

# Annual Report 2000

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# Contents

## Investor Information

### The Year 2000

- 1 Fortum in Brief
- 2 Fortum's Business and Markets
- 4 Chairman's and President and CEO's Reviews
- 8 Financial Summary
- 12 Oil and Gas Upstream
- 14 Oil Refining and Marketing
- 20 Power and Heat Generation and Sales
- 26 Electricity Distribution
- 28 Service
- 30 Engineering
- 32 Human Resources
- 34 Environment, Health and Safety (EHS)
- 38 Corporate Governance
- 44 Glossary
- 45 Banks and Investment Bankers Following Fortum

# Investor Information

## Annual general meeting

The annual general meeting of Fortum Corporation will be held on Wednesday, 4 April 2001, at 3.00 pm, at Finlandia Hall, Mannerheimintie 13e, Helsinki.

Registrations for the AGM are requested by 4.00 pm, on 30 March 2001. Registrations can be done by telephone on +358 10 45 29460, by fax on +358 10 262 2727, or by mail to Fortum Corporation, Marjatta Rantiala, POB 1, FIN-00048 FORTUM. Written registrations must arrive before the end of the registration period. Any powers of attorney must be delivered in connection with the registration.

## Payment of dividends

The Board of Directors will propose to the AGM that a dividend of EUR 0.23 per share be paid for the 2000 financial period. The record date for dividend payment is 9 April, and the suggested dividend payment date is 18 April 2001.

## Interim Reports

Interim Report 1 January – 31 March 2001 will be published on 4 May 2001

Interim Report 1 January – 30 June 2001 will be published on 2 August 2001

Interim Report 1 January – 30 September 2001 will be published on 1 November 2001

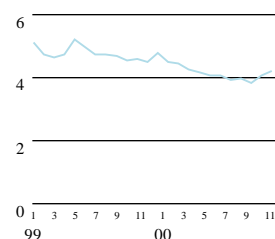
The Annual Report and the Interim Reports are available in Finnish, Swedish and English and can also be read on Fortum's Internet home page at [www.fortum.fi](http://www.fortum.fi) in Finnish, and at [www.fortum.com](http://www.fortum.com) in English and Swedish.

## Contact information

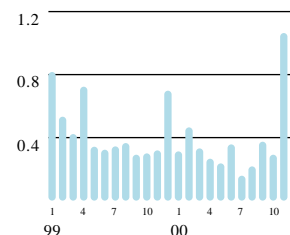
Financial information can be obtained from: Fortum Corporation, Corporate Communications/Heidi Jokinen, POB 1, FIN-00048 FORTUM, tel.int. +358 10 45 24861, fax +358 10 45 24798, e-mail [heidi.jokinen@fortum.com](mailto:heidi.jokinen@fortum.com).

The investor relations contact is: Raija Norppa-Rahkola, tel. +358 10 45 24135, fax +358 10 45 24088, e-mail [raija.norppa-rahkola@fortum.com](mailto:raija.norppa-rahkola@fortum.com).

Quotations  
EUR



Number of shares traded  
mill. shares,  
daily average



# The Year 2000

Fortum's net sales increased and its results improved significantly. We continued to restructure the business and introduced measures to improve our profitability.

- Our results improved significantly for the second year running.
- The exceptionally high price of crude oil and strong refining margins improved our results. The market price of electricity in the Nordic area continued at the low level of the previous year as a result of abundant hydropower production.
- Significant investments were made in acquiring power plants and power assets outside the Stora Enso plants in Finland and Sweden, and the German regional energy company Elektrizitätswerk Wesertal GmbH.
- Natural gas production began at the Åsgard field in Norway, in which Fortum is a shareholder. New oil discoveries were made in three oil exploration projects, one in the Barents Sea and two in the Norwegian Sea.
- Länsivoima Oyj was merged with Fortum Corporation.
- We decided to focus our power generation on the Nordic area and other countries in the Baltic Rim.
- We sold several power plants in Finland in order to improve our production structure.
- We made a start on restructuring Power Plant Engineering and decided to divest Transmission Engineering.
- We launched a Group-wide performance improvement programme.
- Mikael Lilius became President and CEO at the beginning of September.

## Key figures

|                                                             | 2000   | 1999   |
|-------------------------------------------------------------|--------|--------|
| Net sales, EUR mill.                                        | 11,026 | 8,232  |
| Operating profit, EUR mill.                                 | 906    | 705    |
| Profit before extraordinary items, EUR mill.                | 633    | 494    |
| Earnings per share, EUR                                     | 0.55   | 0.41   |
| Equity per share, EUR                                       | 6.32   | 6.00   |
| Capital employed (at the end of period), EUR                | 11,365 | 9,425  |
| Interest-bearing net debt (at the end of period), EUR mill. | 4,626  | 3,818  |
| Investments, EUR mill.                                      | 3,131  | 1,059  |
| Net cash from operating activities, EUR mill.               | 424    | 524    |
| Return on capital employed, %                               | 9.4    | 8.4    |
| Return on shareholders' equity, %                           | 8.6    | 7.7    |
| Gearing, %                                                  | 73     | 79     |
| Average number of employees                                 | 16,220 | 17,461 |

# Fortum in Brief

Fortum is one of the leading energy companies in the Nordic countries. We have some 1.2 million direct customers in the Baltic Rim area.

Fortum is one of the Nordic countries' leading energy companies. It operates in all parts of the energy chain, from production to refining, distribution and marketing, and from energy-related engineering to operation and maintenance. Fortum Group's principal business area is northern Europe.

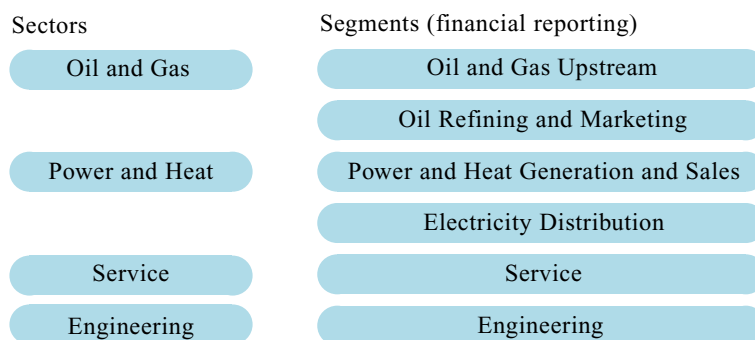
We are the market leader in the production and marketing of high-quality and pro-environmental petroleum products in the Baltic Rim. In electricity distribution and sales, and in power and heat generation, we are the second-largest company in the Nordic market. We also operate elsewhere in Europe, and in selected markets worldwide, and have a presence in some 30 countries.

Our customers include international oil companies, industrial and energy companies, and private consumers.

In 2000, our net sales totalled EUR 11 billion and we employed an average of 16,220 people. Fortum was established in 1998.

Fortum Corporation's shares are quoted on the Helsinki Exchanges.

## Fortum's Business Structure



# Fortum's Business and Markets

The changing operating environment is creating growth opportunities for Fortum.

Our operating environment is characterised by deregulation of the markets, structural change in the energy industry, for example, specialisation in certain parts of the value chain, and by an increased emphasis on environmental issues. The energy markets in the Nordic countries are among the most deregulated in the world.

The European Union is strongly promoting the development of competition in energy markets. EU guidance also aims at increasing efficient energy use and the use of biofuels, and at continuing environmentally favourable development of petroleum products.

Opec, the international organisation of the petroleum exporting countries, has restricted production and, as a result, diminished the over-supply of oil in world markets. In 2000, the average price of a barrel of crude rose by 59% compared with the previous year. Consumption of petroleum products increased in Europe, but decreased in Finland by 5%.

The margins of complex refineries with a versatile conversion capacity improved, partly as a result of more stringent environmental quality requirements for petroleum products. Demand for gas increased by 3% in the EU countries.

The deregulation of electricity markets proceeded. New markets were created and transmission terms were clarified. The

Nordic and Central European markets are integrating, together with the deregulation of transmission connections.

The players in the European electricity markets are increasing in size and decreasing in number. In addition, municipal production and sales companies in the Nordic countries have transferred ownership, either fully or partly, to larger energy companies and industry is partly divesting its energy production. Electricity exchanges are becoming more important and are having a greater influence over market prices. Currently, a quarter of the physical electricity trade in the Nordic countries is traded in the Nord Pool exchange.

Deregulation, over-production, a milder than normal winter and autumn, and abundant rain suppressed electricity prices in the Nordic countries. Least competitive power plants were decommissioned and the building of new ones has been postponed.

## Fortum's market position

We are one of the few companies able to offer an extensive selection of energy products and related services to a range of customer groups. The company uses various energy sources in a versatile way.

Fortum's own oil production equals to about one fifth of the need of refineries. We produce oil and gas in Norway and Oman.

We are the market leader in the production of high-quality and pro-environmental petroleum products in the Baltic Rim. We are also the market leader in the bulk, direct and retail sales of petroleum products in Finland, and have an important share of the market in the other Baltic Rim countries. We also export petroleum products outside northern Europe.

We have stakes in natural gas companies in the Baltic Rim and participate in the development of gas networks in the area. We are involved in the planning of a gas pipeline from Russia to Europe, and in oil and gas field projects in Russia. We also have natural gas operations in the UK.

We are the second-largest company in the Nordic market measured by volume of electricity generation and sales and by number of customers, and are also a significant distributor of electricity in Finland and Sweden.

In heat generation, we are the leading company in the Nordic countries, in volume of energy sold and in the number of customers. We own half the Swedish company, Birka Energi AB, which is one of Sweden's largest energy companies by number of customers and by generation capacity. Changes in the markets and our strong position provide us with many opportunities in the Nordic countries and the Baltic Rim

to increase company value. We aim to be an active player in the structural reorganisation of the electricity and oil business, for example, by utilising our niche position in oil refining. New product and service offerings are developed on the basis of our extensive customer base.

Fortum's home market is comprised of the Nordic countries. Germany and the rest of the Baltic Rim countries also constitute an important business area for us.



# Chairman's Review

“ An increase in Fortum's value requires implementation of a credible growth strategy and sufficient liquidity of the shares.”

Significant changes have characterised the European energy markets in 2000. The pressures of deregulation have speeded up the restructuring of the energy industry also in the largest EU member states. The number of players in the markets is decreasing and their size is increasing. Energy companies are strengthening their position by forming alliances and making acquisitions, and there is very little ongoing investment in new European capacity.

During the year, we continued to focus on increasing the efficiency of our business operations and to strengthen our position in electricity generation, particularly in Sweden. Our Nordic home market is in the vanguard of European deregulation.



Matti Vuoria

Europe's largest energy companies are gaining ground in the Nordic countries and elsewhere in northern Europe. We have to make our own choices. We have to act decisively and without prejudice now as we did during the opening of the markets and the foundation phase of our company.

Over the past few years, the Finnish government has demonstrated its preparedness for change by broadening the ownership base of state-owned companies and by contributing to the establishment of stronger company structures. This has created opportunities to increase the value of companies in the interest of all shareholders.

An increase in Fortum's value requires implementation of a credible growth strategy and sufficient liquidity of the shares. Recently, the government has given us positive messages on this issue. It has signalled positive consideration regarding further steps in the ownership structure on the basis of tangible projects. It is now our task to fulfil the expectations of our owners.

Fortum's performance continued to improve in 2000, picking up considerably as the year progressed. The Board proposes that the annual general meeting should decide on a dividend of EUR 0.23 for the year 2000. This proposal reflects both appreciation of the performance improvement and confidence in the future development of Fortum.

Creating the prerequisites for an increase in the company's value is now our biggest challenge. On behalf of the Board of Directors, I extend my gratitude to our management and all employees for their determined efforts. I wish you success and energy in your ongoing work.

A handwritten signature in black ink, appearing to read 'Matti Vuoria'.

Matti Vuoria  
Chairman of the Board



# President and CEO's Review

“Improving our ability to achieve excellent performance, strengthening our balance sheet, and creating a common corporate culture are our most significant tasks in the near future.”

When I took over the helm of Fortum in September, I came into an interesting company at a time when rapid changes in our operating environment required important decisions. The preparation for managing these changes has proceeded well, and some strategic decisions have already been taken. In addition to these, our most significant tasks in the near future will involve improving our ability to achieve excellent performance, strengthening our balance sheet, and creating a common company culture.

## Significant improvement in results

In 2000, our profitability improved from the previous year, as it did in 1999. The Group's comparable operating profit was more than 50% higher than in the previous year, while net profit for the period decreased, as the result of significant extraordinary income entered in 1999.

The results improved particularly in the Oil and Gas

sector, which benefited from several favourable factors. The price of crude oil increased to its highest level in 10 years, and the international refining margin was also high as a result of stricter environmental requirements on motor fuels and a heavy demand for products which complied with them. In addition, the USD exchange rate strengthened considerably during the year. Results in the Oil and Gas sector were 125% better than in 1999 – an excellent performance when compared with other companies in the industry.

The low prices in the electricity markets, which continued in the Nordic countries and in Germany, had an adverse effect on our results. In the Nordic countries, prices were influenced by abundant rainfall, which resulted in a significant increase in the supply of hydropower. This is why our new electricity generation capacity was not able to improve on the results of the Power and Heat sector for 2000.

The Service sector showed a positive trend, but the unprofitable operations of Power Plant Engineering were a burden on the Engineering sector.

## Actions to improve our results further

Only the best companies are successful in a changing operating environment, which is why we must aim at being in the vanguard of this industry. Despite the positive trend in Group results, we have not yet achieved a satisfactory result. As we aim at strengthening our long-term competitive position, our first actions will be to focus our business operations, to specify our targets, and to increase our financial flexibility.



Mikael Lilius

# President and CEO's Review continued

## “ Targeted ROE and ROCE 12%.”

During the year, we decided to focus our electricity generation activities on the Nordic countries and elsewhere in the Baltic Rim.

Following this, we decided to sell our power plants in Hungary, the UK and Ireland. We

made the best progress in this ambition when we signed an agreement on the sale of the BERT company in Hungary. To improve our capital structure, we used a minority investment arrangement to finance the power assets contract we signed with Stora Enso and, for the same reason, sold significant production assets in Finland. As a result, our financial flexibility improved.

We redirected the operations of the Engineering sector. We decided to sell Transmission Engineering and began to restructure Power Plant Engineering.

We are determined to capitalise on our key expertise in the R&D unit, which supports the power and heat business, and began a significant reorganisation to move research and development's focus closer to the business.

We use specific financial targets to influence our business decisions. To achieve our targeted performance, it is important for our people to know how high we are aiming.

To arrive at the desired financial targets, we assessed the recent levels of indicators used in our industry. Based on these, and on market outlook, we confirmed our targeted return on equity (ROE) and return on capital employed (ROCE) at 12%. To achieve this in a short period will be a challenge, but it is necessary if we are to retain the commitment of our shareholders.

In September, we launched a Group-wide performance improvement programme. Each performance unit made its own plan of how to improve productivity by 5-10% each year and to increase the return on net assets to meet our targets within the next few years.

The plans comprise the Group's plan of operations for 2001, which we will monitor in our normal financial reporting. The 2001 performance bonus systems are also based on the implementation of the improvement programme, and bonuses will be paid based on achieved targets.

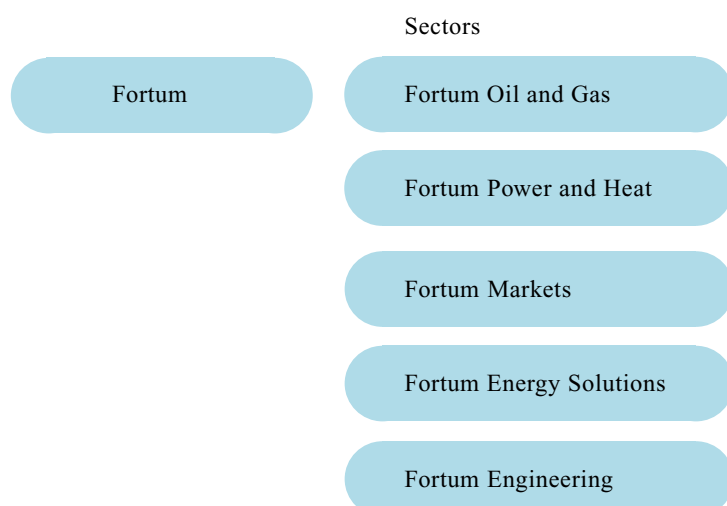
Our corporate governance has also been improved and standardised. Line responsibility and the decision-making authority of operational management teams are emphasised throughout the Group.

## Promising outlook for Fortum

We have a solid basis from which to participate in changing markets. Our significant position in the Nordic electricity markets, special expertise in oil refining, and market leadership in high-quality motor fuels are some of our core businesses' strengths. Our wide range of customers also provides us with growth potential.

Following our strategic review, which we began in the autumn, we selected the Nordic countries and the rest of the Baltic Rim as the geographic focus for our core businesses. In the electricity business, particularly, we aim at participating in the Nordic restructuring and have already expressed an interest in negotiating for the acquisition of the entire share capital of Birka Energi AB. We also intend to be an active player in the reshaping of oil refining and marketing, which we believe will happen. Our strong niche

## Business structure spring 2001



“We intend to be an active player in the reshaping of the energy industry.”

position in this business provides us with an excellent base from which to create considerable added value.

At the beginning of 2001, we established a new sector, Fortum Markets, to develop our customerships in the Nordic countries. This business provides our industrial customers with energy products, and small-scale entrepreneurs and private customers with a wide range of products and services. Fortum Markets is continuing the work started at Energy House and includes e-commerce services, in which we are a leader. Through our prize-winning portals, customers can order electricity and oil, as well as services relating to moving house, summer cottages and renovation. We will continue actively to develop our extensive range of services and e-commerce.

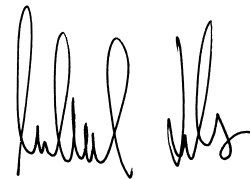
We can also increase business volume by combining our existing strengths in the operation and maintenance of power plants, and in related technology. Towards the end of the year, we instituted development work to offer a new range of energy services to industrial customers of various sizes. This is a growth area, which may prove to be significant on an international scale. To this end, we established Fortum Energy Solutions, in which we have concentrated our key expertise in these areas. It is possible to increase profitable business without major capital investments by offering tailored energy solutions to various customer groups.

These actions to improve performance, combined with focusing and reorganising our business, will contribute to the creation of a stronger company. Our principal shareholder has announced its readiness to change our ownership structure, which would give us the freedom we need for major moves.

### One Fortum

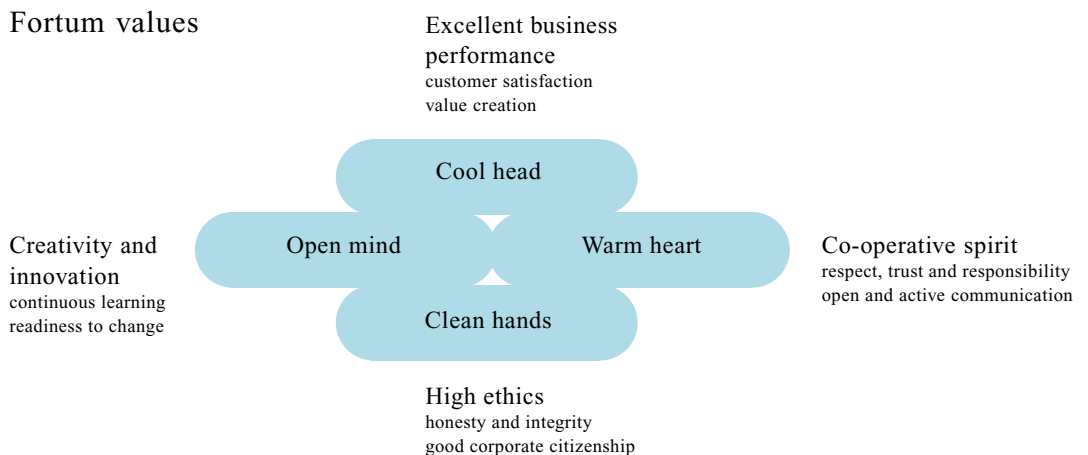
Our objective is to make Fortum a dynamic and fast-moving company which will benefit our shareholders and our other stakeholders. Our people are key to this work, and our corporate identity relies on the people we employ. This is why we aim to create a corporate culture which is based on shared values. In the autumn, we initiated a value process, which resulted in shared values for all Fortum employees. We have crystallised the characteristics of a Fortum employee as: cool head, warm heart, open mind, and clean hands. These are the success factors of our employees and thus of our company. They are also a good basis for a common corporate identity, which is being developed through a unified company image.

The past year has been a time of focusing and efficiency improvement throughout our company. I would like to extend my gratitude to our employees for their good work at a time of change and turbulence. That hard work will need to continue in the current year, but together I believe we will make it a success.



Mikael Lilius  
President and CEO

### Fortum values



# Financial Summary

## Market review

Key market-based factors which will influence our performance are the price of crude oil, the refining margin, the market price of electricity, and the exchange rate of the US dollar.

In 2000, there was a considerable increase in the price of crude oil. The price of North Sea Brent crude rose to as high as USD 35 a barrel during the autumn, and at the year-end was around USD 24 a barrel. The annual average price of Brent was USD 28.5, compared with approximately USD 18 the previous year. The average price of oil sold by us was USD 27.6 a barrel (USD 17.9).

The international refining margin more than tripled. The annual average was USD 3.4 a barrel (USD 0.9 in 1999). Our refining margin continued to be considerably higher than the international reference margin.

The market price of electricity in the Nordic countries remained at the 1999 level. The average system price of the Nord Pool exchange was EUR 12.8 (EUR 13.5) per MWh. The regional prices in Finland and Sweden were higher than the system price. The Nordic countries used a total of 382 TWh of electricity, 1.5% more than in 1999. The heat market was influenced by a strong increase in fuel prices and the exceptionally warm autumn.

Distribution prices of electricity were stable.

## Income statement

| EUR mill.                                | 2000   | 1999   |
|------------------------------------------|--------|--------|
| Net sales                                | 11,026 | 8,232  |
| Share of profits of associated companies | 46     | 36     |
| Other operating income                   | 140    | 187    |
| Depreciations and write-downs            | -571   | -523   |
| Expenses                                 | -9,735 | -7,227 |
| Operating profit                         | 906    | 705    |
| Financial expenses, net                  | -273   | -211   |
| Profit before extraordinary items        | 633    | 494    |
| Extraordinary items                      | -10    | 460    |
| Profit before taxes                      | 623    | 954    |
| Income taxes, total                      | -154   | -229   |
| Minority interests                       | -46    | -22    |
| Net profit for the period                | 423    | 703    |

## Net sales and results

Group net sales increased by 34% to EUR 11,026 million (EUR 8,232 million) from the previous year. This was principally attributable to the increase in the prices of crude oil and petroleum products, and to expanded gas trading. Despite the lower price of electricity, the electricity business's net sales increased as a result of additional capacity acquired from Germany and Sweden.

Fortum Group's operating profit for 2000 increased by 29% to EUR 906 million (EUR 705 million). The comparable increase in the operating profit of the continuing business operations was 52%, because the operating profit for 1999 included EUR 107 million of operating profit from discontinued operations.

The increase in the price of crude oil considerably improved the results for Oil and Gas Upstream. The results for Oil Refining and Marketing also improved significantly, as a result of an improvement in the refining margin. In addition, shipping operations and a strong demand for gasoline components contributed to the improved results of Oil Refining and Marketing.

The continuing low price of electricity reduced the profit for power generation and sales. In addition, district heat sales diminished as a result of the warmer-than-average weather.

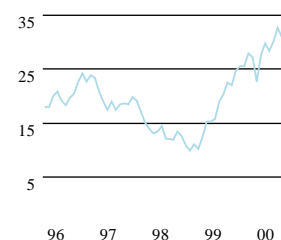
The poor result of Engineering was due to certain loss-making projects of Power Plant Engineering. The other Engineering units were profitable.

The business operations acquired during the year had a slightly positive effect on the operating profit.

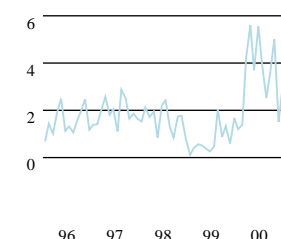
## Balance sheet

| EUR mill.                                    | 2000   | 1999   |
|----------------------------------------------|--------|--------|
| Fixed assets and other long-term investments | 11,712 | 9,724  |
| Current assets                               | 3,116  | 2,815  |
| Assets                                       | 14,828 | 12,539 |
| Shareholders' equity                         | 5,022  | 4,705  |
| Minority interests                           | 1,281  | 126    |
| Provisions for liabilities and charges       | 197    | 83     |
| Deferred tax liabilities                     | 1,177  | 1,128  |
| Interest-bearing liabilities                 | 5,063  | 4,593  |
| Interest-free liabilities                    | 2,088  | 1,904  |
| Shareholders' equity and liabilities         | 14,828 | 12,539 |

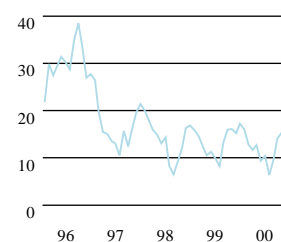
Brent crude price  
USD/bbl  
monthly average



Refining margin  
in Rotterdam  
Brent complex, USD/bbl,  
monthly average



Market price of electricity  
Nord Pool  
EUR/MWh,  
monthly average



## Consolidated cash flow statement

| EUR mill.                                | 2000   | 1999   |
|------------------------------------------|--------|--------|
| Net cash from operating activities       | 424    | 524    |
| Capital expenditures                     | -1,742 | -1,058 |
| Proceeds from sales of fixed assets      | 518    | 972    |
| Change in other investments              | 115    | 59     |
| Cash flow before financing activities    | -685   | 497    |
| Net change in loans                      | -666   | -184   |
| Dividends paid                           | -141   | -99    |
| Other financing items                    | 1,152  | -6     |
| Net cash from financing activities       | 345    | -289   |
| Change in cash and marketable securities | -340   | 208    |

## Oil Refining and Marketing

Our wholesale deliveries of petroleum products in Finland totalled 7.8 million tonnes (7.9 million tonnes). Petroleum product sales outside Finland increased slightly and amounted to 4.9 million tonnes (4.8 million tonnes). Our most important export market was Sweden: petroleum product sales to Sweden totalled 1.7 million tonnes (2.0 million tonnes). Exports to North America increased to 1.0 million tonnes (0.8 million tonnes). Exports to the Baltic countries were small.

Our retail and direct sales of petroleum products in Finland were 3.8 million tonnes, the same as in the previous year. In addition, we maintained our market position.

## Deliveries of petroleum products refined by Fortum, by product group

| (1,000 t)      | 2000   | 1999   |
|----------------|--------|--------|
| Gasoline       | 3,941  | 4,186  |
| Diesel         | 3,246  | 2,666  |
| Aviation fuel  | 786    | 1,005  |
| Light fuel oil | 1,843  | 2,249  |
| Heavy fuel oil | 1,133  | 1,003  |
| Other          | 1,360  | 1,380  |
| Total          | 12,309 | 12,489 |

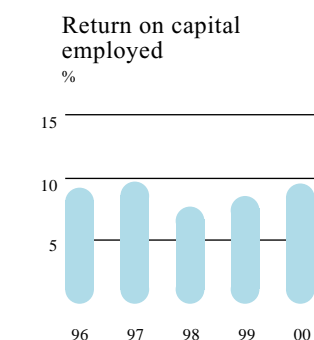
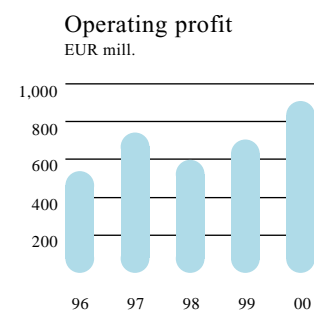
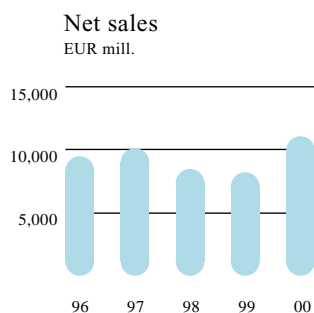
## Power and Heat Generation and Sales

Our electricity sales in the Nordic countries amounted to 45.3 TWh (41.6 TWh). Sales in Finland amounted to 28.4 TWh (29.6 TWh) and in Sweden to 16.9 TWh (12.0 TWh), including 50% of Birka Energi's electricity sales. Outside the Nordic countries, our sales totalled 6.1 TWh (2.2 TWh). The average price of our electricity sold in the Nordic countries decreased by 6% from the previous year.

## Electricity sales by area

| (TWh)                   | 2000 | 1999 |
|-------------------------|------|------|
| Nordic countries, total | 45.3 | 41.6 |
| Sweden <sup>1)</sup>    | 16.9 | 12.0 |
| Finland                 | 28.4 | 29.6 |
| Germany                 | 3.9  | 0.2  |
| UK                      | 1.9  | 2.0  |
| Estonia                 | 0.2  | 0.1  |
| Total                   | 51.3 | 43.9 |

<sup>1)</sup> includes 50% of Birka Energi's electricity sales



Inventory gains, which were a result of the increase in crude oil prices and principally affected statutory crude oil stockpiling, and the appreciation of the coal stock totalled EUR 24 million (EUR 81 million).

Operating profit includes gains on the sale of fixed assets and shareholdings, at EUR 119 million (EUR 155 million). Correspondingly, non-recurrent write-downs and provisions totalled EUR 66 million (EUR 20 million).

Extraordinary items in 1999 included the profit from the sale of Gasum Oy's shares and the business operations of Neste Chemicals Oy and Enermet Oy.

Net profit for the period was EUR 423 million (EUR 703 million) and earnings per share were EUR 0.55 (EUR 0.41). Return on capital employed was 9.4% (8.4%) and return on shareholders' equity was 8.6% (7.7%).

Our net financing expenses were EUR 273 million (EUR 211 million). Taxes for the financial year totalled EUR 154 million (EUR 229 million).

## Production and sales

### Oil and Gas Upstream

In 2000, we produced an average of 34,200 oil-equivalent barrels of oil and gas a day (32,700 in 1999) – about 1.7 million tonnes a year, an increase of almost 5% on the previous year. Gas production at the Åsgard field in Norway began in October 2000.

# Financial Summary

The heat market was influenced by a strong increase in fuel prices and the exceptionally warm autumn. We sold a total of 15.6 TWh (15.7 TWh) of heat in the Nordic countries.

## Heat sales by area

| (TWh)                | 2000 | 1999 |
|----------------------|------|------|
| Sweden <sup>1)</sup> | 4.1  | 3.8  |
| Finland              | 11.5 | 11.9 |
| Other countries      | 0.7  | 0.0  |
| Total                | 16.3 | 15.7 |

<sup>1)</sup> includes 50% of Birka Energi's heat sales

## Electricity Distribution

Our networks distributed a total of 15.0 TWh of electricity, 19% more than in the previous year. At the end of the year, the number of customers was 902,000 (743,000).

## Electricity distribution in distribution networks, by area

| (TWh)                | 2000 | 1999 |
|----------------------|------|------|
| Sweden <sup>1)</sup> | 8.1  | 8.6  |
| Finland              | 4.0  | 4.0  |
| Other countries      | 2.9  | 0.0  |
| Total                | 15.0 | 12.6 |

<sup>1)</sup> includes 50% of Birka Energi's electricity distribution

## Service

The availability of the power plants operated by Fortum Service continued to be excellent. The five-year average was 97.2% (97.1%). 47% of the net sales came from outside the Group.

## Engineering

At year end, Fortum Engineering's un-invoiced orders totalled EUR 473 million (EUR 675 million). We decided to divest Transmission Engineering, and we started restructuring the operations of Power Plant Engineering.

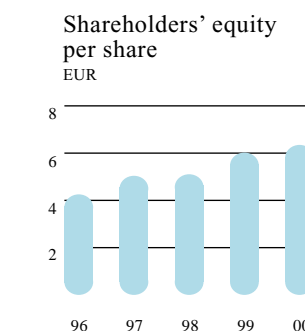
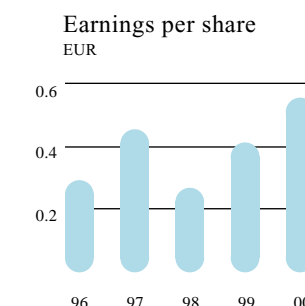
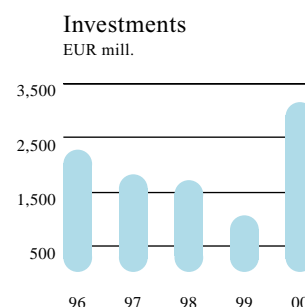
## Financing and financial position

The most significant financial transaction in 2000 was that implemented for the financing of the acquisition of Stora Enso power plants, in which Fortum Capital Ltd issued preferred shares worth EUR 1.2 billion.

Interest-bearing net debt was EUR 4,626 million (EUR 3,818 million) and gearing 73% (79%) at the end of the year.

At the end of the year, cash and marketable securities totalled EUR 437 million. In addition, we had a total of about EUR 1 billion of undrawn syndicated loans. In 2000, our net financing expenses totalled EUR 273 million, which corresponds to 2% of net sales. The non-recurrent costs of the financing arrangement in connection with the acquisition of Stora Enso power assets totalled some EUR 33 million.

Our most important loan currencies were the Swedish krona, euro and the US dollar. At the end of the year, the average interest rate of the loans, excluding loans of Birka Energi, after hedging arrangements, was 6.2%.



## Investments and divestments

In 2000, we invested EUR 3,131 million (EUR 1,059 million), a major portion of which was in acquisitions by the Power and Heat sector. The total includes EUR 1,208 million (EUR 8 million) of interest-bearing net debt of the acquired subsidiaries at the time of acquisition.

We acquired the share capital of the German energy company, Elektrizitätswerk Wesertal GmbH, for EUR 388 million, in January. In May-June, we acquired Stora Enso's power plant capacity, corresponding to a total of 1,511 MW and 6.7 TWh of annual production in Finland and Sweden. The value of the transaction, at EUR 1.7 billion, included several companies and interests. We also agreed with Stora Enso on annual electricity deliveries of over 2 TWh over the next three years.

The development of the Åsgard oil and gas field for production was completed. Over the year, a total of EUR 70 million was spent preparing for gas production, which began in October, and the related infrastructure.

To optimise the production structure of electricity, we sold part of our electricity generation capacity and exchanged our power generation shares.

## Key figures by segment

|                                          | Net sales<br>EUR mill. |              | Operating profit<br>EUR mill. |            | RONA, % <sup>3)</sup> |      |
|------------------------------------------|------------------------|--------------|-------------------------------|------------|-----------------------|------|
|                                          | 2000                   | 1999         | 2000                          | 1999       | 2000                  | 1999 |
| Oil and Gas Upstream <sup>1)</sup>       | 945                    | 366          | 218                           | 82         | 18.0                  | 8.3  |
| Oil Refining and Marketing <sup>2)</sup> | 7,759                  | 5,064        | 382                           | 182        | 22.2                  | 11.4 |
| Power and Heat Generation and Sales      | 1,760                  | 1,443        | 211                           | 236        | 3.8                   | 5.1  |
| Electricity Distribution                 | 467                    | 347          | 127                           | 115        | 6.4                   | 7.6  |
| Service                                  | 356                    | 290          | 12                            | 12         | 32.9                  | 38.7 |
| Engineering                              | 585                    | 479          | -21                           | 12         | -35.6                 | 24.0 |
| Other operations                         | 94                     | 137          | -20                           | -24        |                       |      |
| Eliminations                             | -940                   | -717         | -3                            | -17        |                       |      |
| <b>Total</b>                             | <b>11,026</b>          | <b>7,409</b> | <b>906</b>                    | <b>598</b> |                       |      |
| Discontinued operations                  | -                      | 823          | -                             | 107        |                       |      |
| <b>Group</b>                             | <b>11,026</b>          | <b>8,232</b> | <b>906</b>                    | <b>705</b> |                       |      |

<sup>1)</sup> Includes natural gas trading and retail sales 558 136

<sup>2)</sup> Includes oil trading 1,117 783

<sup>3)</sup> RONA, % = Operating profit / identifiable assets on average

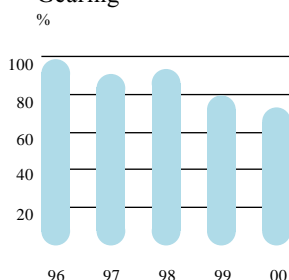
## Key sensitivities

| Annual change                          | Approximate effect on the Group's operating profit<br>EUR million |
|----------------------------------------|-------------------------------------------------------------------|
| US dollar, 10%                         | +/- 25 <sup>1)</sup>                                              |
| Brent crude oil price, USD 1 /bbl      | +/- 27                                                            |
| Refining margin, USD 0.1 /bbl          | +/- 11                                                            |
| Market price of electricity, EUR 1/MWh | +/- 10 <sup>2)</sup>                                              |

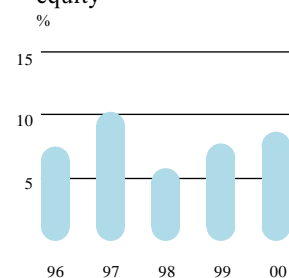
<sup>1)</sup> Currency hedging included

<sup>2)</sup> Nordic countries (excl. Birka) with hedging, no volume change.

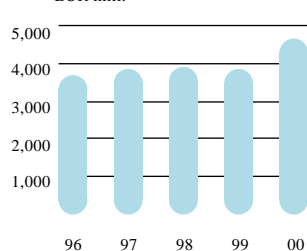
### Gearing



### Return on shareholders' equity



### Interest-bearing net debt



# Oil and Gas Upstream

- Oil and gas exploration and production in Norway, the Middle East, and Russia
- Natural gas trading and sales to end users in the UK
- Interests in gas companies in Finland, Sweden, Estonia, and Latvia

## Field stakes, commercial reserves and average production per day in 2000

| Field               | Share % | Commercial reserves |                            | Production<br>boe/day |
|---------------------|---------|---------------------|----------------------------|-----------------------|
|                     |         | Operator            | Fortum's share<br>mill.boe |                       |
| Norway              |         |                     | 232                        | 29,200                |
| Brage <sup>1)</sup> | 12.3    | Norsk Hydro         | 12                         | 6,000                 |
| Heidrun             | 5.1     | Statoil             | 64                         | 11,400                |
| Åsgard              | 7.0     | Statoil             | 156                        | 11,800                |
| Oman                | 35.0    | Occidental          | 32                         | 5,000                 |
| Total               |         |                     | 264                        | 34,200                |

<sup>1)</sup> Includes the Sognefjord deposit, of which Fortum's share is 13.2%.







## Market review

The price of North Sea Brent crude oil rose as high as USD 35 a barrel during the autumn. Opec's decision to increase production did not have an effect until the year end when prices returned to USD 24, as they had been at the beginning of the year. Natural gas prices followed those of crude oil and rose to a record high, although consumption continued to grow significantly.

## Increasing proportion of gas

We have interests in three producing oil and gas fields on the Norwegian continental shelf; Brage, Heidrun, and Åsgard. We also have stakes in the Suneinah concession in Oman in its oil-producing deposits. We sell our oil and gas in international markets.

In 2000, increased production resulted in our commercial oil and gas reserves decreasing by 2% to the year end to 264 million oil-equivalent barrels (approximately 35 million tonnes). Of total reserves, oil and gas condensates accounted for 145 million barrels (approximately 55%) and natural gas for 16.5 billion cubic metres (approximately 45%).

The year-end value of oil and gas reserves was EUR 1.4 billion, equivalent to the net present value after taxes, assuming a constant crude oil price of USD 18 a barrel of our commercial reserves during their remaining years of production.

During the year, our production increased by almost 5%. We produced an average of 34,200 oil-equivalent barrels of oil and gas a day - approximately 1.7 million tonnes a year. Of this, around 8% was accounted for by natural gas. We envisage that production will peak in 2002, reaching more than 50,000 oil-equivalent barrels a day. This corresponds to an annual production of approximately 2.5 million tonnes. The proportion of natural gas of total production will increase significantly in the next few years.

## Åsgard close to peak production

*Norway* Production at Brage is expected to continue, although in declining quantities, until 2011. We transport the recovered associated gas to onshore facilities through a separate pipeline.

Peak production at Heidrun is expected to continue for the next three to four years, after which it will gradually decline. Oil production is expected to continue until 2020. A gas pipeline, which connects Heidrun to the Åsgard field and which is designed to exploit Heidrun's gas reserves, was completed in February 2001.

Gas production at Åsgard started in October 2000. Our share of the combined

annual oil and gas output from the field is estimated to reach an annual average of 25,000 oil-equivalent barrels a day (1.3 million tonnes) by 2002. Oil and gas production will continue until the 2020s.

In 2000, we participated in three new oil discoveries. In addition, we were awarded a licence for a 25% share in two new concessions in the Norwegian Sea.

*Oman* We have a 35% interest in the Suneinah concession, the most important field being Safah. As a result of improved production technology, we have nearly doubled the remaining recoverable oil reserves of the Safah field during the past three years.

*Russia* Our goal in the next few years is to acquire stakes in oil and gas fields in the Timan Pechora region. Developing these to production stage will bring synergetic benefits. Our long-term goal is to take part in the exploitation of the massive natural gas reserves of the Barents Sea.

The Yuzhno-Shapkinskoye onshore field is operated by SeverTEK, a 50/50 joint venture owned by Fortum and the Russian oil company, Lukoil. The companies continue to plan the field and to make preparations to start test production. The field's commercial oil reserves are estimated to be 164 million barrels.

Together with OAO Gazprom, Norsk Hydro, Conoco, and TotalFinaElf, we are also continuing economic feasibility studies on the Shtokmanovskoye gas field, the natural gas reserves of which are estimated at 3,200 billion cubic metres.

## Natural gas projects progress

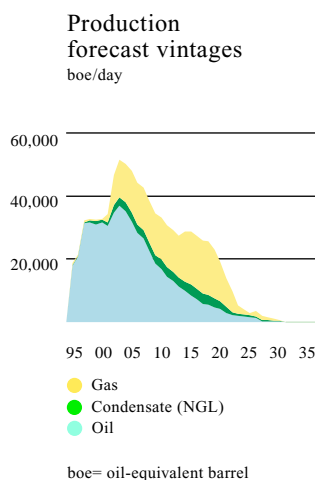
We are active in the UK in gas trading and sales to end users. Following the deregulation of the market, we also began operations in Germany and the Netherlands.

North Transgas Oy, which we own together with Gazprom, is preparing a study on a natural gas pipeline from Russia, through Finland, to western Europe.

We have interests in gas companies in Finland, Estonia, Sweden, and Latvia.

## Key figures

|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 945   | 366   |
| Operating profit, EUR mill.    | 218   | 82    |
| Identifiable assets, EUR mill. | 1,284 | 1,138 |
| RONA, %                        | 18.0  | 8.3   |
| Investments, EUR mill.         | 137   | 199   |
| Average number of employees    | 122   | 94    |



# Oil Refining and Marketing

- Oil refining
- Petroleum product marketing and sales
- Inland and maritime transportation, terminals and harbour services
- Liquefied petroleum gas business
- International trading
- Customers include Finnish and international oil companies, enterprises, agriculture, and retail customers
- Nearly 400,000 Neste card customers at our service stations, and approximately 300,000 other petroleum product customers





## Market review

International refining margins improved considerably. In 2000, the annual average refining margin was over USD 3 a barrel (approximately USD 1).

Our refining margin during the year was superior to the international reference margin, as a result of our refineries' comprehensiveness and ability to produce added-value products and to improve their environmental impact.

In 2000, 8.8 million tonnes of petroleum products were sold in Finland, a decrease of 5%. Gasoline sales also fell, by 3.5%, from the previous year. In the past decade, the number of cars and volume of traffic has grown, but gasoline consumption has decreased, principally as a result of new cars being designed to use less fuels.

Sales of diesel fuel were up nearly 2%. Diesel consumption is closely linked to the overall economic situation: it rises with any increase in the industry's transport volumes. In addition, the number of diesel-powered cars has increased.

Sales of light fuel oil fell by less than 12% from the previous year. This was attributable to the exceptionally warm autumn and early winter, as well as the price of oil. Sales of heavy fuel oil, which is principally used by industry, declined by close to 11%. The sales of liquefied petroleum gas, in contrast, increased by 4%.

In 2000, the international liquefied petroleum gas (LPG) market was more prone to price fluctuations than the oil market. An increase in oil prices resulted in LPG prices being, overall, considerably higher than in the past couple of years.

### CityDiesel exports increased considerably

In Finland, we have approximately 75% of the wholesale market for refined petroleum products. In 2000, wholesale deliveries totalled some 7.8 million tonnes (7.9 million tonnes).

Petroleum product sales outside Finland amounted to 4.9 million tonnes (4.8 million tonnes), of which 1.7 million tonnes (2.0 million tonnes) was accounted for by sales to Sweden, the majority of which was gasoline, diesel fuel and aviation fuel.

Gasoline, the majority of which was low-sulphur, accounted for half of our refineries' total exports. Most of the approximately 1.6 million tonnes of diesel fuel exports was accounted for by extremely low-sulphur CityDiesel, the export of which, mainly to the UK, Denmark and Norway, increased by approximately 45%.

We increased the production and export of CityDiesel as planned, whereas we decreased the production and export of heating oil and aviation fuel.

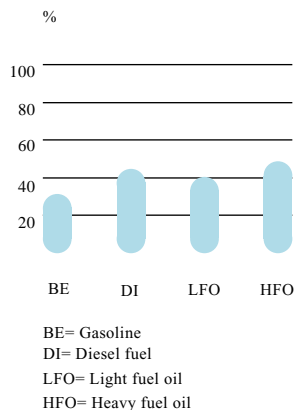
With a favourable market situation, our gasoline sales to North America increased by almost 30%, and totalled over 1 million tonnes.

Our sales to the Baltic countries were small as a result of the considerably lower price of local products.

We are the market leader in road and industrial bitumen in Finland, selling approximately 310,000 tonnes in 2000, somewhat more than the previous year.

We have stabilised the volume of trading to focus our trading activity on oil supply operations and exports beyond Europe.

Fortum's market shares in Finland in 2000



## Key figures

|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 7,759 | 5,064 |
| Operating profit, EUR mill.    | 382   | 182   |
| Identifiable assets, EUR mill. | 1,838 | 1,609 |
| RONA, %                        | 22.2  | 11.4  |
| Investments, EUR mill.         | 128   | 140   |
| Average number of employees    | 4,248 | 4,450 |

Our environment-driven product strategy has been a success. Our motor fuels already meet most of the future quality criteria.

### The network of Neste service stations reorganised

In 2000, our combined retail and direct sales in Finland amounted to approximately 3.8 million tonnes of refined petroleum products, the same level as the previous year. Gasoline's market share was 31.6% (32.3% in 1999) and diesel fuel's 44.2% (44.4%). Light fuel oil stayed the same, at 40.4%, and the market share of heavy fuel oil was 48.7% (47.1%).

Competition intensified in the Finnish diesel and fuel oil market, but we maintained our market position.

Sales developed as planned in the Baltic countries and Poland, despite intense competition. In Russia, consumption of our products increased from the previous year.

To improve efficiency, Neste Marketing Ltd concentrated on its key area of expertise, operating Neste service stations, and signed an agreement with two central trading companies on the procurement of convenience store and café supplies. In addition, a joint venture was established to operate some of the café-restaurants.

We sold 25 Neste service stations to entrepreneurs and established a real estate company, to which we transferred the premises of 90 convenience stores.

At year end, our retail network in Finland included 977 service stations, unmanned A24 stations and diesel fuel outlets, and other sales points (1,019 retail locations).

In the Baltic countries and Poland, we continued to develop our network of Neste service stations by converting existing service stations into unmanned Neste A24 stations. We are implementing the project country by country and it will be completed in March 2001, when there will be more than 100 unmanned Neste A24 stations.

In Russia, we had 20 Neste service stations, two of which were opened in 2000. At the end of the year, we had a total of 129 outlets in the Baltic Rim, excluding Finland.

### Liquefied petroleum gas

We buy liquefied gas from the world market for use in our refineries, and take part in international LPG trading in London. Trading was made more difficult in the year by considerable price fluctuations and increased transportation costs.

### Refineries aim at long operating periods

We concentrate on manufacturing environmentally-preferred products at our Porvoo and Naantali refineries. Porvoo (refining capacity 11 million tonnes) is one of the most comprehensive and efficient facilities in Europe. At our speciality product refinery in Naantali (capacity 2.8 million tonnes), we produce, in addition to conventional petroleum products, an increasing amount of speciality products, such as bitumen, solvents, small-engine gasoline, racing gasoline, and completely sulphur-free light fuel oil.

Our refineries continued to perform well. The annual utilisation of conversion capacity at Porvoo fell due to a compressor fire in

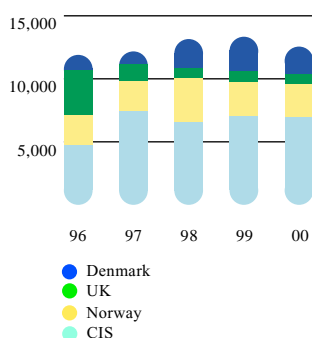
March and a strike of the Chemical Workers Union. In spring, operations at the Naantali refinery also stopped because of a strike, and in autumn, operations were halted to carry out a planned four-week refurbishment and turn-around shutdown.

In 2000, our refineries used 10.7 million tonnes of crude oil and 2.0 million tonnes of other feedstock (11.1 and 2.0 million tonnes). We continued to source most of our crude oil imports from the North Sea, 5.5 million tonnes, and the CIS countries, 5.0 million tonnes. Most of the raw material was delivered by sea, but 2.3 million tonnes of crude oil and feedstock was delivered from the CIS by rail.

The Porvoo refinery achieved a total feed of 10.5 million tonnes (10.5 million tonnes). In December, it reached a new monthly record in distillation, 1,144 tonnes an hour. We made investments principally to complete the project to increase CityDiesel production, to refurbish the catalytic cracking unit, to increase base oil production, and to make improvements on automation. Preparations for the five-week turn-around shutdown in spring 2001 progressed according to plan. It is planned that the shutdown, which will be the most extensive in the refinery's history in terms of volume of work, will enable us to achieve an uninterrupted five-year operating period.

The Naantali refinery achieved a total feed of 2.3 million tonnes (2.6 million tonnes). The refurbishment and turn-around shutdown in September included several projects for improving the refinery's reliability and efficiency and for decreasing its environmental load. The aim is to achieve a continuous operating period of at least five years.

Crude oil and feedstock imports to refineries  
1,000 t



## Environmental requirements change gasoline composition

We produce sophisticated motor fuel components which we use in our reformulated gasolines as well as sell them to other oil companies. The gasoline components, MTBE (methyl tertiary butyl ether) and TAME (tertiary amyl methyl ether), are oxygenates manufactured at our Porvoo refinery that improve gasoline combustion and reduce harmful emissions. In addition, we manufacture MTBE in Portugal and in large joint-venture plants in Canada and Saudi Arabia, which we sell on international markets. In 2000, we sold some 810,000 tonnes (890,000 tonnes) of MTBE globally, with the main markets being the United States and western Europe.

The State of California has decided to ban the use of MTBE by the end of 2002. This is principally based on the fact that leaking gasoline storage tanks cause uncontained spills and possible ground-water contamination. California is the main market of our 50%-owned MTBE facility at Edmonton, Canada, and we are, therefore, preparing to convert the plant to the production of iso-octane in 2002. We will use our proprietary NExOCTANE technology, which we licence, in production.

## We use proprietary technology for manufacturing environmentally-preferred gasoline components.

We also develop, market and sell industrial and automotive lubricants and speciality products which have lower environmental impact. We are the market leader in Finland with a market share of 25%. In response to increasingly stringent quality criteria for lubricants, we focus on developing and manufacturing top-quality base oils and synthetic, and synthetic-like, base oils. We produce polyalphaolefin (PAO) base oil, the most important component of synthetic lubricants, at our plant in Belgium. We currently have approximately 30% of the European market.

We also manufacture another base oil, EHVI (Enhanced High Viscosity Index), at our Porvoo refinery, for use in the blending of our own lubricants. It is marketed as a raw material for modern lubricants, which are in growing demand in international markets. We are tripling our EHVI production at the Porvoo refinery, and the increased capacity will be available in autumn 2001.

We own 50% of Nynäs Petroleum AB, a Swedish company which specialises in the manufacture of bitumen and naphthenic base and process oils.

## We introduce new oil technology to the market

We develop motor fuels and motor oils which have increasingly low environmental impact.

We use our patented NExTAME technology at the Porvoo refinery to produce TAME low-emission etherified gasoline component, and have licensed the NExTAME and NExETHERS processes to other international oil companies. Our proprietary NExOCTANE dimerisation technology, which produces a high-octane gasoline component, has been made commercially available, and we have sold the first licence. In addition, we are continuing to commercialise our high-conversion NexCC cracking technology. We plan to commercialise our new technologies world-wide.

## Tanker fleet being restructured

Inland and maritime transportation as well as terminal and harbour services are provided by our Logistics unit.

We specialise in shipping crude oil and petroleum products in the Baltic Sea, North Sea and Arctic waters. At the end of the year, our fleet included 26 tankers, consisting of seven crude carriers, 18 petroleum product carriers, seven of which are chemical carriers, and one gas carrier. The fleet also includes three barges, two pusher tugs and two escort tugs. Seven of the vessels are wholly-owned, and two partly-owned, by us, and 17 are chartered from other parties under long- or short-term contracts. The total carrying capacity of the fleet is approximately 1.1 million dwt. All our vessels are equipped with a double bottom or hull.

In 2000, the quantity of products shipped by our tankers increased to 37.5 million tonnes (35.5 million tonnes), approximately half of which was accounted for by transport services provided to outside parties. In our main areas of operation, there was a significant increase in the freight in all vessel sizes towards the end of the year. The high freight level together with the strong dollar doubled the returns per vessel for each trip, compared with the beginning of 2000. As a result, the market price of new and older vessels increased by 20 to 30% during the year.

We continued to restructure our fleet by acquiring new vessels which better comply with future requirements, by selling part of our current fleet and by restructuring the ownership of our carriers. In 2000, we sold two of our ageing petroleum product vessels for a total of EUR 10.6 million and, as a result of the transaction, we booked EUR 8.0 million in profit. In June, we ordered two ice-strengthened crude carriers with a carrying capacity of 106,000 dwt from Japan. These will operate in the Baltic and North Seas. The vessels will be completed at the end of 2002. In addition, we have ordered two escort tugs from a Spanish shipbuilding company, the construction of which will be completed in 2002.

We operate 13 oil terminals in Finland and the Baltic Rim and have our own storage facilities. We co-operate with other oil companies for terminal services. We own and operate terminals in Tallinn, Riga and St Petersburg.

For inland transportation, we use 165 Neste-brand tanker trucks owned by private hauliers.

### Deliveries of Fortum's petroleum products by product group

| (1,000 t)      | 2000          | 1999          |
|----------------|---------------|---------------|
| Gasoline       | 3,941         | 4,186         |
| Diesel fuel    | 3,246         | 2,666         |
| Aviation fuel  | 786           | 1,005         |
| Light fuel oil | 1,843         | 2,249         |
| Heavy fuel oil | 1,133         | 1,003         |
| Others         | 1,360         | 1,380         |
| <b>Total</b>   | <b>12,309</b> | <b>12,486</b> |

### Deliveries of Fortum's petroleum products by area

| (1,000 t)                   | 2000          | 1999          |
|-----------------------------|---------------|---------------|
| Finland                     | 7,423         | 7,713         |
| Other Nordic countries      | 2,142         | 2,163         |
| Baltic countries and Russia | 153           | 417           |
| USA and Canada              | 1,029         | 777           |
| Other countries             | 1,562         | 1,419         |
| <b>Total</b>                | <b>12,309</b> | <b>12,489</b> |

### Breakdown of refinery output

| (1,000 t)                      | 2000          | 1999          | 1998          | 1997          | 1996          |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|
| Liquefied petroleum gases      | 267           | 248           | 380           | 346           | 410           |
| Motor fuel                     | 3,922         | 4,268         | 4,059         | 3,707         | 4,209         |
| Diesel fuel and light fuel oil | 5,248         | 5,033         | 5,125         | 4,315         | 4,568         |
| Heavy fuel oil and bitumen     | 1,647         | 1,544         | 1,579         | 1,394         | 1,445         |
| Other products                 | 1,095         | 1,290         | 1,390         | 1,075         | 1,185         |
| <b>Total output</b>            | <b>12,178</b> | <b>12,383</b> | <b>12,533</b> | <b>10,837</b> | <b>11,817</b> |



# Power and Heat Generation and Sales

- Our products comprise electricity, heat, process steam, and energy and portfolio management services
- Our customers are made up of households, small and medium-sized companies, energy companies and industry
- We have 1,033,600 electricity customers, 825,000 of which are in the Nordic countries, including our subsidiaries and 50% of Birka Energi's electricity users
- We have 6,000 heat customers, 3,400 of which are in Sweden, 940 in Finland and 1,600 outside the Nordic countries





## Market price of electricity remained low

The Nordic market was characterised by abundant generation of hydropower, a fifth higher than in a normal year, but the market price of electricity remained at the previous year's level. The system price of the Nord Pool exchange was an average of EUR 12.8 per MWh (EUR 13.5 in 1999). Unlike the previous year, regional prices in Finland and Sweden were EUR 2.1 and 1.5 per MWh higher than the system prices, as a result of the record high hydropower generation in Norway and Sweden and of an insufficient capacity for electricity transmission. More than 60% of Nordic electricity was generated with hydropower. At the end of the year, water resources were larger than average, but there was less snow than usual.

The Nordic countries used 382 TWh of electricity, an increase of 1.5% on the previous year. In Finland, the increase was about 1.7% and in Sweden 1.6%. The total volume of electricity used in Finland was 79 TWh, 55% of which was in industry.

The low market price of electricity resulted in the cancellation or postponement of several power plant projects. In Finland, Teollisuuden Voima Oy (an industrial power company), of which we own 26.6%, submitted an application to the Ministry of Trade and Industry for a decision in principle on a new nuclear power unit.

In the Nordic countries, the margins on the small-customer sales continued to decrease, and, as profitability has deteriorated, small companies have tended to form alliances with one another or have been acquired by larger companies. At the same time, the call for electricity sales and distribution in Finland to be completely separated, in order to prevent cross subsidies, increased.

## Warm weather resulted in lower consumption of heat

The heat market was characterised by a strong increase in fuel prices and exceptionally warm autumn weather, which decreased the Nordic consumption of district heat on the previous year. In Finland, consumption decreased by 5%.

Industry had a boom, and increase in the need of energy concerned primarily electricity, while the consumption of process heat remained almost unchanged. The outsourcing of industrial heat production has been slow, but the interest has increased in the medium-sized industries.

## Electricity generation capacity increased significantly

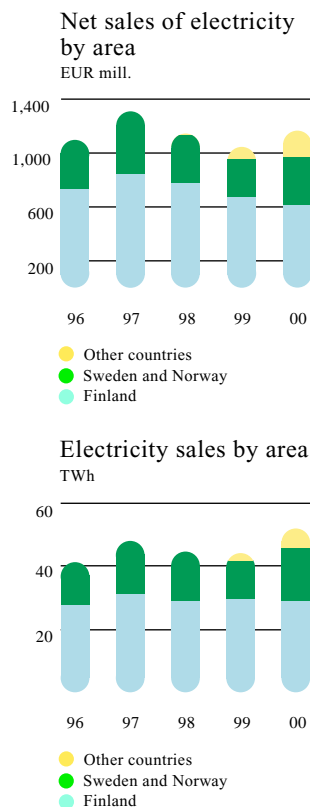
We are the Nordic countries' second-largest electricity producer and seller, and also have electricity and heat businesses in Germany and the Baltic countries. We are in the process of divesting our power shares in the UK, Ireland and Hungary.

In the Nordic countries, our electricity sales totalled 45.3 TWh (41.6 TWh), of which 28.4 TWh was in Finland and 16.9 TWh in Norway and Sweden, including 50% of Birka Energi's electricity sales. In Finland, electricity sales decreased by 4%, and, in Sweden increased by 41%. Most of the growth in Sweden resulted from the power plant capacity acquired from Stora Enso. Outside the Nordic countries, we sold a total of 6.1 TWh, of which 64% was in Germany. In the Nordic countries, our net electricity sales totalled EUR 967 million, and elsewhere in the world EUR 203 million.

In the Nordic countries, the average price of our electricity decreased by 6%; 66% (58%) was sold to large customers and 24% (29%) to small customers, while sales to electricity exchanges and temporary sales accounted for 10% (13%).

## Key figures

|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 1,760 | 1,443 |
| Electricity sales              | 1,170 | 1,037 |
| Heat sales                     | 411   | 360   |
| Operating profit, EUR mill.    | 211   | 236   |
| Identifiable assets, EUR mill. | 6,193 | 4,844 |
| RONA, %                        | 3.8   | 5.1   |
| Investments, EUR mill.         | 2,343 | 445   |
| Average number of employees    | 2,784 | 2,087 |



Most of our electricity generation is emission-free, and in our heat generation the use of biofuels is being significantly increased.

In addition to electricity, we also provide our company customers with portfolio management services. We developed three theme portals through the internet for our private customers, who can use them to buy electricity and to order heating oil.

Our power generation capacity, at 10,163 MW, increased by 1,615 MW on the previous year. Our capacity in the Nordic countries was 9,243 MW, including 50% of Birka Energi's electricity generation capacity and our shares in partly-owned power plants. This capacity increased by 11%, 940 MW, on the previous year. We have carried out goal-oriented work to make our production structure more pro-environmental through increased generation of back-pressure power based on hydropower and low-emission fuels. We generated 40.7 TWh of electricity, or 11% of the electricity used in the Nordic countries. Our electricity generation capacity in our wholly- and partly-owned power plants totalled 45.0 TWh.

We acquired 1,511 MW of power plant capacity from Stora Enso, 1,352 MW of which was in Sweden and 159 MW in Finland. In connection with this contract, we agreed on electricity supplies for Stora Enso's plants in Sweden. These contracts cover a total of more than 2 TWh each year for the next three years.

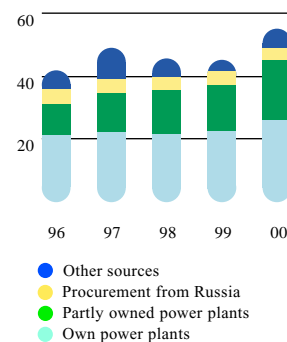
We sold 97 MW of the capacity we acquired from Stora Enso in Finland and exchanged the acquired shares of Pamilo Oy for the shares of Bullerforsens Kraft AB, a Sweden-based company. In Finland, we sold our power generation shares of the Vuosaari A and B plants and three hydropower plants acquired from Stora Enso to Helsingin Energia. In addition, we exchanged our shares of Gulsele AB, a Swedish hydropower company, for shares in Kemijoki Oy.

We signed an agreement with the Russian company, Technopromexport, on electricity imports over the next seven years. The terms of the agreement are flexible and the pricing structure reflects the significance of the spot price as reference price. The agreement provides us with an import capacity of 300 MW of electricity from Russia from the beginning of 2001, and at least 1.6 TWh of energy will be imported each year. In 2000, we imported about 3.5 TWh of electricity from Russia.

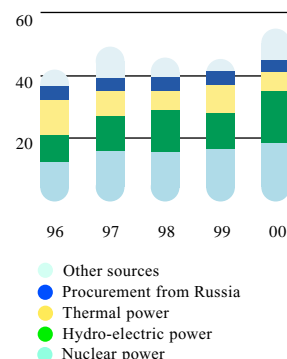
We extended our operations in Germany by acquiring all the shares of Elektrizitätswerk Wesertal GmbH. Wesertal sells and distributes electricity, heat and gas. It and its associated companies introduced a production improvement programme.

The Edenderry peat-fired power plant in Ireland was commissioned for test operation in December. Commercial operation of the Grangemouth power plant in Scotland is expected to begin in April 2001, and the power plants under construction in Germany and Thailand proceeded as planned. In Hungary, we reached an agreement on the sale of the shares of the power and heat company, Budapesti Erömü Rt, to the French

Electricity procurement by source  
TWh



Electricity procurement by energy type  
TWh



company EdF. The official licences required for the agreement are expected to be granted in the first part of 2001. In Thailand, we sold the shares of Cogeneration Public Company, our listed electricity generation company, to the Belgian company Tractabel.

### Heat generation and sales

We are the leading Nordic producers of heat. We produce, sell and market district heat, process steam, and energy services relating to heat, to companies and municipalities, as well as to end users of district heat in the Nordic countries and in the Baltic Rim. During the year, we sold 15.6 TWh of heat in the Nordic countries, 5.7 TWh of which was process steam for industry and 9.9 TWh of which was district heat. Our sales outside the Nordic countries totalled 0.7 TWh. Net sales of heat totalled EUR 411 million, EUR 206 million of which was in Finland, EUR 190 million in Sweden, and EUR 15 million outside the Nordic countries.

In Sweden Birka Energi continued to expand by acquiring heat generation and distribution capacity in the Stockholm area and in Norway. We agreed with the municipalities of the Turku region in Finland that we would continue to supply district heat up to 2010. At the same time, we decided to establish a common heat generation company to build and own natural gas-fired heating plants in the Turku region. We sold our share in Lahden Lämpövoima Oy to Lahti Energia.

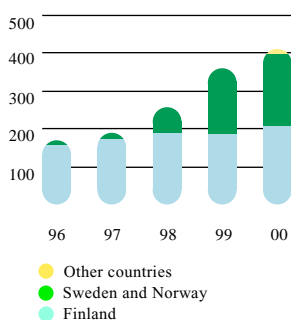
Our heat generation capacity totalled 6,002 MW, 5,518 MW of which was in the Nordic countries, including our shares in partly-owned power plants. The heat generation in our wholly- and partly-owned power plants totalled 15.4 TWh, including 50% of Birka Energi.

### Research focused on e-commerce

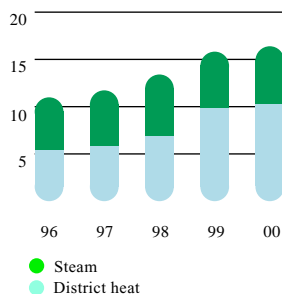
During the year, we invested EUR 19 million in research and development of new products and services. Our investment focused on new e-commerce solutions and information systems supporting these solutions; on pro-environmental power and heat generation technologies; and on research and development of the use of fuels.

We have pioneered in the development of solar electricity in Finland. In order to strengthen its position in the solar electricity market, our subsidiary NAPS Systems Oy extended its ownership base by selling its shares at the beginning of 2001 to 3i Finland Oy, a venture capital company, which now holds 39%.

Net sales of heat  
EUR mill.



District heat  
and steam sales  
TWh



## Power and heat generation capacity as of 31 December 2000

(includes 50% of Birka Energi's capacity)

### Power generation capacity in the Nordic countries 9,243 MW

|                                    | Finland 5,483 MW |                                     | Sweden 3,760 MW  |                                     |
|------------------------------------|------------------|-------------------------------------|------------------|-------------------------------------|
|                                    | Own power plants | Shares in partly-owned power plants | Own power plants | Shares in partly-owned power plants |
| Total                              | 4,103            | 1,380                               | 2,097            | 1,663                               |
| Hydro-electric power               | 768              | 653                                 | 1,787            | 353                                 |
| Nuclear power                      | 980              | 486                                 | -                | 940                                 |
| Combined heat and power generation | 810              | 130                                 | 238              | 2                                   |
| Coal                               | 260              | -                                   | 65               | -                                   |
| Natural gas                        | 222              | 95                                  | -                | -                                   |
| Peat                               | 176              | 35                                  | 7                | -                                   |
| Others                             | 152              | -                                   | 166              | 2                                   |
| Condensing power                   | 1,532            | 0                                   | 0                | 99                                  |
| Coal                               | 1,378            |                                     |                  | 64                                  |
| Peat                               | 154              |                                     |                  |                                     |
| Other                              |                  |                                     |                  | 35                                  |
| Other generation                   | 13               | 111                                 | 72               | 269                                 |

Electricity generation capacity outside Finland totalled 920 MW; 554 MW of shares in Germany and 358 MW of shares in the UK and Ireland. In addition, the capacity of 347 MW is under construction.

### Heat generation capacity in the Nordic countries 5,518 MW

|                                     | Finland 3,102 MW |               | Sweden 2,416 MW |
|-------------------------------------|------------------|---------------|-----------------|
|                                     | District heat    | Process steam | District heat   |
| Own power plants                    | 1,777            | 1,325         | 2,311           |
| Combined heat and power generation  | 1,023            | 729           | 487             |
| Coal                                | 360              | 80            | 115             |
| Natural gas                         | 187              | 185           | 18              |
| Peat                                | 271              | 184           |                 |
| Others                              | 205              | 280           | 354             |
| Other                               | 754              | 596           | 1,824           |
| Shares in partly-owned power plants |                  |               | 105             |

Heat generation capacity outside Finland totalled 484 MW. In addition, the capacity of 678 MW is under construction.

# Birka Energi

- Birka Energi produces electricity, heat, district cooling, town gas, and electricity and heat distribution services
- Its customers are households, small- and medium-sized companies, energy companies and industry
- Number of electricity customers: 830,000
- Number of electricity distribution customers: 876,000
- Number of heat customers: 6,800

Fortum and the City of Stockholm have 50/50 ownership of Birka Energi sells electricity, heat, district cooling and town gas. It owns and operates power plants, electricity, district heat and district cooling networks primarily in greater Stockholm and central Sweden.

It is Sweden's largest energy company by number of end customers, its third-largest producer of electricity, and is the largest producer of district heat in the Nordic countries. Birka is one of the largest producers of district heat in Europe, while its district cooling business is the market leader.

Birka sold 24.8 TWh (24.0 TWh in 1999) of electricity in 2000: 47% was sold to small customers, 47% to large customers, and 6% was sales to electricity exchanges and temporary sales. Birka's net sales of electricity amounted to EUR 545 million, and it used 4,452 MW of electricity generation capacity. It generated 21.5 TWh of electricity in its wholly- and partly-owned power plants and, of this generation, 12.4 TWh was hydro-power and 8.2 TWh nuclear power.

Birka's heat sales totalled 8.1 TWh (7.5 TWh). As a result of warmer-than-average weather, the sales of district heat decreased, but the total heat sales increased as a result of acquisitions. Net sales of heat totalled EUR 378 million, and Birka's heat generation capacity was 4,816 MW.

Birka distributed a total of 29.6 TWh (26.3 TWh) of electricity in its networks, 16.2 TWh of which was in distribution networks, and 13.4 TWh in regional networks.

Birka invested a gross total of EUR 518 million, EUR 255 million of which was in acquisitions. The most significant of these investments were made in the heat and distribution business, and in the electricity business. During the year, Birka acquired the share capital of Arvika Energi AB and Brista Kraft AB, a combined heat and power plant north of Stockholm, which uses biofuels. It also acquired a regional network from Stora Enso for EUR 195 million. In Norway, the Group is expanding its co-operation through the energy recovery contracts signed between Birka Energi AS and Globe Norge AS Hafslund. The sales of fixed assets totalled EUR 58 million. Birka sold the electricity distribution business acquired from Sigtuna Energi.

## Birka Energi Group's key figures

|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 1,593 | 1,454 |
| Operating profit, EUR mill.    | 314   | 294   |
| Identifiable assets, EUR mill. | 7,590 | 7,481 |
| Investments, EUR mill.         | 518   | 375   |
| Average number of employees    | 3,338 | 3,365 |

# Electricity Distribution

- Regional and distribution network transmission of electricity
- 15.0 TWh of distribution network transmission and 14.0 TWh of regional network transmission
- 901,800 customers in total: 281,600 in Finland, 438,100 in Sweden, 162,900 in Germany, and 19,200 in Estonia



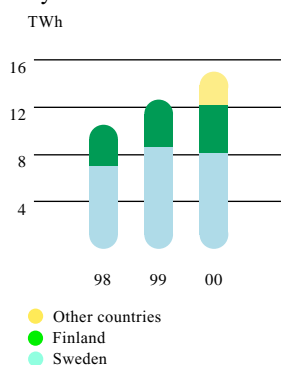


Distribution is an essential part of Fortum's expertise: a steady distribution business provides a stable, albeit regulated, profit. The means of regulating profits on electricity distribution differs from one country to another.

In Finland, one player is allowed a maximum of 25% of the electricity transmitted in the 0.4 kV distribution network across the whole country. The share of electricity transmission of subsidiaries wholly owned by Fortum was 11% in Finland and 15% in Sweden.

In 2000, a total of 15 TWh of electricity was distributed in Fortum's networks, 19% more than in the previous year. The volume of distribution network transmission was 8.1 TWh in Sweden, 4.0 TWh in Finland, 2.7 TWh in Germany, and 0.2 TWh in Estonia. Net sales totalled EUR 389 million. The volume of regional network transmission totalled 14.0 TWh, with net sales of EUR 55 million.

Electricity distribution in distribution networks by area



### Development of the electricity distribution business

During the course of the year, we reorganised our electricity distribution businesses in Finland into a single unit, with the objective of saving costs by dismantling overlapping operations and by developing uniform methods. In Finland, Fortum Sähkösiirto Oy, which was established after Länsivoima Oy merged with Fortum Corporation at the end of September, is responsible for the unit's business operations. At the end of the year, the electricity distribution of Tuusulanjärvi Energy Ltd was also transferred into Fortum Distribution.

In Sweden, Birka Nät AB, part of the Birka Energi Group in which Fortum has a 50% share, is responsible for electricity distribution. In April, Birka Nät purchased the regional networks of Stora Enso in central Sweden for EUR 195 million.

In Germany, Elektrizitätswerk Wesertal GmbH, which was acquired by Fortum, distributes electricity in regional and distribution networks in the area around the town

of Hameln in the federal states of Lower Saxony and North Rhein-Westphalia.

In Estonia, Fortum distributes electricity in the combined area of Fortum Läänemaa AS and Viimsi Elekter AS.

The energy market authorities in Finland and Sweden are in the process of developing price regulation models that take operational efficiency into account. The models complement each other, and Fortum will use them both in the development of its operations.

The development of electricity distribution focuses on solutions required in increasing the value and productivity of network operations and improving the environmental acceptability of operations. Key areas include modern methods of condition management and service entities offered to users of distribution services.

In September, the Supreme Administrative Court reached a decision on the appeal on the reasonable pricing of electricity distribution by Megavoima Oy, which has merged with Fortum, confirming the assessment of reasonable pricing applied by the Energy Market Authority. The decision that Megavoima Oy's pricing of network services had exceeded reasonable return on capital employed by a total of just under EUR 1 million in 1996 and 1997 remained valid. Megavoima Oy adjusted its pricing already at the beginning of July 1999 in accordance with the authorities' decision.

### Key figures

|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 467   | 347   |
| Operating profit, EUR mill.    | 127   | 115   |
| Identifiable assets, EUR mill. | 2,263 | 1,685 |
| RONA, %                        | 6.4   | 7.6   |
| Investments, EUR mill.         | 489   | 266   |
| Average number of employees    | 994   | 697   |

A photograph of a young man and woman smiling and holding hands on a rooftop. The man is on the left, wearing a white tank top. The woman is on the right, wearing a brown top with a yellow sunflower pattern. In the background, there is a city skyline with several tall buildings under a clear blue sky.

# Service

- Operation and maintenance of power plants
- Contract maintenance of power plants and industry
- Turbine, substation and process equipment services
- About 800 customers in 9 countries





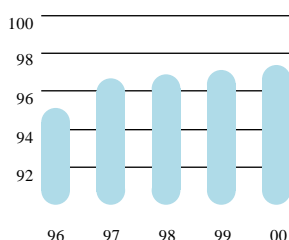
## Market review

We provide services to our customers to enable them to focus on their core businesses. At Fortum, the operation and maintenance of power plants has been concentrated into one discrete business entity. Products and services, which are the result of long-term development, are actively offered to external key customers.

Our customers include power plant and substation owners and operators, and industry. We are responsible for operating more than 11,000 MW of power generating capacity and 6,800 MW of heat generating capacity. In Finland, our contracts cover the operation and maintenance of 56 power and heating plants throughout the country, and we have maintenance contracts for more than 80 industrial projects. 47% of the net sales of the sector come from external customers.

Operation-time energy availability of power plants, %

Five-year sliding average per year



## New remote support centre improves services

The availability of power plants operated by Fortum Service continued to be excellent. The five-year average increased to 97.4% (1999: 97.1%). In 2000, the use of biofuels in Finland increased by 10% to 2.1 TWh (1.9 TWh in 1999).

Customer relationships in maintenance were increasingly partnership-orientated, and several long-term contracts were signed during the year. The number of turbine services and substation projects implemented in Finland and abroad increased from the previous year. Fortum Service Industripartner AB was established in Sweden, and began operating at the beginning of the year. It is responsible for the maintenance of the Bofors companies in Karlskoga in Sweden and employs some 250 people.

In May, we established a subsidiary in Germany, Fortum Service Deutschland GmbH, which deals with operation and maintenance contracts, and markets and sells Fortum Service products in Germany and the rest of continental Europe. The company is based in Hamburg.

We opened a remote support centre, which uses the latest technology to improve the performance and productivity of power and industrial plants. Those customers' plants which are Service's responsibility can be

networked and given online support in various problem situations. The centre's more than 60 experts serve customers in several countries.

In spring 2000, we introduced efficient laser equipment for coating worn parts, such as shafts and spindles. The equipment is among the most efficient in the Nordic countries. It can also be used to make new parts. Operations began well and we have decided with our partners to build new, larger premises in Kokkola, which will be completed in 2001.

Product development was focused on the application of new technology and the development of expert support services. At the beginning of the year we began to monitor the condition of large electric motors, and this increased during the year, particularly in the forest and process industry.

In maintenance, we focus our operations on contract maintenance and specialist maintenance services. Locally, we also offer other maintenance services. During the latter part of the year, we began to implement changes in our business operations to meet our new strategy.

## Customers benefit from new technology

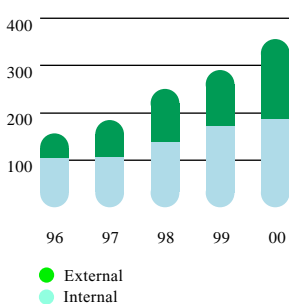
In a number of the countries in which Fortum Service operates, the markets are already developing.

The efficiency of power plants, and the production and energy use of energy-intensive industries, can be significantly increased through concepts which are based on advanced technology and expertise, new ways of operation, and the distribution of tasks. We will enter new growth markets in accordance with these concepts.

## Key figures

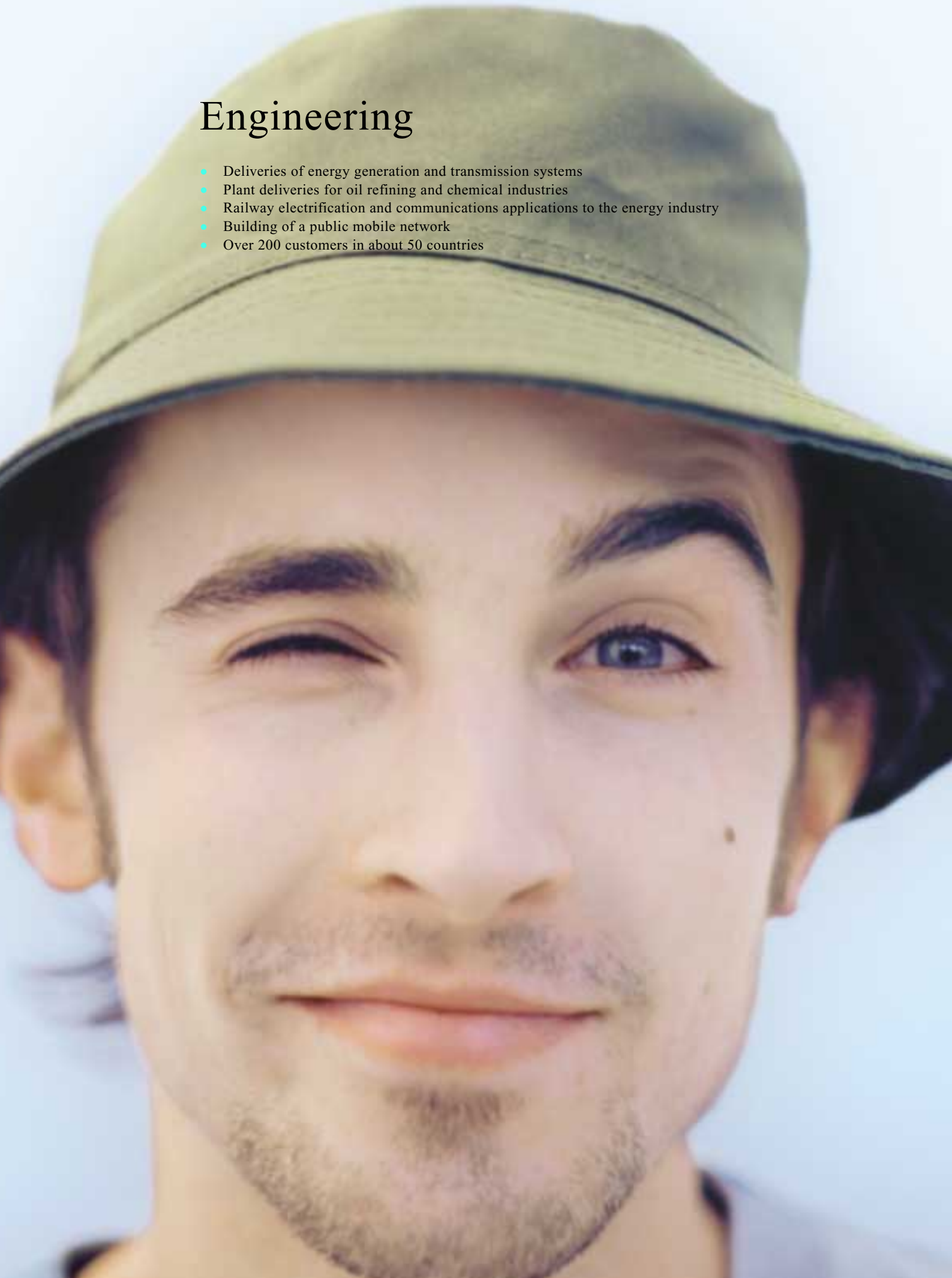
|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 356   | 290   |
| Operating profit, EUR mill.    | 12    | 12    |
| Identifiable assets, EUR mill. | 31    | 42    |
| RONA, %                        | 32.9  | 38.7  |
| Investments, EUR mill.         | 5     | 9     |
| Average number of employees    | 3,643 | 3,387 |

Increase in net sales EUR mill.



# Engineering

- Deliveries of energy generation and transmission systems
- Plant deliveries for oil refining and chemical industries
- Railway electrification and communications applications to the energy industry
- Building of a public mobile network
- Over 200 customers in about 50 countries





Engineering supports Fortum's own business operations in electricity, heat, oil and gas. Over 40% of its net sales come from external customers.

### Power Plant Engineering's strength is its environmental expertise

The main product of Power Plant Engineering is the design and construction of combined heat and power (CHP) plants, mainly using biomass and natural gas. It also specialises in environmental technologies and refurbishments for reducing power plants' fuel consumption, environmental emissions and operating costs, and offers consulting services in hydropower, nuclear power, automation, and electrification. Fortum is one of the leading power plant contractors in Europe.

Net sales increased compared with the previous year. The most significant new projects were the biomass-fired power plants in Härnösand in Sweden and Cutro in Italy, the implementation of which is based on boiler technology developed at Fortum, and the Vresova desulphurisation plant in the Czech Republic. Construction of CHP plants continued in Germany, Hungary, Scotland and Thailand. A peat-fired power plant was completed in Ireland.

The focus of product development and the growth area of engineering lie in power plants which use biomass, based on our own technology. The global markets of these are growing strongly, partly as a result of the climate issue.

Power plant refurbishment markets are focused in eastern central Europe. We have five projects under way in Romania. Two desulphurisation plants are under construction in the Czech Republic and Poland, where emission-reducing changes to burners have also been implemented. New automation solutions boost power plant operation by improving efficiency and reducing emissions with smaller fuel quantities.

At the end of the year, we started restructuring the operations of Power Plant Engineering.

Transmission Engineering to be sold  
In transmission, Engineering strengthened its position in the construction and maintenance

of electricity distribution systems and fixed telecommunications networks in Finland.

The construction of base stations for mobile telecommunications continued actively in the Nordic countries while, at the same time, a significant number of orders were received from elsewhere, particularly as a subcontractor of equipment manufacturers. In Sweden, net sales were also boosted by the installation of optical cables in the power transmission network.

The electrification of the railway line between Toijala and Turku, in Finland, was completed and a significant contract in Northern Finland began.

At the end of the summer, Fortum decided to divest Transmission Engineering.

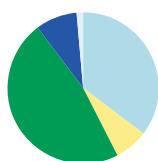
### Oil, Gas and Chemicals Engineering

Oil, Gas and Chemicals Engineering supplies our advanced process technologies to the oil, gas and chemicals industry, for example, for the production of cleaner motor fuels. Together with Fortum's Oil and Gas sector, Engineering develops new solutions for our own product development needs and for those of oil refiners in various countries.

The implementation of the shutdown of the Naantali refinery, in autumn 2000, and the planning of the 2001 shutdown of the Porvoo refinery were our most significant assignments within the Group.

International projects included the design and construction of a polypropylene plant, in Austria, and the construction of a unit based on our NExTAME technology, in Italy. Process control technology and training simulators were developed and supplied to polyethylene and polypropylene plants in Europe and the Middle East.

Uninvoiced order book as of 31 Dec 2000, EUR 473 mill.



- Finland
- Other Nordic countries
- Rest of Europe
- Asia
- Other countries

### Key figures

|                                | 2000  | 1999  |
|--------------------------------|-------|-------|
| Net sales, EUR mill.           | 585   | 479   |
| Operating profit, EUR mill.    | -21   | 12    |
| Identifiable assets, EUR mill. | 81    | 37    |
| RONA, %                        | -35.6 | 24.0  |
| Investments, EUR mill.         | 20    | 12    |
| Average number of employees    | 3,446 | 3,254 |

# Human Resources

- Target-oriented and participative management
- Reward-based and active remuneration system
- Systematic human resources development
- Open internal communication
- Health and safety
- Equality





## Acquisitions increased the number of employees

During 2000, we employed an average of 16,220 people. At the end of the year, the number of employees was 15,770, 14,844 of whom were permanent employees. Women accounted for 23% of the employees, and our workers' average age was about 44.

The number of permanent employees increased by 719, primarily as a result of acquisitions, the most important of which was Elektrizitätswerk Wesertal GmbH in Germany (about 600 employees).

## Improved skills

We have prepared business strategies in various performance units and, at the same time, have assessed the need to develop employees' skills. On the basis of these assessments, we have prepared employee development plans. These are based on target and development discussions of each employee with his/her superior, during which the objectives of each employee or team are agreed. Excellent performance is always rewarded.

Development and training was principally carried out by the performance units.

Overall, investment in employee development in the year amounted to about EUR 11.2 million, and there was an average of 3.2 training days per person.

This was the first time that employee satisfaction had been analysed throughout the Group, and it included management and leadership, and environment and health issues. About a half the Fortum employees participated in this questionnaire, which recorded a satisfaction index of 61.5%.

Towards the end of the year, we published our common principles for the furthering of equality in Finland.

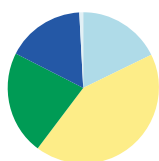
## Rewarding basis specified

In 2000, we established a Fortum-wide reward system, based on the achievement of the performance objectives and on each employee's or team's performance.

We combined the personnel funds into the Fortum personnel fund. The members of the fund are the Fortum companies in Finland, which employ around 7,900 people.

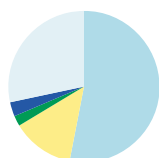
A bond loan with warrants was arranged for the employees in 1999, and a management stock option scheme covers about 130 key employees. The statutory financial statements give further information about the bond loan and the stock option scheme.

Levels of education of employees



- Basic level
- Intermediate level
- College level
- University level
- Doctor's degree

Fields of education of employees



- Science and technology
- Commerce and law
- Social science and arts
- Logistics and traffic
- Other

## Recruitment improved

The Group-wide internal labour market continued to be active in 2000. We had a total number of 350 vacancies, 80 of which were available in the public labour market. Around 300 people transferred between performance units.

We introduced recruitment pages on our web site at the beginning of 2000. These aroused great interest and, during the year, we received about 1,500 open applications and around 5,300 applications for summer traineeships through the internet. In addition, about 800 people used the web site to apply for various types of trainee and diploma work positions. More than 750 students and schoolchildren worked at Fortum as summer trainees.

In 2000, we used a uniform image for the first time when we took part in seven student and recruitment events. According to the research carried out by the magazine Tekniikka & Talous (Technology & Business), Fortum was one of the three most popular employers in Finland among technology and business students.

## Maintenance and promotion of employee fitness for work

During the year, we prepared a programme to maintain and promote employee fitness for work. This aims at achieving a balance between an individual and work and creating a well functioning and balanced working community.

## Number of employees by country as of 31 Dec

|                                | 2000          | 1999          |
|--------------------------------|---------------|---------------|
| Finland                        | 9,360         | 9,556         |
| Sweden                         | 2,110         | 1,809         |
| Germany                        | 664           | 39            |
| Estonia                        | 575           | 449           |
| Hungary                        | 422           | 450           |
| Norway                         | 408           | 323           |
| Russia                         | 366           | 378           |
| USA                            | 288           | 283           |
| UK                             | 238           | 235           |
| Other European countries       | 333           | 499           |
| Other countries outside Europe | 80            | 104           |
| <b>Total</b>                   | <b>14,844</b> | <b>14,125</b> |

# Environment, Health and Safety (EHS)

- High-quality, safe and pro-environmental products and services
- EHS programme completed
- Climate Initiative and Climate Fund to decrease carbon dioxide emissions
- The number of lost workday injuries and uncontained spills decreased





## Fortum's target-oriented climate programme

In February 2000, we published our environmental, health and safety programme, which includes our Climate Initiative. The Climate Initiative combines our short- and long-term objectives and actions to decrease carbon dioxide emissions.

We decrease carbon dioxide emissions by increasing the use of renewable energy sources and energy-efficient combined heat and power (CHP) generation, both in our own operations and in joint projects in developing countries and in those with economies in transition.

The hydropower plants we acquired from Stora Enso in 2000 doubled our hydropower capacity. The power plants of the Oulujoki watercourse are being refurbished to increase their efficiency. During the year, the share of hydropower in our electricity generation increased to 35%.

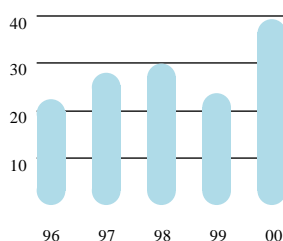
During the past few years, we have continued to increase the use of biofuels in power and heat generation and, in 2000, it increased by 14%. At our Joensuu power plant in Finland, we carried out a boiler conversion, which makes it possible to increase the share of biofuels used at the plant from a few per cent up to 50%.

We were constructing natural gas-fired CHP power plants in Scotland, Germany and Thailand. They will be commissioned during 2001, and will output around 350 MW of electricity.

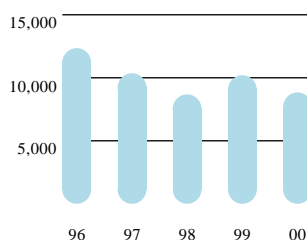
Application of the Kyoto mechanisms is a prerequisite for cost-effective decrease in carbon dioxide emissions worldwide. During the year, we established a climate fund, the initial capital of which is EUR 1.6 million, which aims at investing in projects to decrease carbon dioxide emissions in developing countries and in countries with economies in transition. The first investment was made by joining the World Bank's Prototype Carbon Fund, PCF, which implements the joint projects accepted in the Kyoto Protocol, worldwide.

We sold 50,000 tonnes of the emission decrease achieved by converting the boiler at the Joensuu power plant to a Canadian power company. While this is not a huge volume, the project brought us valuable experience in practical implementation of international emission trading. This is the largest emission trade so far between two continents.

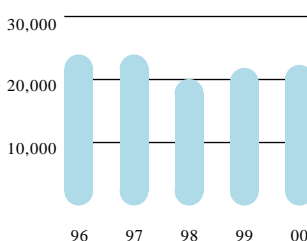
Share of renewable energy sources in electricity generation %



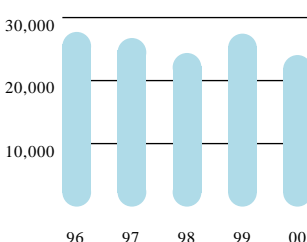
Carbon dioxide emissions into the air 1,000 t/year



Sulphur dioxide emissions into the air tonnes/year



Nitrogen oxide emissions into the air tonnes/year



## Environmental aspects support our business

Our investment in the development of clean motor fuels since the beginning of the 1990s is bearing fruit. There was continuing demand for clean products, and the entire capacity of our refineries was in use. The production of low-sulphur diesel fuel increased by nearly 30%, the major part of which was exported to the European market.

The combustion of our reformulated gasoline is clean, as a result of oxygen-containing compounds. The State of California will prohibit the use of MTBE, the most important oxygenate, at the end of 2002. Because of leaks caused by careless handling of gasoline, groundwater has been contaminated. Alberta Envirofuels in Edmonton, Canada, our joint venture with Chevron, is preparing to switch to the production of a replacing iso-octane component for the US market.

An extensive risk study was completed in the EU, the results of which indicated that MTBE is not hazardous to health. The protection of groundwater is being intensified in the EU, but the prohibition of MTBE is not expected.

We are the first Finnish sellers of electricity to provide electricity with an environmental specification. Wind electricity and Norppa Electricity, which was granted an eco-label by the Finnish Association for Nature Conservation, are two examples of our ecological energy products. The majority of our biofuel-based heat also meets the requirements of the Norppa label. We offer optimisation and environmental services and energy audits to our industrial customers. We introduce environmental information and products on our web site, through our e-commerce channels.

Fortum Engineering provides its customers with energy-efficient and pro-environmental energy technologies. Our product range covers CHP plants, hydro and wind power plants, refurbishments of old power plants and environmental technology. The decrease in sulphur emissions achieved with the desulphurisation plants built in the Czech Republic and Poland corresponds to Finland's entire annual sulphur emissions.

## We continue to improve the environmental performance, and process and occupational safety of our production facilities.

### Improving safety

We are making every effort to advance employee health and safety, and to decrease environmental risks. Good risk management improves the quality, reliability and efficiency of operations. We aim to reduce the number of safety incidents to half the 1999 level by 2003.

During the year, the lost workday injury frequency which resulted in more than one lost workday was 11.5 injuries per million working hours, 21% lower than in 1999. This positive trend was clouded by a fatal accident to one of our contractor's employees at a power plant construction site in Poland.

The number of uncontained spills decreased from 23 to 16, but the number of fires requiring fire brigade action increased from 10 to 14. The incidents did not have any significant impact on the environment.

In order to continue to improve the safety of nuclear power plants, we pursued the severe accident management programme at the Loviisa power plant. During the year, we introduced a new emergency control room, which is used only in a highly improbable nuclear fuel meltdown accident, and, at unit one, we made modifications to secure the external cooling of the reactor pressure vessel.

### Sulphur and nitrogen emissions under control

We have made significant investments in the decrease of sulphur and nitrogen emissions at our production plants. As a result, specific emissions per production have decreased substantially. We use the best available technology in the desulphurisation and denitrification of flue gases, and foresee no

major investment in the next few years. It is possible that further measures to decrease emissions will be required at the Naantali refinery and at the Haapavesi power plant in Finland, and at the Kohtlajärve power plant in Estonia.

We made effective use of by-products in heat and power generation: 77% of ash and 100% of gypsum were reused, as was 100% of sulphur, a by-product of oil refining. In 2000, the sales of our by-products earned us about EUR 0.9 million. The reuse of by-products also saves waste management costs.

### Regulatory compliance

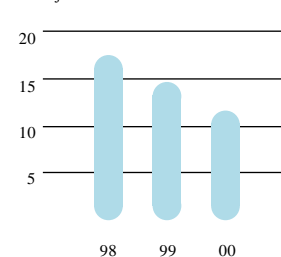
During the year, with the exception of a few minor infringements, the operation of our production plants complied with valid permits and other environmental regulations. No verified impact on the environment or on human health ensued and no financial consequences resulted to the company. We have taken corrective measures to prevent these non-conformances from recurring.

### EHS investments increased

In 2000, our EHS investment amounted to EUR 47 million, and the annual operating costs totalled about EUR 55 million. These include costs related to air pollution control, soil protection, effluent treatment, waste management, fire abatement, process and occupational safety activities, and occupational health care. Our most significant investments included the boiler conversion of the Joensuu power plant and the closed-loop cooling system of the Naantali refinery in Finland.

The estimated investment in 2001 required to maintain regulatory compliance is EUR 12 million.

Lost workday injuries  
injuries/million hours worked



## Fortum's energy and material balance 2000

Fortum's energy and material balance gives a rough illustration of our key raw material and energy flows and emissions. Internal electricity and fuel items have been eliminated. Neither does the balance include the share of Birka Energi and other associated companies, nor trading operations.

| Raw materials and fuels           |          | Energy           |     | Emissions into water              |    | Emissions into the air |           |
|-----------------------------------|----------|------------------|-----|-----------------------------------|----|------------------------|-----------|
| >                                 |          | >                |     | V                                 |    | ^                      |           |
| Crude oil, mill. t                | 10.7     | Heat, TWh        | 3.6 | Heat emissions, TWh               | 23 | CO <sub>2</sub> , t    | 9,000,000 |
| Other feedstocks, mill. t         | 2.2      | Electricity, TWh | 15  | Waste water, mill. m <sup>3</sup> | 16 | SO <sub>2</sub> , t    | 23,000    |
| Liquefied petroleum gas, mill. t  | 0.5      |                  |     |                                   |    | NO <sub>x</sub> , t    | 24,000    |
| Natural gas, mill. m <sup>3</sup> | 1,240    |                  |     |                                   |    | VOC, t                 | 6,300     |
| Coal, mill. t                     | 0.7      |                  |     |                                   |    | Particles, t           | 1,900     |
| Peat, mill. t                     | 1        |                  |     |                                   |    |                        |           |
| Biofuels, mill. t                 | 1.3      |                  |     |                                   |    |                        |           |
| Other fuels, mill. t              | 0.5      |                  |     |                                   |    |                        |           |
| Uranium, mill. t                  | 0.000027 |                  |     |                                   |    |                        |           |



We paid a total of EUR 218 million of various environment-based taxes and fees in Finland. The most significant items were additional tax on motor fuels and taxes on fuels used in heat generation. The tax basis for 2001 remains unchanged.

Financial instruments is one possible way of controlling climate policy. This was studied when the Finnish national climate programme was prepared. So far, we have no basis to estimate whether financial instruments will be introduced in Finland, and if so, what kind of impact it may have on our business.

### Environmental risks relating to economy under control

We have evaluated the environmental liabilities related to our past actions and made the necessary provisions, in line with our accounting principles, for any future remedial cost relating to environmental damage. The management is not aware of any cases that would have a material impact on our financial position.

We systematically apply various risk management mechanisms in connection with acquisitions and disposals. In our contracts, environmental liabilities are defined in detail to avoid any unexpected claims for damages. The environmental risk position of our contracts has no significant impact on company economy.

In accordance with the Nuclear Energy Act of Finland, we make provisions for future costs which will arise from nuclear waste management. By the end of 2000, the cost of handling and disposing of accumulated nuclear waste and the decommissioning of the Loviisa power plant was estimated at EUR 489 million. Of this, we have contributed EUR 486 million to the Nuclear Waste Disposal Fund in line with the fund's payment programme.

As determined by Finnish legislation, our liability in the event of a nuclear accident amounts to some EUR 290 million, which is covered by statutory insurance. Our minority interests in the Swedish and German nuclear power companies owned by our subsidiaries do not involve any economic liability for nuclear damages.

### Better EHS management

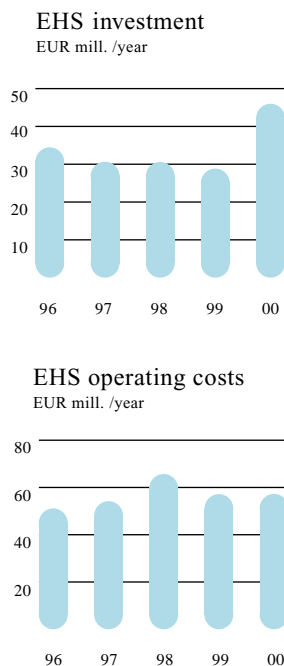
In spring, Fortum's Board of Directors approved our environmental, health and safety programme, which specifies the Group's strategic objectives and firm targets of our EHS operations for the next few years. The six strategic objectives of our EHS programme are:

- ensuring that our safety level is top class
- turning the climate issue to business opportunities
- creating eco-competitiveness
- exemplary EHS management
- Fortum personnel taking pride in our way of handling EHS issues
- stakeholders trusting in us.

### Recognition to environmental reporting

The only way we can maintain stakeholder trust is to show that we implement the set targets and to report openly on any successes and setbacks.

In 2000, our environmental communication received two significant recognitions from outside the Group: the 1998 environmental report of our Oil and Gas sector was chosen as the best European environmental report, and Fortum's 1999 annual report was the best Finnish annual report in respect of environmental reporting.



#### Waste

|                                             |                      |
|---------------------------------------------|----------------------|
| Conventional waste, t                       | 24,000               |
| Recyclable waste, t                         | 26,000               |
| Hazardous waste, t                          | 36,000 <sup>1)</sup> |
| Low- and medium-level waste, m <sup>3</sup> | 190                  |
| Spent radioactive fuel, t                   | 27                   |

<sup>1)</sup>includes contaminated soil

#### By-products

|            |         |
|------------|---------|
| Ash, t     | 240,000 |
| Gypsum, t  | 21,000  |
| Sulphur, t | 46,000  |

#### Products

|                             |     |
|-----------------------------|-----|
| Petroleum products, mill. t | 13  |
| Other products, mill. t     | 0.4 |
| Electricity, TWh            | 34  |
| Heat, TWh                   | 12  |

# Corporate Governance

## Corporate Governance

Fortum complies with the legislation and the application guidelines on the administration of public listed companies, issued by the Central Chamber of Commerce of Finland and the Confederation of Finnish Industry and Employers. We also observe the Guidelines for Insiders issued by the Helsinki Exchanges.

Fortum Group comprises the parent company, Fortum Corporation, and its wholly-owned subgroups, the parent companies of which are Fortum Oil and Gas Oy and Fortum Power and Heat Oy. The management of Fortum Corporation is responsible for the management of the entire group.

In 2000, the Group's business was divided into four sectors: Oil and Gas, Power and Heat, Engineering, and Service. The sectors were divided further into 30 performance units, whose performance can be clearly measured. In spring 2001, the business structure was changed.

The decision-making bodies running the Group's administration and operations are the annual general meeting, Supervisory Board, Board of Directors and the President and Chief Executive Officer.

## Supervisory Board

The Articles of Association specify that the Supervisory Board should comprise a minimum of ten and a maximum of 20 members; the current number is 15. The members are elected at the annual general meeting for a one-year term of office. The Supervisory Board meetings are also attended by four employee representatives, who are not members of the Supervisory Board.

The main tasks of the Supervisory Board are to supervise the administration of the company; to discuss issues that involve a substantial downsizing or expansion of the business or a material modification to the

organisation; and to select the Chairman and other members of the Board of Directors. In addition, the Supervisory Board appoints, on the recommendation of the Board of Directors, the President and CEO of the company and decides on the terms and conditions of his employment. As a rule, the Supervisory Board convenes every other month.

## Board of Directors

According to the Articles of Association, the Board of Directors comprises five to seven members. Currently the Board numbers six, and its members are appointed for a calendar year. As a rule, the Board of Directors convenes six times a year.

The Board of Directors is responsible for the administration of the Group and for ensuring that the business complies with the relevant rules and regulations, Fortum's Articles of Association, and the instructions given by the annual general meeting and the Supervisory Board.

The Board of Directors is responsible for the company's strategic development and for supervising and steering the business. It also decides on the Group's key operating principles; confirms the company's annual operating plan, annual financial statements, and interim reports; decides on major investments; confirms the company's ethical values and operating principles and oversees their implementation; appoints deputies to the President and CEO and the immediate subordinates to the President and CEO, and decides on their remuneration; confirms the Corporate Executive Committee and the Group's organisational and operating structure at top management level; and defines the company's dividend policy.

The Executive Chairman of the Board, together with the President and CEO, prepares matters relating to the Group's strategy, development of corporate structure, and co-operation projects for the Board of Directors.

The Board of Directors has appointed an audit committee, and a nomination and compensation committee. The members of these committees are all non-executive. The audit committee monitors the company's financial statements, interim reports and auditors' reports, and monitors and assesses the Fortum-wide internal supervision system and internal audit.

The nomination and compensation committee discusses, assesses and gives suggestions on the Group's, and its management's, pay structures, bonus and incentive systems, and contributes to nomination issues.

The audit committee is chaired by Heikki Pentti, and the members are Birgitta Kantola and Erkki Virtanen.

The nomination and compensation committee is chaired by L.J.Jouhki, and the members are Olli-Pekka Kallasvuo and Heikki Pentti.

### President and CEO, and Group management

The role of the President and CEO is to manage the Group's business and administration in accordance with the Companies Act of Finland and the instructions of the Board of Directors. The President and CEO is supported by the Corporate Executive Committee, which is shown on page 42.

### The remuneration and shareholdings of the Supervisory Board, the Board of Directors, and the President and CEO

The salary and remuneration of members of the Supervisory Board and the Board of Directors for 2000 totalled EUR 620 thousand. The salary of the Executive Chairman of the Board, including fringe benefits, totalled EUR 220 thousand, and the salary of the President and CEO, including the fringe benefits, was EUR 190 thousand (4 months).

The Executive Chairman of the Board and the President and CEO are paid performance bonuses, in addition to their salary and fringe benefits, the size of which is dependent on the Group's financial performance and success in reaching its goals. The bonus may not exceed 30% of the person's annual salary. No other remunerations were paid to the members of the Board.

Fortum Corporation's shares and stock options held by the members of the Supervisory Board, the Board of Directors and the President and CEO on 31 December 2000 are listed in the adjacent table.

Fortum has not granted loans to the members of the Board. Nor do Board members or other representatives of the management have any essential business relations with the company.

### Auditing

The internal auditing function, which reports to the Board of Directors and the President and CEO, assures that we operate in compliance with the relevant rules and regulations as well as with the Group's operating principles. This function also ensures that the company's risk management is arranged at optimum effectiveness.

The companies of the Group are audited by PricewaterhouseCoopers; Pekka Kaasalainen, authorised public accountant, has the principal responsibility.

### Bonus and incentive systems

The management stock option scheme, and a bond loan with warrants targeted at personnel, support the achievement of our long-term goals. More details are in the official financial statements.

An annual bonus and incentive system, designed to support the achievement of our short-term goals, is employed throughout the Group. The criteria used in determining the size of the bonus are confirmed annually by the Board of Directors on the recommendation of the compensation committee. The criteria on the basis of which the employees' progress in reaching their personal goals are recognised, are mutually agreed by the employee and his/her superior in an annual performance and appraisal discussion. The criteria are approved by the person to whom the superior reports.

The Fortum Personnel Fund (for Finnish employees only) pays profit-sharing bonuses to fund members with effect from 2000, but not to those eligible for management stock options. The criteria for the bonuses are determined by the Board of Directors on the basis of the Group's annual results.

### Shareholdings and stock options as of 31 December 2000

|                   | No. of shares | No. of stock options |
|-------------------|---------------|----------------------|
| Matti Vanhanen    | 351           |                      |
| Krister Ahlström  | 4,750         |                      |
| Jaakko Ihamuotila | 13,926        | 100                  |
| L.J. Jouhki       | 8,006         |                      |
| Heikki Pentti     | 546           |                      |
| Matti Vuoria      | 8,370         | 350                  |
| Mikael Lilius     |               | 350                  |
| Eero Aittola      | 1,370         | 250                  |

## Board of Directors



*Matti Vuoria*, Master of Laws, born 1951, Executive Chairman. Mr Vuoria is a director of a number of companies, including Danisco A/S and The European Renaissance Fund Limited, and is Chairman of Solidium Oy.



*Krister Ahlström*, MSc (Eng), born 1940, Deputy Chairman until 31 December 2000. Mr Ahlström is a director of a number of companies. He is Chairman of MNB Maizels Group, Deputy Chairman of Stora Enso Oyj, and member of the Supervisory Board of Merita Bank Plc.



*L.J. Jouhki*, MSc (Econ), born 1944, Deputy Chairman. Mr Jouhki is Chairman of Thominvest Oy and Finnlines Plc, and is a director of Oyj Hartwall Abp, Sanoma-WSOY Corporation and UPM-Kymmene Corporation. He is also a member of the Supervisory Board of Merita Bank Plc.



*Jaakko Ihamuotila*, MSc (Eng), DTech hc, born 1939, Executive Member until 1 September 2000 and a member of the Board of Directors until 31 December 2000. Mr Ihamuotila is a director of a number of companies, including Raisio Group plc. He is also a member of the Supervisory Board of Merita Bank Plc.



*Birgitta Kantola*, Master of Laws, born 1948. In the period from 1995 to 2000, Ms Kantola was Vice President and CFO of International Finance Corporation (Washington D.C.). Today she is a director of Vasakronan AB and Akademiska Hus AB.



*Olli-Pekka Kallasvuo*, Master of Laws, born 1953. Mr Kallasvuo is Executive Vice President, Chief Financial Officer and a member of Nokia Group Executive Board. He is Chairman of a number of companies, including Nextrom Holding S.A (Switzerland), Nokian Tyres plc and F-Secure Corporation. He is also a director of Finnish Broadcasting Company and, in the period 1991-1996, was a Board member and Chairman of Helsinki Stock Exchange Ltd.



*Heikki Pentti*, BSc (Econ), born 1946. Mr Pentti is Chairman of Lemminkäinen Oyj, member of the Supervisory Boards of Talentum Oyj and Merita Bank Plc, and is a director of Myllykoski Corporation.



*Erkki Virtanen*, MSc (Social Sciences), born 1950, Secretary General of the Ministry of Trade and Industry. Mr Virtanen is Deputy Chairman of Patria Industries Oyj and Sitra, Finnish National Fund for Research and Development.

## Corporate Executive Committee



*From left to right:*

*Juha Laaksonen, Eero Aittola, Veli-Matti Ropponen, Mikael Lilius, Tapio Kuula, Carola Teir-Lehtinen, Harri Pynnä, and Kari Huopalahti*

*Mikael Lilius*, BSc (Econ), born 1949, President and Chief Executive Officer, Chairman of the Corporate Executive Committee since 1 September 2000.

*Eero Aittola*, BSc (Econ), born 1942, Group Executive Vice President, Fortum's President and CEO 10 March – 31 August 2000.

*Kari Huopalahti*, MSc (Eng), born 1947, Senior Vice President, Corporate Development.

*Tapio Kuula*, MSc (Eng), MSc (Econ), born 1957, President, Power and Heat sector.

*Juha Laaksonen*, BSc (Econ), born 1952, Senior Vice President, Chief Financial Officer.

*Veli-Matti Ropponen*, MSc (Eng), BSc (Econ), born 1949, President, Oil and Gas sector.

*Carola Teir-Lehtinen*, MSc, born 1952, Senior Vice President, Corporate Communications.

*Harri Pynnä*, Master of Laws, born 1956, Senior Vice President, Corporate Legal Affairs, Secretary to the Corporate Executive Committee.

# Other Management

28 February 2001

## Oil and Gas sector

President *Veli-Matti Ropponen*  
Oil Retail, Finland, *Matti Peitso*  
Oil Retail, Baltic Rim, *Kai Laurén*  
Refining and Wholesale, *Risto Rinne*  
Nynäs Petroleum, *Måns Collin*  
Lubricants, *Veli-Pekka Helander*  
Base Oils, *Ilkka Poranen*  
Components, *Risto Näsi*  
Exploration & Production, *Hans Kristian Rød*  
Natural Gas, *Tapio Harra*  
LP Gas Supply and Trading, *Per-Erik Wallgren*  
LP Gas Distribution, *Ingmar Dahlblom*  
Energy House, *Rauno Kallonen*

## Power and Heat sector

President *Tapio Kuula*  
Power Portfolio Management and Trading, *Timo Karttinen*  
Generation, *Jussi Helske*  
Birka Energi, *Tomas Bruce*  
Distribution, *Tapio Lehtisalo*  
Heat, *Risto Riekkö*  
P&H, UK and RoI, *Esko Salosaari*  
P&H, Continental Europe, *Esko Salosaari*  
P&H, Emerging Markets, *Matti Kangas*  
Technology, *Esa Lecklin*

## Service sector

President *Pekka Päättiläinen*  
O&M Finland, *Matti Suikkanen*  
O&M Scandinavia, *Pekka Päättiläinen*  
Maintenance, *Tapio Kelo*  
O&M International, *Erkki Päivärinta*

## Engineering sector

President *Anders Palmgren*  
Power Plant Engineering, *Eero Auranne*  
Oil, Gas and Chemicals Engineering, *Kim Kronstedt*  
Transmission Engineering, *Pekka Salo*

## Other Performance Units

Fortum Data, *Kari Keskiivari*  
Fortum Support, *Eero Maijala*

## Corporate Staff

Technology, *Tapio Alvesalo*  
Information Technology, *Jouni Keronen*  
Environment, Health and Safety, *Arja Koski*  
Investor Relations, *Raija Norppa-Rahkola*  
Internal Audit, *Päivi Pesola*

## Supervisory Board

*Ben Zyskowicz*, born 1954, Member of Parliament, Deputy Chairman  
*Henrik Aminoff*, BSc (Econ), born 1945, Assistant Director, Metsä-Serla, Paper Group  
*Tuija Brax*, born 1965, Member of Parliament  
*Kaarina Dromberg*, born 1942, Member of Parliament  
*Klaus Hellberg*, born 1945, Member of Parliament  
*Harri Holkeri*, born 1937, President of the UN General Assembly  
*Mikko Immonen*, born 1950, Member of Parliament  
*Kyösti Karjula*, born 1952, Member of Parliament  
*Tanja Karpela*, born 1970, Member of Parliament  
*Kari Laitinen*, born 1950, Party Secretary  
*Jouko K. Leskinen*, Master of Laws, born 1943  
*Leena Luhtanen*, born 1941, Member of Parliament  
*Pekka Tuomisto*, Master of Laws, born 1940  
*Matti Vanhanen*, born 1955, Member of Parliament  
*Sirkka Vilkamo*, born 1951, Head of Energy, Efficiency and Technology Division, Ministry of Trade and Industry

## In 2000, the following members resigned from the Supervisory Board

*Ilkka-Christian Björklund*, Licentiate of Social Sciences, born 1947, Chairman of the Supervisory Board, following the appointment as Deputy Mayor of the City of Helsinki  
*Ville Itälä*, born 1959, Member of Parliament, following membership in the Finnish Government

## Employee Representatives

*Risto Heino*, managers and professionals  
*Tapio Lamminen*, workers  
*Pentti Paajanen*, workers  
*Eero Pollari*, technical professionals

# Glossary

## Barrel

A crude oil barrel; 159 litres.

## By-products

In power generation, products such as ash and gypsum produced during the cleaning of flue gases.

## Bioenergy

Biomass is organic vegetable mass which is a result of photosynthesis. Fuels made of biomass are called biofuels. Biomass also includes municipal and industrial waste suitable for energy production, most of which is of organic origin. Energy generated from biofuels is called bioenergy. Bioenergy is carbon dioxide neutral energy because the CO<sub>2</sub> released from it is quickly bound to vegetation.

## Bubbling fluidised bed combustion

Combustion technology in which the combustion takes place in a fluidised state, which is produced by blowing gas through a layer of granular material, for example, sand. The technology is suitable for the combustion of difficult fuels.

## Catalyst

A substance used to promote, accelerate, or modify a chemical reaction without itself taking part in the reaction. A catalyst is usually a metal or a metallic oxide used for removing nitrogen oxide from the flue gases of power plants and from the exhaust gases of motor vehicles.

## Condensing power

Electric energy that is generated by condensing steam produced by cooling water without using the thermal energy contained in the steam.

## Efficiency

The ratio of the effective power obtained to the power utilised. The proportion of the total energy contained in fuels that becomes available in the form of electricity and heat.

## EHVI

Enhanced High Viscosity Index is a term used for an oil, the product qualities of which correspond mostly to the qualities of synthetic base oils. The chemical structure of the oil may vary from one production process to another.

## EIA

Environmental Impact Assessment. The assessment of the environmental impact of a planned project.

## Esters

High-quality base oils which are either fully-synthetic or made of biocomponents. Made of, for example, oxoalcohols, rapeseed oil or tall resin oil.

## Fossil fuel

Fuel derived from ancient, buried organic matter, such as coal, crude oil, and natural gas.

## Low-NOx technology

Nitrogen oxide emissions in combustion can be reduced by preventing their formation or by breaking down the nitrogen oxides already formed. The means include low-NOx burners, the staging of combustion air and fuel feeding, and a reduction in temperature.

## Mineral oil

A product of conventional oil refining which is still widely-used.

## MTBE

A gasoline component which contains oxygen and promotes cleaner combustion.

## PAO, polyalphaolefin

Synthetic base oil used in the manufacture of high-quality lubricants.

## Refuse-derived fuel, RDF

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

## Renewable energy sources

Renewable energy sources include solar, wind, hydro and bioenergy and geothermal energy, as well as energy generated from waves and the movement of the tides.

## Specific emissions

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

## Synthetic oil

A highly-refined product of oil refining or the petrochemical industry, the product qualities of which are markedly better than those of mineral oil.

## VHVI

Very High Viscosity Index is a term used for an oil, the product qualities of which mostly correspond to the qualities of synthetic base oils. The chemical structure of the oil may vary from one production process to another.

## 1 MW

(megawatt) = 1,000 kW (kilowatt) = 1,000,000 W (watt); units of power; the power of a normal incandescent lamp is 25 to 100 W.

## 1 TWh

(terawatt-hour) = 1,000 GWh (gigawatt-hour) = 1,000,000 MWh (megawatt-hour) = 1,000,000,000 kWh (kilowatt-hour); units of energy; an incandescent lamp of 100 watts consumes 0.1 kWh of energy an hour.

## 1 TJ

(terajoule) = 1,000,000 MJ (megajoule); units of energy, generally used when speaking of the energy content of fuels.



# Banks and Investment Bankers Following Fortum

## Alfred Berg Finland Oy

tel.int. +358 9 228 321  
Kluuvikatu 3  
FIN-00100 Helsinki  
Finland

## ArosMaizels Oy

tel.int. +358 9 12341  
Fabianinkatu 29 B  
FIN-00100 Helsinki  
Finland

## D. Carnegie Ab Finland Branch

tel.int. +358 9 6187 1200  
Eteläesplanadi 12  
FIN-00130 Helsinki  
Finland

## Conventum Securities Limited

tel.int. +358 9 549 9300  
Aleksanterinkatu 44  
FIN-00100 Helsinki  
Finland

## Dresdner Kleinwort Benson

tel.int. +44 171 623 8000  
P.O. Box 560  
London EC3P 3DB  
U.K.

## Deutsche Bank AG, Helsinki Branch

tel.int. +358 9 2525 25  
P.O. Box 650  
FIN-00101 Helsinki  
Finland

## Enskilda Securities AB

tel.int. +358 9 6162 8900  
P.O. Box 599  
FIN-00101 Helsinki  
Finland

## Evli Securities Plc

tel.int. +358 9 476 690  
P.O. Box 1081  
FIN-00101 Helsinki  
Finland

## Handelsbanken Markets

Investment Banking  
tel.int. +358 10 44 411  
P.O. Box 315  
FIN-00131 Helsinki  
Finland

## Mandatum Stockbrokers Ltd

tel.int. +358 9 166 721  
P.O. Box 117  
FIN-00121 Helsinki  
Finland

## Morgan Stanley Dean Witter & Co

tel.int. +44 171 425 8000  
25 Cabot Square, Canary Wharf  
London E14 4QA  
U.K.

## Opstock Investment Banking

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