b>

Breakdown of prepaid expenses and accrued income:

	2003	2002
Prepaid insurance premiums	11	-
Prepaid expenses, other	107	464
Prepaid expenses and accrued income, electricity	684	246
Accrued income, other	937	1,763
<b>Total</b>	<b>1,739</b>	<b>2,473</b>

**Note 24 Cash and bank balances**

The parent company's cash and bank balances are administered by the subsidiary Vattenfall Treasury AB. The parent company's funds in the Group account amounted to SEK 13,102 million (12,852), which are reported in the balance sheet as current receivables from Group companies.

**Note 25 Provisions**

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

	2003	2002
Pension provisions	11	13
Provisions for deferred tax liability	-	12
Personnel-related provisions for non-pension purposes	35	35
Redundant reserve	21	32
Other provisions	-	50
<b>Total</b>	<b>67</b>	<b>142</b>

Pension commitments relating to pensions in the parent company are based on and in accordance with standard Swedish actuarial methods.

The provision reported in the balance sheet corresponds to these pension commitments, which are reported as net figures set against the capital in Vattenfall's Pension Fund. See also Note 24 of the consolidated accounts.

	2003	2002
Pension commitments	2,555	2,505
Less: Capital in pension funds	-2,544	-2,492
<b>Total provision for pensions at the end of the year</b>	<b>11</b>	<b>13</b>
Information registered by PRI	1,402	1,335

**Note 26 Long-term interest-bearing liabilities**

	2003	2002
Liabilities to Group companies	33,731	35,925
Other liabilities	-	1
<b>Total</b>	<b>33,731</b>	<b>35,926</b>

Of the above liabilities to Group companies, SEK 4,519 million (619) fall due after more than five years.

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

Virtually all borrowings in foreign currencies are hedged.

**Note 27 Long-term non-interest-bearing liabilities**

	2003	2002
Liabilities to Group companies	2,880	3,334
Other liabilities	330	356
<b>Total</b>	<b>3,210</b>	<b>3,690</b>

Liabilities to Group companies are mainly attributable to long-term liabilities to Forsmarks Kraftgrupp AB, and others, for power charges. For the latter liability there shall be, according to agreement between the co-owners, no interest payable on the amount. Of other liabilities, SEK 93 million (356) falls due after more than five years.

**Note 28 Current interest-bearing liabilities**

	2003	2002
Liabilities to Group companies	1,531	8,045
Other liabilities	-	26
<b>Total</b>	<b>1,531</b>	<b>8,071</b>

**Note 29 Current non-interest-bearing liabilities**

	2003	2002
Advance payments from customers	7	4
Accounts payable - trade	530	957
Liabilities to Group companies	10,464	5,430
Liabilities to associated companies	16	14
Tax liabilities	4	154
Other liabilities	726	673
Accrued expenses and deferred income	1,006	1,923
<b>Total</b>	<b>12,753</b>	<b>9,155</b>

Breakdown of accrued expenses and deferred income:

	2003	2002
Accrued personnel costs	170	182
Other accrued expenses	726	1,721
Deferred income and accrued expenses, electricity	89	20
Other deferred income	21	-
<b>Total</b>	<b>1,006</b>	<b>1,923</b>

**Note 33 Average number of employees and personnel costs**

Average number employees	2003			2002		
	Men	Women	Total	Men	Women	Total
Sweden	735	397	1,132	659	395	1,054
Other countries	5	1	6	8	4	12
<b>Total</b>	<b>740</b>	<b>398</b>	<b>1,138</b>	<b>667</b>	<b>399</b>	<b>1,066</b>

Personnel costs	2003	2002
Salaries and other remuneration	536	497
Social security expenses	432	378
(of which pension costs)*	(205)	(171)
<b>Total</b>	<b>968</b>	<b>875</b>

\*) SEK 5 million (5) of the pension costs are attributable to the Group president and deputy presidents and former presidents and deputy presidents. The Company's outstanding pension commitments attributable to these officers total SEK 37 million (58). None of the Board members receives any pension benefits in connection with Board duties.

**Note 30 Pledged assets**

	2003	2002
Blocked bank funds as security for trading on Nord Pool	8	3,273
Other	1	-
<b>Total</b>	<b>9</b>	<b>3,273</b>

**Note 31 Contingent liabilities**

	2003	2002
<b>Guarantees</b>		
of which:		
for Vattenfall Treasury's lending:		
to subsidiaries	19,113	21,533
to associated companies	37	37
external borrowing for subsidiaries	50,985	51,233
external borrowing for other companies	12	136
subordinated guarantees	48	74
Nuclear Waste Fund	3,673	3,673
Contract guarantees	812	2,417
Other guarantees	4,051	3,831
<b>Total</b>	<b>78,731</b>	<b>82,934</b>
<b>Other contingent liabilities</b>		
Compensatory and free power supplied:		
Wholesale power supplied		
Number of commitments	13	14
Capacity MW	217	226
Energy supplied TWh/year	0.9	1.0

SEK 79,683 million (82,363) of the parent company's contingent liabilities are attributable to its subsidiaries. Vattenfall AB has guaranteed Vattenfall Treasury AB's commitments. As security for the energy trading of the subsidiary Vattenfall Europe GmbH, Vattenfall AB has provided guarantees to a total value of EUR 155 million, equalling SEK 1,641 million. On balance sheet date, guarantees utilised totalled EUR 9,664 thousand, equalling SEK 88 million. This amount has been included in contingent liabilities.

See also Note 31 of the consolidated accounts.

**Note 32 Commitments under consortium agreements**

See Note 32 of the consolidated accounts.

Salaries and other remuneration	2003			2002		
	Board members and presidents*	Other employees	Total	Board members and presidents*	Other employees	Total
Sweden	14	521	535	11	483	494
Other countries	-	1	1	-	3	3
<b>Total**</b>	<b>14</b>	<b>522</b>	<b>536</b>	<b>11</b>	<b>486</b>	<b>497</b>

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

\*\*) Total salaries and other emoluments to Board members and presidents include bonuses of SEK 2.2 million (1.6).

For benefits to senior executive management within Vattenfall, see Note 33 of the consolidated accounts.

### Note 34 Absenteeism through sickness

Absenteeism through sickness as a per centage of normal work time throughout the year 2003

	Parent company Vattenfall AB	Vattenfall Group Swedish component
Total absenteeism through sickness	4.2	4.1
Absenteeism through sickness for women	7.4	6.8
Absenteeism through sickness for men	2.4	3.3
Absenteeism through sickness for the age group 29 and younger	6.4	3.4
Absenteeism through sickness for the age group 30-49	4.2	3.5
Absenteeism through sickness for the age group 50 and older	3.6	5.0
Number of absenteeism through sickness for 60 days or more	53.6	53.9

### Note 35 Gender distribution in Executive Management Personnel

	Women %	Men %
Gender distribution of Board Members (2003)	18*	82
Gender distribution of other Senior Executive Management (2003)	6	94

\*) All of whom were appointed at the Annual General Meeting and none by employees' representatives.

### Note 36 Leasing

#### Leasing expenses

Future payment commitments, as of December 31, 2003, for leasing contracts and renting contracts are distributed as follows:

	Financial leases	Operating leases
2004	-	16
2005	-	13
2006	-	1
<b>Total</b>	<b>-</b>	<b>30</b>

This year's leasing expenses attributable to the parent company amounted to SEK 10 million (7).

### Leasing income

Vattenfall AB owns and operates 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, 2003, the acquisition value of assets reported under operational leases amounted to SEK 797 million. Accumulated depreciations amounted to SEK -308 million and accumulated write-downs to SEK -5 million.

Future payments for this type of plant are distributed as follows:

	Financial leases	Operating leases
2004	7	63
2005	6	39
2006	6	36
2007	6	33
2008	6	30
2009 and beyond	20	120
Less: Financial income	-17	-102
<b>Total</b>	<b>34</b>	<b>219</b>

### Note 37 Reimbursement of auditors, etc.

	2003	2002
<b>Statutory audit</b>		
Ernst & Young	4	5
The Swedish National Audit Office	0	0
<b>Total</b>	<b>4</b>	<b>5</b>
<b>Other fees</b>		
Ernst & Young*	3	2
PricewaterhouseCoopers	1	1
Other	0	-
<b>Total</b>	<b>4</b>	<b>3</b>

\*) About SEK 2 million referring to 2003 is attributable to IAS/IFRS projects and assistance input for personnel based outside Sweden.

## PROPOSED DISTRIBUTION OF PROFITS

According to the consolidated balance sheet, the Group's non-restricted equity amounts to kSEK 27,976,455 (22,248,966). Of this amount, kSEK 1,278 is expected to be transferred to restricted reserves. The total profit at the disposal of the Annual General Meeting of Shareholders is thus SEK 12,017,750,655.

The Board of Directors and the President propose that the profit be distributed as follows:

– dividend to the shareholders, SEK	2,400,000,000
– to be carried forward, SEK	9,617,750,655
	12,017,750,655

This is equivalent to a dividend of SEK 18.22 per share.

Stockholm, March 9, 2004

Dag Klackenberg  
*Chairman*

Maarit Aarni	Carl-Gustaf Angelin	Johnny Bernhardsson	Christer Bådholm
Lars Carlsson	Ronny Ekwall	Peter Fallenius	Lone Fønss Shröder
Jan Grönlund	Peter Lindell	Stig Lindberg	Per-Ove Lööf

Lars G Josefsson  
*President and Chief Executive Officer*

## AUDIT REPORT

### To the Annual General Meeting of the Shareholders of Vattenfall AB

Corporate ID Number 556036-2138

We have audited the annual accounts and the consolidated accounts, together comprising pages 64–101, the accounting records and the administration of the Board of Directors and the President of Vattenfall AB for the financial year 2003. 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 standards in Sweden. These 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 and their application by the Board of Directors and the President, as well as evaluation of 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 have 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 and the Group's financial position and results of operations in accordance with generally accepted accounting principles in Sweden.

We recommend to the Annual General Meeting of Shareholders that the income statements and balance sheets of the parent company and the Group be adopted, and 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, March 9, 2004

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 2003. (Amounts in SEK millions unless otherwise stated.)

**Items affecting comparability:** Capital gains and capital losses respectively in shares and other fixed assets.

## Operating margin, per cent

EBIT in relation to net sales.

EBIT	15,296
Net sales	111,935
	13.7

## Operating margin excluding items affecting comparability, per cent

EBIT excluding items affecting comparability in relation to net sales.

EBIT excluding items affecting comparability	15,033
Net sales	111,935
	13.4

## Pre-tax profit margin, per cent

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

Profit before tax and minority interest	12,360
Net sales	111,935
	11.0

## 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	12,082
Net sales	111,935
	10.8

## Return on equity, per cent

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

Net profit for the year	9,123
Equity at the beginning of the year	45,129
	20.2

## 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 for the year excluding items affecting comparability	8,944
Equity at the beginning of the year	45,129
	19.8

## 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	15,296
Net assets	124,229
	12.3

## 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	15,033
Net assets	124,229
	12.1

## Pre-tax interest coverage ratio, factor

EBIT plus financial income in relation to financial expense

EBIT plus financial income	17,563
Financial expenses	5,203
	3.4

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

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	17,285
Financial expenses excluding items affecting comparability	5,203
	3.3

## FFO interest coverage, factor

FFO plus financial expenses in relation to financial expenses

FFO plus financial expenses	24,007
Financial expenses	5,203
	4.6

## FFO net interest coverage, factor

FFO plus net financial items in relation to net financial items

FFO plus net financial items	21,740
Net financial items	2,936
	7.4

## 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 capital including minority interest	61,885
Balance sheet total less interest arbitrage transactions	263,972
	23.4

## Net debt/equity ratio, factor

Interest-bearing debt and provisions minus long-term loan to minority owners of non-Swedish companies and liquid assets in relation to interest-bearing debt.

Net debt	66,890
Equity including minority interest	61,885
	1.1

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

Interest-bearing debt and provisions minus long-term loan to minority owners of non-Swedish companies and liquid assets in relation to interest-bearing debt and provisions minus long-term loans to majority shareholders of foreign companies and liquid assets plus equity including minority interest in equity.

Net debt	66,890
Net debt plus equity including minority interest	128,775
	51.9

## FFO/interest-bearing debt, per cent

FFO in relation to interest-bearing debt and provisions minus long-term loans to minority owners of non-Swedish companies and liquid assets.

FFO	18,804
Interest-bearing debt and provisions	85,631
	22.0

## FFO/net debt, per cent

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

FFO	18,804
Net debt	66,890
	28.1

## EBITDA/net financial items, factor

EBITDA in relation to net financial items.

EBITDA	24,878
Net financial items	2,936
	8.5

## EBITDA/net financial items excluding items affecting comparability, factor

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

EBITDA excluding items affecting comparability	24,615
Net financial items excluding items affecting comparability	2,951
	8.3

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

Interest-bearing debt	85,547
Interest-bearing debt plus equity including minority interest	147,432
	58.0

## SIX-YEAR REVIEW

Amounts in SEK millions	2003	2002	2001	2000	1999	1998
<b>P&amp;L items</b>						
Net sales	111,935	101,025	69,003	31,695	27,754	27,957
EBITDA	24,878	24,855	18,250	12,165	9,866	9,860
EBIT	15,296	13,363	9,959	6,688	5,515	6,067
Financial income	2,267	3,010	2,232	1,037	542	288
Financial expenses	-5,203	-6,386	-4,737	-2,536	-1,760	-1,907
Profit before tax and minority interest	12,360	9,987	7,454	5,189	4,297	4,448
Net profit for the year	9,123	7,566	4,190	2,970	2,538	2,664
<b>Cash flow items</b>						
FFO	18,804	17,106	13,148	5,830	6,224	6,758
<b>Balance sheet items</b>						
Liquid assets	14,647	15,473	10,340	7,543	4,860	4,439
Equity	52,506	45,129	39,578	35,374	33,347	32,325
Minority interest in equity	9,379	9,960	19,080	4,985	2,472	2,213
Interest-bearing liabilities and provisions	85,631	94,838	88,723	50,854	32,275	27,876
Net debt	66,890	75,207	55,736	43,311	27,415	23,437
Non-interest-bearing debt and provisions	117,449	126,349	111,662	24,046	18,569	20,942
Net assets, weighted average value	124,229	127,479	100,701	74,968	60,395	57,253
Balance sheet total	264,965	276,276	259,043	115,259	86,663	83,356
<b>Key financial ratios (in per cent unless otherwise specified)</b>						
Operating margin	13.7	13.2	14.4	21.1	19.9	21.7
Operating margin excluding items affecting comparability	13.4	12.8	12.8	15.7	19.9	21.7
Pre-tax profit margin	11.0	9.9	10.8	16.4	15.5	15.9
Pre-tax profit margin excluding items affecting comparability	10.8	9.4	9.2	10.5	15.4	15.9
Return on equity	20.2	19.1	11.8	8.9	7.9	8.5
Return on equity excluding items affecting comparability	19.8	18.3	10.3	4.2	7.8	8.6
Return on net assets	12.3	10.5	9.9	8.9	9.1	10.6
Return on net assets excluding items affecting comparability	12.1	10.1	8.8	6.6	9.1	10.6
Pre-tax interest coverage ratio, factor	3.4	2.6	2.6	3.0	3.4	3.3
Pre-tax interest coverage ratio excluding items affecting comparability, factor	3.3	2.5	2.3	2.3	3.4	3.4
FFO interest coverage, factor	4.6	3.7	3.8	3.3	4.5	4.5
FFO net interest coverage, factor	7.4	6.1	6.3	4.9	6.1	5.2
Equity/assets ratio	23.4	20.0	22.7	35.4	42.3	42.2
Net debt/equity ratio, factor	1.1	1.4	1.0	1.1	0.8	0.7
Net debt/net debt plus equity	51.9	57.7	48.7	51.8	43.4	40.4
FFO/interest-bearing debt	22.0	18.0	14.8	11.5	19.3	24.2
FFO/net debt	28.1	22.7	23.6	13.5	22.7	28.8
EBITDA/net financial items, factor	8.5	7.4	7.3	8.1	8.1	6.1
EBITDA/net financial items excluding items affecting comparability, factor	8.3	7.2	6.9	6.4	7.9	6.1
Interest-bearing debt/interest-bearing debt plus equity	58.0	63.2	60.1	55.8	46.4	41
<b>Other information</b>						
Dividends	2,400*	1,675	1,030	990	1,500	1,500
Investments	11,356	39,932	43,443	23,840	7,916	4,528
Electricity sales, TWh	184.2	188.3	149.9	83.1	86.9	83.8
Average number employees	35,296	34,248	23,814	13,123	7,991	7,996

\*) Proposed dividend.

## 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>.

**Deregulation** Removal of monopoly rights and obligations in order to open up for competition. Here used as a synonym for liberalisation.

**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).

**DSO** Distribution system operator. Responsible for operating, ensuring the maintenance of and developing the distribution system in a given area.

**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** Elektrociepłownia Warszawskie S.A.

**Ex-ante tariff regulation** Approval of tariffs prior to implementation.

**Ex-post tariff regulation** Tariffs amended after implementation if deemed necessary.

**FFO** Funds From Operation.

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

**Generation/production** Production of electricity. The words are used synonymously.

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

**GZE** Gornoslaski Zakład Elektroenergetyczny S.A.

**GWh** Gigawatt-hour – 1,000,000 kWh. Amount consumed by 40 small houses in one year.

**HEW** Hamburgische Electricitäts-Werke AG.

**International interconnectors** Cables between countries for transportation of electricity.

**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.

**kWh** Kilowatt-hour – Energy unit. Amount of energy produced when running 1 kW of capacity for 1 hour. Amount required to run an 11-watt low-energy bulb for almost four days.

**Legal unbundling** Legal separation of transmission/distribution from other activities (generation/supply).

**Lignite** Brown coal.

**LPX** Leipzig Power Exchange. Merged with EEX in 2002.

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

**MWh** Megawatt-hour – 1,000 kWh. Amount required to heat a small house in Sweden for a couple of weeks.

**Negotiated third party access** Access to the network granted on the basis of bilateral negotiations between grid

**Nord Pool** The Nordic power exchange.

**NTPA** owner and grid user.

**OTC** "Over the Counter". Trading of physical and financial contracts in parallel to the organised exchanges.

**PF** Pulverised fuel. Modern coal fired technology.

**POLPX** The Polish Power Exchange; Towarowa Gielda Energii.

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

**Regulated third party access** Access to the network granted on the basis of published and regulated tariffs

**Regulator** Competent authority that supervises the market to ensure effective competition and fair pricing.

**Retailer** Firm at the end of the distribution chain, which normally buys a product from a wholesaler in order to sell it to the final consumer.

**RTPA** for the use of the network.

**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.

**TSO** Transmission system operator. Responsible for operating, ensuring the maintenance of and developing the transmission system in a given area.

**TWh** Terawatt-hour – 1,000,000,000 kWh.

**Unbundling** Separation of the transmission/distribution system interests from the other interests of a company.

**Value chain** Generation, transmission, distribution and sale of electricity. Applicable to both trading and transport of electricity.

**VEAG** Vereinigte Energieverke AG.

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

**Wholesaler** Intermediate in the distribution chain that buys the product in bulk from the producer and sells it in smaller quantities to distributors or retailers.

# ENERGY TERMS ETC.

## 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.

