NORSK HYDRO A S A
Form 20-F
March 17, 2003

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

**Washington, D.C. 20549**

# FORM 20-F

O **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934**

**OR**

X **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For The Fiscal Year Ended December 31, 2002**

**OR**

O **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the transition period from _____ to _____**

**Commission file number: 1-9159**

# NORSK HYDRO ASA

**(Exact name of Registrant as specified in its charter)**
**Kingdom of Norway**
**(Jurisdiction of incorporation or organization)**
**Bygdøy allé 2**
**N-0240 OSLO 2**
**Norway**
**(Address of principal executive offices)**

Securities registered or to be registered pursuant to Section 12(b) of the Act:

| Title of each class | Name of each exchange on which registered |
|---|---|
| American Depositary Shares | New York Stock Exchange |
| Ordinary Shares, par value NOK 20 per share | New York Stock Exchange* |

* Not for trading, but only in connection with the registration of the American Depositary Shares, pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: Ordinary Shares, par value NOK 20 per share.

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the period covered by the annual report.

257,960,532 Ordinary Shares, par value NOK 20 per share

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes **X** No **O**

Indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 **O** Item 18 **X**

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In this Annual Report on Form 20-F, references to the Company are to Norsk Hydro ASA. References to Hydro or the Group are to the Company and its consolidated subsidiaries. References to the Kingdom are to the Kingdom of Norway. **See Item 4.B. Information on the Company Business Overview - Exploration and Production Appendix A** for the definitions of key oil and gas terms used in this Annual Report and the glossary at the end of this Annual Report for the definitions of certain other terms used throughout this Annual Report.

**EXCHANGE RATES**

The Company publishes its consolidated financial statements in Norwegian kroner ( **NOK** ). In this Annual Report, references to US dollar, US dollars, USD or $ are to United States dollars. The following tables set forth, for the periods indicated, certain information concerning the exchange rate of Norwegian kroner for USD 1.00, based on the noon buying rate in the City of New York for cable transfers in foreign currencies as certified for customs purposes by the Federal Reserve Bank of New York (the **Noon Buying Rate"**):

| Calendar Year Period | Average Noon Buying Rate (1) |
|---|---|
| 1998 | 7.56 |
| 1999 | 7.84 |
| 2000 | 8.83 |
| 2001 | 9.00 |
| 2002 | 7.93 |

| | Noon Buying Rate | |
|---|---|---|
| Calendar Monthly Period | High | Low |
| September 2002 | 7.60 | 7.41 |
| October 2002 | 7.65 | 7.39 |
| November 2002 | 7.40 | 7.22 |
| December 2002 | 7.31 | 6.94 |
| January 2003 | 7.00 | 6.83 |
| February 2003 | 7.20 | 6.91 |

(1) The average of the Noon Buying Rates on the last business day of each calendar month during the year indicated.

The Noon Buying Rate on February 26, 2003 was NOK 7.08 = $1.00.

Fluctuations in the exchange rate between the Norwegian kroner and the US dollar will affect the US dollar equivalent of the Norwegian kroner price of the Company s ordinary shares on the Oslo Stock Exchange and, as a result, are likely to affect the market price of the Company s ordinary shares represented by American depositary shares ( **ADSs"**) in the United States. Such fluctuations could also affect the US dollar amounts received by holders of ADSs on conversion of cash dividends, paid by the Company in Norwegian kroner, on the ordinary shares represented by the ADSs. **See Item 3.A. Selected Consolidated Financial Data** and **Item 10.B. Articles of Association Description of American Depositary Receipts Dividends and Other Distributions.**

## PART I

### ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

In accordance with the instructions to Form 20-F, the Company does not need to provide the information called for by Item 1 if, as is the case in this instance, the Form 20-F is being filed as an annual report under the Securities Exchange Act of 1934, as amended (the **Exchange Act** ).

### ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

In accordance with the instructions to Form 20-F, the Company does not need to provide the information called for by Item 2 if, as is the case in this instance, the Form 20-F is being filed as an annual report under the Exchange Act.

### ITEM 3. KEY INFORMATION

### ITEM 3.A. SELECTED CONSOLIDATED FINANCIAL DATA

The following financial information with respect to the five years ended December 31, 2002, and as of December 31, 2001, 2000, 1999, and 1998 has been derived from Hydro s audited consolidated financial statements prepared in accordance with United States generally accepted accounting principles ( **USGAAP** ). The financial information for the three years ended December 31, 2002, and as of December 31, 2001 and 2000, should be read in conjunction with and is qualified in its entirety by reference to the consolidated financial statements and notes included in the Company s annual report to shareholders for the year ended December 31, 2002 (the **Consolidated Financial Statements** ), incorporated by reference into this Annual Report on Form 20-F.

**Income Statement Data** [1]

| | Year ended December 31, | | | | |
|---|---|---|---|---|---|
| | 2002 | 2001 | 2000 | 1999 | 1998 |
| | (in NOK million, except per share data) | | | | |
| Operating revenues [2] | 162,936 | 152,835 | 156,861 | 111,955 | 105,784 |
| Operating costs and expenses excluding depreciation, impairment and restructuring charges [2] | 129,193 | 118,518 | 115,722 | 93,094 | 92,446 |
| Depreciation | 13,912 | 12,273 | 12,538 | 10,494 | 7,508 |
| Restructuring charges | (10) | 961 | 135 | 632 | |
| Operating income before financial and other items | 19,841 | 21,083 | 28,466 | 7,735 | 5,830 |
| Financial and other income (expense) [3] | 1,670 | 3,991 | 5,580 | 3,193 | 2,230 |
| Earnings before interest expense and taxes (EBIT) | 21,511 | 25,074 | 34,046 | 10,928 | 8,060 |
| Interest expense and foreign exchange gain (loss) | 517 | (3,609) | (3,905) | (3,055) | (2,229) |
| Income before taxes and minority interest | 22,028 | 21,465 | 30,141 | 7,873 | 5,831 |
| Provision for taxes | (13,278) | (13,750) | (16,178) | (4,337) | (1,979) |
| Minority interest | 15 | 177 | 18 | (90) | (98) |
| Income (loss) before cumulative effect of accounting changes | 8,765 | 7,892 | 13,981 | 3,446 | 3,754 |
| Cumulative effect of accounting change for: | | | | | |
| Start-up costs | | | | (30) | |
| Net income (loss) | 8,765 | 7,892 | 13,981 | 3,416 | 3,754 |
| Earnings (loss) per share: | | | | | |
| Before cumulative effect of accounting changes | 34.00 | 30.50 | 53.40 | 13.90 | 16.40 |
| Cumulative effect of accounting changes | | | | (0.10) | |
| Earnings (loss) per share: | 34.00 | 30.50 | 53.40 | 13.80 | 16.40 |
| Avg. number of outstanding ordinary shares | 257,799,411 | 258,434,202 | 261,620,982 | 247,045,270 | 229,072,674 |
| Cash dividends paid per share during period: | | | | | |
| NOK per share [4] | 10.00 | 9.50 | 8.00 | 7.50 | 7.50 |
| Converted into USD per share [4] | 1.24 | 1.05 | 0.90 | 0.94 | 0.99 |

(1) See Note 2 to the Consolidated Financial Statements for a discussion of significant business acquisitions and dispositions during the three-year period ended December 31, 2002.

(2) As of fiscal year 2000, operating revenues for certain trading activities have been presented on a gross basis in the income statement. Prior years amounts have been restated to reflect the change. As a result, operating revenues and operating costs have increased by NOK 9,522 million in 1999 and NOK 8,316 million in 1998. As of fiscal year 1998, operating revenues and operating costs related to some of Hydro s aluminum remelt activities have been presented on a gross basis in the income statement. In prior years, such revenues and costs were presented on a net basis in the income statement and included in operating revenues. Prior years amounts have been restated to reflect the change.

(3) Equity in net income of non-consolidated investees is included under Financial and other income (expense).

(4) Cash dividends paid during the period represent payments of dividends with respect to the previous year. Amounts paid in Norwegian kroner have been converted at prevailing exchange rates on the date of such payments.

**Balance Sheet Data** [1]

| | 2002 | 2001 | As of December 31, 2000 (in NOK million) | 1999 | 1998 |
|---|---|---|---|---|---|
| Cash, cash equivalents and other liquid assets | 8,612 | 29,569 | 24,257 | 9,970 | 4,429 |
| Total assets | 207,211 | 197,922 | 196,354 | 177,419 | 124,023 |
| Short-term debt | 9,264 | 10,424 | 11,297 | 8,268 | 6,737 |
| Long-term debt | 30,902 | 37,853 | 40,174 | 42,228 | 24,105 |
| Deferred tax liabilities | 37,071 | 31,429 | 31,644 | 30,573 | 18,645 |
| Ordinary shares and additional paid-in capital | 20,420 | 20,402 | 20,391 | 20,387 | 8,784 |
| Total shareholders equity | 75,867 | 74,793 | 71,227 | 59,497 | 48,291 |

[1] See Note 2 to the Consolidated Financial Statements for a discussion of significant business acquisitions and dispositions during the three-year period ended December 31, 2002.

**Segment Data**

The following table indicates the Group s operating revenues, sales to unaffiliated customers and operating income (after eliminating intersegment sales) by business segment for each of the three fiscal years in the period ended December 31, 2002.

| | Operating Revenues | | | Sales to Unaffiliated Customers | | | Operating Income/(loss) before fin. and other income | | |
|---|---|---|---|---|---|---|---|---|---|
| **Year ended December 31** | **2002** | **2001** | **2000** | **2002** | **2001** | **2000** | **2002** | **2001** | **2000** |
| **Business Segment (1)** | | | | | | | | | |
| Exploration and Production | 34,009 | 33,282 | 35,494 | 11,175 | 7,848 | 9,436 | 14,329 | 17,813 | 20,108 |
| Energy and Oil Marketing [2] | 39,780 | 43,959 | 45,500 | 35,795 | 39,450 | 40,837 | 1,592 | 1,365 | 1,669 |
| Eliminations | (22,048) | (25,225) | (25,871) | 26 | | | 26 | | 27 |
| Hydro Oil and Energy | 51,741 | 52,016 | 55,123 | 46,996 | 47,298 | 50,273 | 15,947 | 19,178 | 21,804 |
| Metals [2] | 39,646 | 31,475 | 30,483 | 26,025 | 24,961 | 24,177 | 1,690 | 372 | 2,690 |
| Rolled Products | 14,790 | 4,228 | 4,221 | 14,135 | 4,126 | 4,122 | (295) | 58 | (3) |
| Extrusion and Automotive | 24,245 | 22,487 | 23,031 | 24,186 | 21,854 | 22,491 | 14 | (228) | 650 |
| Other and Eliminations [3] | (13,630) | (7,107) | (6,605) | 162 | 1 | 17 | 289 | (17) | (1) |
| Hydro Aluminium | 65,051 | 51,083 | 51,130 | 64,508 | 50,942 | 50,807 | 1,698 | 185 | 3,336 |
| Hydro Agri | 33,348 | 37,407 | 36,607 | 32,818 | 36,809 | 35,756 | 2,207 | 2,114 | 1,303 |
| Other Activities [4] | 21,769 | 22,361 | 24,749 | 17,988 | 17,713 | 19,911 | 13 | (341) | 208 |
| Corporate and Eliminations[5] | (8,973) | (10,032) | (10,748) | 626 | 73 | 114 | (24) | (53) | 1,815 |
| Total | 162,936 | 152,835 | 156,861 | 162,936 | 152,835 | 156,861 | 19,841 | 21,083 | 28,466 |

[1] See Note 2 to the Consolidated Financial Statements for a discussion of significant business acquisitions and dispositions during the three-year period ended December 31, 2002.

[2] Presentation of income from certain trading activities was in 2000 changed from net presentation of margin to gross presentation as operating revenues and raw materials. This included metal trading within Metals and trading of petroleum products within Energy. Prior periods have been reclassified to be presented on a consistent basis.

[3] Other and Eliminations includes unrealized gains and losses related to London Metal Exchange (LME) contracts with a gain of NOK 266 million in 2002, a loss of NOK 50 million in 2001 and a gain of NOK 31 million in 2000.

[4] Other Activities consists of the following: Petrochemicals, Treka AS (previously A/S Korn- og Foderstof Kompagniet, or KFK), Flexible Packaging, Pronova, the industrial insurance company, Industriforsikring, Hydro Business Partner and Seafood.

[5] Corporate and Eliminations operating income (loss) includes net periodic pension credits of NOK 312 million for 2002, and a credit of NOK 421 million and NOK 2,263 million in 2001 and 2000, respectively. In 2000, Hydro changed the way it allocates pension costs to its Norwegian operations. Previously, costs were determined based on the number of years of service resulting in a concentration of the total costs towards the end of the service period. The change resulted in non-recurring charges to the segments with a corresponding credit of NOK 2,007 million reflected in Corporate results, which is part of the net periodic pension credit. Part of these pension costs has been charged to external parties resulting in a positive effect to the Company s operating income of NOK 470 million in 2000. Corporate and Eliminations in 2002 included elimination of unrealized loss on power contracts between Energy and other units in Hydro in the amount of NOK 588 million. In addition, NOK 26 million was eliminated within the Oil and Energy area.

**ITEM 3.B. CAPITALIZATION AND INDEBTEDNESS**

In accordance with the instructions to Form 20-F, the Company does not need to provide the information called for by Item 3.B. if, as is the case in this instance, the Form 20-F is being filed as an annual report under the Exchange Act.

**ITEM 3.C. REASONS FOR THE OFFER AND USE OF PROCEEDS**

In accordance with the instructions to Form 20-F, the Company does not need to provide the information called for by Item 3.C. if, as is the case in this instance, the Form 20-F is being filed as an annual report under the Exchange Act.

**ITEM 3.D. RISK FACTORS**

In order to utilize the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995, Hydro is providing the following cautionary statement:

This Annual Report contains (and oral communications made by or on behalf of Hydro may contain) forecasts, projections, estimates, statements of management s plans, objectives and strategies for Hydro, such as planned expansions, investments or other projects, targeted production volumes, capacities or rates, start-up costs, cost reductions, profit objectives, and various expectations about future developments in Hydro s markets (particularly prices, supply and demand, and competition), results of operations, margins, risk management and so forth.

These forward-looking statements are based on a number of assumptions and forecasts, including world economic growth and other economic indicators (including rates of inflation and industrial production), trends in Hydro s key markets, and global oil and gas, aluminum and fertilizer supply and demand conditions. Unless Hydro is required by law to update these statements, Hydro will not necessarily update any of these statements after the date of this Annual Report, either to conform them to actual results or events, or to communicate changes in expectations.

By their nature, forward-looking statements involve risk and uncertainty and various factors could cause Hydro s actual results to differ materially from those projected in a forward-looking statement or affect the extent to which a particular projection is realized. Readers are cautioned not to place undue reliance on these forward-looking statements.

The following paragraphs include important factors, although not exhaustive, that may cause actual results or developments to differ materially from those expressed or implied by the forward-looking statements.

**Risks Pertaining to All of Hydro s Principal Businesses**

***Hydro s commodity-based businesses are subject to fluctuations in prices which may reduce operating results***

In the normal course of business, Hydro is exposed to fluctuations in supply and demand, which can have significant effects on commodity prices across essentially all of its core business areas and products oil and gas, electricity, aluminum, magnesium, fertilizer products and petrochemicals and, in turn, Hydro s operating results and profitability. At various times in recent years, including in 2002, markets for one or more of Hydro s main products have been characterized by falling prices, weaker global demand and rising inventories.

Prices for oil and gas are subject to wide fluctuations in response to changes in general economic conditions, changes in the supply of and demand for oil and natural gas, market uncertainty and other factors that are beyond Hydro s control. These factors include political conditions in oil

producing regions, particularly the Middle East as well as the ability of the members of the Organization of Petroleum Exporting Countries (OPEC) to agree and maintain oil price and production controls. The ongoing liberalization process in the European energy market and the emerging short-term market for natural gas in Europe may influence prices and other terms and conditions underlying Hydro s long-term natural gas contracts.

The prices of aluminum, magnesium, fertilizer products and petrochemical products similarly, depend on a number of factors, including general economic conditions, cyclical trends in end-user markets and supply and demand imbalances. A decrease or stagnation in consumption or an increase in overall worldwide production capacity above increases in consumption may lead to an oversupply situation. Oversupply may exist for an extended period because the manufacturing processes are characterized by continuous operations with high fixed costs and therefore are not easily adjusted to lower demand.

***Hydro s expansion of business activities in emerging and transitioning markets presents a higher degree of risk***

Hydro is exposed to general financial, political, economic and business risks in connection with its worldwide operations. In recent years, Hydro has made investments and commenced activities in various emerging markets, including Angola and Brazil. In addition to emerging markets, Hydro has increasing business in transitioning markets including Russia and China. While emerging and transitioning markets offer strong growth potential, they also present a higher degree of risk than more developed markets. In addition to the business risks inherent in developing and servicing new markets, economic conditions may be more volatile, legal systems less developed and predictable, and the possibility of various types of adverse governmental action more pronounced.

Hydro, like other international companies, attempts to conduct its business and financial affairs in emerging and transitioning markets to protect against such political and economic risks. However, unexpected or uncontrollable events or circumstances could have a material adverse effect on Hydro s operations and financial results.

***Hydro is exposed to market and credit risk in its general business operations***

All of Hydro s operating activities extend credit in the normal course of business operations. In addition, Hydro engages in hedging activities in order to reduce exposure to short term swings in the prices of its commodity-based businesses or to hedge its exposure to fluctuations in currencies and interest rates (Please refer to **Item 11. Quantitative and Qualitative Disclosures about Market Risk for further discussion of these matters**). Hydro also enters into long term contracts to secure the price and availability of raw materials and energy for its manufacturing operations. All of these activities contain the risk that one or more counter parties will default on their obligation to Hydro resulting in direct financial losses, unexpected increased market exposures or higher operating costs. Poor or deteriorating economic conditions on a global, regional or industry sector level increase the risk of counter party default.

***Hydro is exposed to the effects of dumping of products by competitors and anti-dumping and countervailing measures applied to the Company s products***

Hydro is subject to the disruptive effects of dumped or subsidized products in markets by producers engaging in unfair competition. Such activities may not result in the application of anti-dumping or countervailing duties and any such duties imposed may be insufficient to eliminate all of the potential negative effects of such practices. In addition, Hydro s shipments to certain markets may be subjected to anti-dumping and/or countervailing duties that could negatively impact Hydro s competitive position.

***Hydro may incur material costs to comply with, or as a result of, health, safety and environmental laws and regulations***

Hydro s operations are subject to complex environmental laws and regulations adopted by the various jurisdictions in which Hydro operates. Hydro could incur liability to governments or third parties for an unlawful discharge of oil, gas or other pollutants into the air, soil or water, including responsibility for remedial costs. Because the requirements imposed by laws and regulations are subject to change, Hydro cannot provide assurance that the laws and regulations enacted in the future, including changes to existing laws and regulations, will not adversely affect its business.

Green house gas regulations or energy taxes in different forms, could affect Hydro s businesses by potentially changing the competitive position of companies in different geographic regions depending on implementation decisions taken by various governments.

In Hydro s capacity as a holder of licenses on the NCS under the Norwegian Petroleum Act of November 29, 1996, Hydro is subject to strict statutory liability in respect of losses or damages suffered as a result of pollution caused by spills or discharges of petroleum facilities covered by such licenses. This means that anyone who suffers losses or damages as a result of pollution caused by operations at any of Hydro s NCS license areas can assert a claim for compensation from Hydro without needing to demonstrate that the damage is due to any fault on Hydro s part. If the pollution is caused by an act beyond Hydro s control, however, a Norwegian court may reduce the level of damages to the extent it considers reasonable. In addition, Hydro s operations in Canada and Angola subject the Company to liability in respect of damages caused by spills or discharges including shipping operations.

In its petrochemicals business, Hydro is a major producer of polyvinyl chloride (PVC). PVC has been the focus of environmental groups due to alleged negative health and environmental effects arising from the production, use and disposal of PVC. Because the requirements imposed by laws and regulations are frequently changed, Hydro cannot provide assurance that the laws and regulations enacted in the future, including changes to existing laws and regulations, will not adversely affect its business.

In addition to environmental laws and regulations affecting its manufacturing operations, Hydro s fertilizer business can be subject to commercial and legislative pressure aimed at reducing the use of mineral fertilizers.

***Fluctuations in currency exchange rates may cause Hydro s financial results to decline***

Hydro s reports its consolidated results and financial position in Norwegian Kroner (NOK) but revenues and costs are denominated in several currencies. Hydro has exposure to changes in currency rates primarily resulting from having net cash inflows (income) denominated in US dollars (or influenced by the US dollar exchange rate) and net cash outflows (primarily fixed costs) in Euro, NOK and several others currencies. This implies that exchange rate fluctuations may negatively affect the competitiveness of activities in countries experiencing appreciation of their currency against the US dollar. To reduce the economic effects of adverse currency changes, Hydro maintains a significant portion of its debt in US dollars. Hydro also has loans in other currencies for similar purposes. If the US dollar declines relative to the NOK, Euro, etc., the value of Hydro s net cash inflow will be reduced. At the same time, the value of the US dollar denominated debt will decline. However, the positive effects of the reduction in debt may be reflected in the accounting results in different time periods.

***Recession, acts of war or terrorism could negatively impact Hydro s business***

The consequences of a prolonged recession and adverse market conditions may include the continued uncertainty of energy prices and the capital and commodity markets and could have a material adverse effect on Hydro s financial condition and results of operations.

Any military strikes or sustained military campaign may affect Hydro s operations in unpredictable ways, and may cause changes in the insurance markets, force the Company to increase security measures and cause disruptions of supplies and markets. The possibility that infrastructure facilities, such as electric generation, transmission and distribution facilities, would be direct targets of, or indirect casualties of, an act of war may affect Hydro s operations. War and the possibility of war may have an adverse impact on the global economy in general. A lower level of economic activity might result in a decline in consumption, which may adversely affect Hydro s revenues and future growth. Instability in the financial markets as a result of war may also affect the Company s ability to raise capital or significantly effect foreign exchange markets.

Further, like other operators of major industrial facilities, Hydro s plants and ancillary facilities may be targets of terrorist activities that could result in disruption of Hydro s ability to produce or distribute the Company s products. Any such disruption could result in a significant decrease in revenues and significant additional costs to repair and insure the Company s assets, which could have a material adverse impact on Hydro s financial condition and results of operation.

***Hydro is not insured against all potential losses and could be seriously harmed by natural disasters, operational catastrophes or deliberate sabotage***

All of Hydro s business activities are characterized by substantial investment in complex production facilities, manufacturing and transportation equipment. Many of the production processes, raw materials and certain finished products are potentially destructive and dangerous in uncontrolled or catastrophic circumstances including fires, explosions, accidents, major equipment failures, etc. Hydro s offshore operations (and certain transportation operations) are subject to marine perils, including severe storms and other adverse weather conditions. Production or other facilities could be targeted for terrorist attacks aimed at incurring substantial ancillary damage. Hydro could incur uninsured losses and liabilities arising from such events and/or suffer substantial losses in operational capacity which could have a material adverse effect on Hydro s operations or financial condition.

**Additional Risks Relating to Hydro s Oil and Energy Business**

***Hydro s future performance depends on the ability to develop additional oil and gas reserves that are economically recoverable***

The majority of Hydro s proved reserves are currently located on the Norwegian Continental Shelf (NCS). Norway is currently the world s third largest oil exporter after Saudi Arabia and Russia, but the southern part of the NCS (the location of the most easily accessible and exploitable fields offshore Norway) is a maturing resource province from which reserve additions have been low in recent years. A decision by the Norwegian government as to whether to allow offshore oil and gas exploration in sensitive areas along Norway s northern coastline and in the Barents Sea is not expected until, at the earliest, 2004, and is dependent upon an environmental impact study to be completed in 2003. In December 2002, the Director of Norway s Petroleum Directorate announced that the Directorate may lower its estimate of total petroleum resources on the NCS for the first time in history upon consideration of recent disappointing results of various drilling activity on the NCS.

***Exploratory drilling involves numerous business and financial risks, including the risk that Hydro will encounter no commercially productive oil or natural gas reservoirs, which could materially adversely affect Hydro s operating results***

Exploration and development for oil and gas involves a high degree of risk that hydrocarbons will not be found or that they will not be found in commercial quantities. The 3-D seismic data and other appraisal technologies Hydro uses do not allow it to know conclusively prior to drilling a well that oil or gas is present or economically feasible to extract. The cost of drilling, completing and operating a well is often uncertain, especially when drilling offshore, and cost factors can adversely affect the economics of a project. Drilling operations may be curtailed, delayed or canceled as a result of factors outside of Hydro s control. Further, completion of a well does not guarantee that it will be profitable or even that it will result in recovery of drilling, completion and operating costs. In addition, offshore drilling in deep water is extremely expensive and long term in nature.

***Hydro s development projects involve many uncertainties and operating risks that can prevent Hydro from realizing profits and can cause substantial losses***

Hydro s development projects are often in remote locations with limited predictability due to limited operational history. Projects may be delayed or unsuccessful for many reasons, including cost overruns, lower oil and gas prices, equipment shortages, mechanical and technical difficulties and industrial action. Certain projects may require the use of new and advanced technologies, which can be expensive to develop, purchase and implement, and may not function as expected. In addition, some of Hydro s development projects are or will be located in deepwater or other hostile environments, such as the NCS, Gulf of Mexico and Angola, or produced from challenging reservoirs. Planning and development of the Ormen Lange field, for example, has been described as one of the most challenging assignments any oil company has tackled, not just in Norway but in a global context, given the combination of deep water, harsh weather conditions, freezing water temperatures and a very uneven seabed.

***Estimates of Hydro s oil and gas reserves are uncertain and may prove inaccurate***

There are numerous uncertainties inherent in estimating quantities of proved reserves and their values, including many factors beyond the control of the producer. The reserve data included in this Annual Report represents only estimates. Reservoir engineering is a subjective and inexact process of estimating underground accumulations of oil and gas that cannot be measured in an exact manner. Further, evaluating properties for their recoverable reserves of oil and natural gas entails the assessment of geological, engineering and production data, some or all of which may prove to be unreliable.

Accordingly, reserve estimates may be subject to downward or upward adjustment. Actual production, revenues and expenditures with respect to Hydro s reserves will likely vary from estimates and those variances may be material. Any downward adjustment in Hydro s reserve data could lead to lower future production and could adversely affect Hydro s financial condition, future prospects and market value.

***Hydro faces competition from other oil and natural gas companies in all areas of its operations, including the acquisition of licenses, exploratory prospects and producing properties***

The oil and gas industry is extremely competitive, especially with regard to exploration for, and exploitation and development of new sources of oil and natural gas. Many of Hydro s competitors are much larger, well-established companies with substantially greater resources. These larger companies, including those created by mergers in the past few years, have a number of competitive advantages, such as greater geographic diversification of exploration and production activity; greater financial resources, providing additional flexibility with respect to the number and range of properties and prospects that can be considered; and cost efficiencies made possible by the greater scale of operations and infrastructure.

***Hydro s oil and gas operations are subject to higher effective tax rates than its other business activities***

Hydro derived approximately 80 percent, 91 percent and 77 percent of its overall operating income from its Oil and Energy business segment in 2002, 2001 and 2000, respectively. Hydro s profits from domestic (Norwegian) oil and gas production are subject to Norwegian income taxes at a marginal rate of 78 percent. Accordingly, to the extent Hydro s operating revenues and earnings from its domestic oil and gas activities represent a higher percentage of its overall operating revenues and earnings, Hydro s effective tax rate will likely be higher.

***Hydro may be subject to the imposition of sanctions by the US government in connection with its activities in Iran and/or Libya***

Hydro is engaged in certain activities in Iran and has an interest in oil and gas exploration licenses in Libya, where exploratory and appraisal wells are in the process of being drilled.

In August 1996, the United States adopted the Iran and Libya Sanctions Act of 1996 (the Sanctions Act ) with the objective of denying Iran and Libya the ability to support acts of international terrorism and fund the development and acquisition of weapons of mass destruction. The Sanctions Act provides that the President of the US is to impose two or more sanctions against any person, regardless of nationality, if the President determines that such person, with actual knowledge:

made an investment(s) of USD 20 million or more (in the case of Libya, USD 40 million or more for investments made prior to June 13, 2001) in any 12-month period in either Iran or Libya that directly and significantly contributed to the enhancement of Iran s or Libya s ability to develop its petroleum resources; or

exported, transferred or otherwise provided to Libya any goods, services, technology or other items prohibited under United Nations Resolutions 748 or 883, if providing such items significantly and materially contributed to Libya s ability to develop its petroleum resources.

The Sanctions Act, which was due to expire on August 5, 2001, was amended at that time to provide for, among other things, a five-year extension of the law and to reduce the investment threshold for Libya from USD 40 million to USD 20 million.

If the US government were to determine that a person s activities in Iran or Libya are covered by the Sanctions Act, the Act grants the President discretion in determining which sanctions to apply, which may include: a ban on any license to exports goods or technology to a sanctioned person; the prohibition of loans or extensions of credit by U.S. financial institutions in an amount greater than USD 10 million in any 12-month period to the sanctioned person; and restrictions on imports from a sanctioned person. The President also has the authority to grant country-specific and project-specific waivers under certain circumstances.

For a number of reasons, it is difficult for Hydro to predict whether the US government could determine that Hydro s present or future activities and/or the level of its investment in Iran or Libya is or may be covered by the Sanctions Act, and how the US government would implement any such determination. To date, there have not been any sanctions imposed under the Sanctions Act. Further, the Sanctions Act does not specify how the value of an investment is to be calculated. Also, in 1999 the United Nations suspended the UN sanctions against Libya.

**Additional Risks Relating to Hydro Aluminium s Business**

***The aluminum industry faces challenges in adjusting to rapid changes in market balances***

The current global recession and the generally weak demand for aluminum has contributed to the current global overcapacity/production, as reflected in the historically high inventory levels and weak aluminum prices. But there are a number of variables, apart from global economic development, that may affect the market balance for aluminum in the next several years, including:

- the level of exports from China, which is expected to continue its rapid expansion of aluminum production (creating the potential for production to outstrip the growth in consumption for the next several years);
- the currently idled, significant smelting capacity in the U.S. Pacific Northwest;
- the absence of any signs of production or capacity growth abating in other major aluminum production areas, such as Russia (where Russian Aluminum has announced its intention to be the largest producer of aluminum in the next five to six years).

***Hydro Aluminium s operating results may be materially affected by the price and availability of electricity, a vital raw material in the production of primary aluminum***

Hydro s Aluminium business consumes large volumes of energy, mainly electricity, in producing primary aluminum. Hydro has long-term electricity supply contracts for its smelters in Norway, Canada and Australia. The electricity supply contracts for the Company s German smelters expire at the end of 2005. Liberalization of electricity markets in Europe continues at varying rates of progress from country to country. In addition, there is a possibility of new environmental taxes for electricity producers. If electricity costs rise as a result of market or other factors such as new taxes, or if electricity supplies or supply arrangements are disturbed, Hydro s operating results could be adversely affected.

***Hydro Aluminium s short strategy with respect to alumina, another vital raw material in the production of primary aluminum, exposes the segment to a possible global alumina shortage***

The principal raw material used in the production of aluminum is alumina. Hydro Aluminium has secured roughly 40 percent of its long-term alumina supply requirements through equity investments and supplements its own equity alumina production through medium- to longer-term contractual arrangements with third parties. Nonetheless, Hydro Aluminium has an overall short strategy, reflective of it view that new alumina production capacity will materialize to support the growth in global alumina consumption. Industry analysts have expressed concerns about whether the alumina greenfield and expansion projects will be adequate to meet the projected growth in demand over the next several years. Even if Hydro is able to secure an adequate supply of alumina to meet its future requirements, the possibility of worldwide demand exceeding supply, together with the concentration of the alumina production industry, creates the potential for a material increase in the price of alumina. Hydro may not be able to pass on the entire cost of an increase in alumina to its customers, which may result in declining margins and reduced profitability.

**Additional Risks Relating to Hydro Agri Business**

***Exports from the former Soviet Union and certain Central and Eastern European countries could destabilize Western European markets***

The collapse of agriculture in most parts of the former Soviet Union (FSU) and much of Central and Eastern Europe has in the past resulted in increased pressure from imports into western Europe. The price of natural gas to Russian producers, an important raw material for the manufacture of fertilizer, is approximately one fifth of that paid by major European producers as a result of government intervention. Existing anti-dumping measures currently enforced by the European Union only apply to EU borders and do not address the source of the problems. In addition, anti-dumping

instruments are subject to trade rules and negotiations which are subject to change and the outcome of future developments is uncertain.

***The expansion of the European Union could lead to decreased subsidies to the Western European agricultural sector***

Since 1999, changes in the European Common Agricultural Policy (CAP) have led to reduced price supports to the EU agricultural sector. The expansion of the EU could result in further reductions in subsidies to western European agriculture. Reduced supports, in turn, may lead to a reduction in agricultural input factors such as fertilizer. Further developments within the CAP as a result of the expansion of the EU and ongoing developments within the World Trade Organization are uncertain.

**Legal and Securities-Related Risks**

***The ability of US shareholders to initiate legal action against the Company may be limited under Norwegian law***

The Company is a public limited company incorporated under the laws of Norway. The rights of holders of the Company s ordinary shares, including ordinary shares underlying American Depositary Shares, are governed by Norwegian law and by the Company s articles of association. These rights differ from the rights commonly possessed by shareholders of US corporations. In particular, Norwegian law limits the circumstances under which shareholders of Norwegian companies may bring derivative actions. Under Norwegian law, any action brought by the Company in respect of wrongful acts committed against the Company would take priority over actions brought by shareholders in respect of such acts. In addition, it may be difficult for shareholders to prevail in a claim against the Company under, or to enforce liabilities predicated upon, US securities laws.

***The trading prices of the Company s ADSs depend in part on the US dollar exchange rate***

The Company s ordinary shares trade in Norwegian kroner (NOK) and its ADSs trade in US dollars. Any dividends declared are also denominated in NOK. As a result, the trading prices of the Company s ADSs in US dollars may fluctuate as the US dollar/NOK exchange rate fluctuates, and any material decrease in the value of the NOK in relation to the US dollar may cause the trading prices of our ADSs to decline.

**ITEM 4. INFORMATION ON THE COMPANY**

**ITEM 4.A. HISTORY AND DEVELOPMENT OF THE COMPANY**

Norsk Hydro ASA was organized under Norwegian law as a public company in 1905 to utilize Norway s large hydroelectric energy resources for the industrial production of nitrogen fertilizers. Energy, in the form of hydroelectric power, natural gas and petroleum, has been the basis for Hydro s growth and is the common link among its core business activities. Hydro s operating segments consist of the three core business areas: Oil and Energy, Aluminium and Agri. The business areas and their sub-segments, if any, are as follows:

| Business Area | Segments |
|---|---|
| Oil and Energy | Exploration and Production, Energy and Oil Marketing |
| Aluminium | Metals, Rolled Products, Extrusion and Automotive (including North America sector) |
| Agri | |

In addition, Hydro is in the petrochemicals business and is engaged in other activities described in Item 4.B.

As a public company organized under Norwegian law, the Company is subject to the provisions of the Norwegian act relating to public limited liability companies (the Norwegian Public Limited Companies Act). See the disclosure under **Item 10.B. Additional Information Articles of Association - Description of Ordinary Shares** for a more complete discussion of certain provisions of the Norwegian Public Limited Companies Act.

The Company s principal executive offices are located at Bygdøy allé 2, N-0240 Oslo, Norway; telephone number: 47-22-53-81-00. The Company s registered agent in the United States is Kendrick T. Wallace, Esq., whose address is c/o Norsk Hydro Americas, Inc., 100 North Tampa Street, Suite 3300, Tampa, Florida 33802; telephone number: (813) 222-5700. The Company s internet site is www.hydro.com.

Over the three-year period ending December 31, 2002, Hydro s most significant capital expenditure was the acquisition of all outstanding shares of the German group, VAW Aluminium AG, a major producer of primary aluminium, rolled products, and other fabricated aluminium products headquartered in Germany. The acquisition was completed on March 15, 2002. The total purchase price paid by Hydro for the VAW shares, including direct acquisition costs, amounted to EUR 1,911 million (NOK 14.8 billion). In addition, interest bearing debt of EUR 703 million (NOK 5.5 billion) and pension commitments of approximately EUR 410 million (NOK 3.2 billion) were assumed.

On March 19, 2002 Hydro entered into an agreement with the Norwegian state to purchase interest in eight oil and gas licenses on the Norwegian Continental Shelf. This acquisition increased Hydro s interests in the Oseberg, Tune, and Grane fields, where Hydro is an operator. Hydro paid NOK 3.45 billion for the license interests.

On January 25, 2002 Hydro acquired the French building systems company, Technal that was integrated into the Extrusion and Automotive sub-segment of Hydro Aluminium on the same date. The purchase price was EUR 73 million (NOK 580 million) and NOK 307 million in debt was assumed.

For additional information concerning Hydro s principal capital expenditures, see the discussions with respect to each of the business segments under **Item 4.B** of this Annual Report, as well as the information incorporated by reference to the Financial Review section (pages 52 to 85) of the Company s 2002 annual report to shareholders, which has been filed as an exhibit to this Annual Report.

**ITEM 4.B. BUSINESS OVERVIEW**

## OIL AND ENERGY

Hydro Oil and Energy consists of two sub-segments: Exploration and Production and Energy and Oil Marketing.

**Exploration and Production** consists of Hydro s oil and gas exploration activities, field development activities and operation of production and transportation facilities.

**Energy and Oil Marketing** consists of Hydro s commercial operations in the oil, natural gas and power sectors; the operation of Hydro s power stations and marketing and sales activities of refined petroleum products (gasoline, diesel and heating oil) to retail customers.

Hydro s strategic focus for the Oil and Energy business area follows two main directions:

To position Hydro as an important player in the upstream oil and gas business based on North Sea technological competence and experience.

To enhance Hydro s position in the European energy market, based on increasing gas production and commercial competence gained from the European gas market and the liberalized Nordic power market.

These strategic directions are described in more detail below.

Definitions of key oil and gas terms used throughout the Oil and Energy business description are provided in Appendix A on pages 40 and 41 of this report. Key terms are defined as described in the appendix unless otherwise indicated.

### Exploration and Production

Exploration and Production is comprised of Hydro s oil and gas exploration activities, field development activities and operation of production and transportation facilities. Activities are grouped within the following sectors: Exploration and Development Norway, Operations and Production Norway, Exploration and Production International and Technology and Projects.

Hydro normally participates in exploration and production activities with other parties including private and state-owned oil and gas companies and other government entities. Contractual arrangements among partners are generally governed by an operating agreement, which provides that costs, production entitlements and liabilities are allocated according to each partner s respective percentage interest in a particular field or license area. (Production sharing agreements follow different principles as described more fully below.) Normally, one party is appointed as operator. Field activities are conducted under the overall supervision and control of an operating committee consisting of representatives from each participant in the field. This enables each of the non-operator partners to be involved in field development and operations.

Exploration and production licenses are issued by governmental authorities to authorize exploration and production activities. Such licenses generally provide that partners are jointly and severally liable for their obligations to the government authorities under the applicable license.

As of January 1, 2003, Hydro had interests in 105 licenses on the Norwegian Continental Shelf (NCS). On January 1, 2003, Hydro transferred the operatorship of licenses and fields in the Tampen area on the NCS, including the Snorre, Visund, Tordis and Vigdis fields, to Statoil. After this transfer,

Hydro operates 44 licenses covering 11 fields. Internationally, Hydro is involved in exploration and production activities in several countries, including Angola, Canada, Libya, Russia, Iran and the USA (Gulf of Mexico).

The total average daily production in 2002 from Hydro operated fields was approximately 1.3 million barrels of oil equivalents (boe). Hydro s average daily production of oil and gas in 2002 was approximately 480,000 boe. Information about Hydro s interest, the field operator, the timing of production start-up, production and reserves, for Hydro s most important fields is presented in the tables located on pages 135 and 136 of the Company s 2002 annual report to shareholders.

**Strategy**

Hydro will focus its exploration and production strategy for the coming years on:

- growing Hydro s exploration and production activities;
- balancing Hydro s portfolio of interests in oil and gas fields, both geographically (i.e., between the NCS and international locations) and in terms of cost of development; and
- cost improvements to improve profitability.

***Growing Exploration and Production Activities***

Hydro believes that scale is important to ensure cost-efficient operations and to enable successful exploitation of new areas. Accordingly, an important element of Hydro s growth strategy is to concentrate its efforts and ensure that the new areas Hydro enters into have sufficient production potential and can be pursued aggressively.

From 1998 to 2002 Hydro increased its total production of oil and gas by more than 75 percent. The increase reflects organic growth on the NCS, start-up of production from the Company s international activities and the acquisition in 1999 of the Norwegian-based oil company, Saga Petroleum. In addition, in 2002 Hydro acquired increased interests in Hydro-operated fields on the NCS (Oseberg, Tune and Grane) formerly owned by the Norwegian State (the so-called State s Direct Financial Interest or SDFI). The acquisition of SDFI assets increased Hydro s proved reserves by approximately 187 million boe, and 2002 production by 24,000 boe/day.

Hydro has earlier announced a target compound annual growth rate in production of 8 percent for the 2001-2006 period (including the effect of the SDFI asset acquisition). Hydro expects that the production growth will be achieved within its existing portfolio based on producing fields and development projects. Total oil and gas production in 2002 was 480,000 boed, an increase of 14 percent from 2001. Hydro anticipates a total production of 510,000 boed in 2003, an increase of 6 percent.

In light of the maturity of the NCS (see Industry Trends Maturity of the NCS ), Hydro has increased its focus on international exploration opportunities during the past several years. In 2001 Hydro s international exploration activity was, for the first time, higher than on the NCS. Hydro s international exploration activity in 2002 represented 74 percent of the total exploration activity. Hydro plans a similar relative share of international exploration activity in 2003. Technological competence, including the application of leading-edge reservoir and development solutions developed as a major operator of oil and gas producing fields in the hostile Norwegian offshore environment, has provided a solid basis for international expansion.

Hydro s international expansion has been based on alliances with regional players with a focus mainly on oil prospects. An extensive international exploration drilling program was underway during 2002 and will continue in 2003. Although disappointing drilling results were experienced in Block 34 in Angola and the initial wells drilled in the Gulf of Mexico, new discoveries were made both in Block 17 in Angola and in Libya. In addition, further delineation drilling on the Grand Banks in Canada proved successful. Also, results from the first deep water well offshore Nova Scotia were encouraging, although further delineation drilling is planned. In 2003, Hydro anticipates that the major part of its international exploration activities will be allocated to Angola, Iran, Canada and the Gulf of Mexico. Other areas of activity include Libya and Russia. Hydro will perform an evaluation of its international exploration entry strategy on completion of the drilling program described above before entering into new commitments.

***Balancing the Portfolio***

Hydro is actively seeking to concentrate its activities on the NCS by increasing ownership interests in core areas and by selling interests in licenses in non-core areas. Hydro s purchase of SDFI assets in 2002 strengthened the Company s position in core assets (i.e., the Oseberg, Tune and Grane fields). In recent years Hydro has divested non-core assets on the NCS, and is currently offering for sale all or part of its share in an additional 22 non-core offshore licenses in four regions on the NCS.

As described above, Hydro is working to develop an international portfolio to complement the NCS portfolio. The Company will continue to focus its international exploration and production activities in four to six core areas, each with a potential to reach a sustainable production level. Hydro aspires to build a portfolio, which, in addition to deep water, offshore activities, includes onshore activities requiring low investment, in order to achieve a portfolio balanced with respect to geological and economic risk.

In 2002, approximately 10 percent of Hydro s total oil and gas production came from outside the NCS, compared to 4 percent in 2001. The increase reflects the start up of production from the Terra Nova field in Canada and the Girassol field in Angola. Production from international activities is expected to increase in the coming years and is estimated to reach 14 percent of Hydro s total production by 2006 based on the current portfolio.

***Cost Improvements***

Hydro continues to pursue cost improvements in its exploration and production activities. As fields on the NCS mature and demonstrate a decline in production, cost focus and measures to increase production on existing fields are given highest priority. An independent benchmarking of operators in the Central North Sea measured by unit cost of production ranked Hydro, as an operator, in the top quartile.

Cost improvements are achieved through different measures. Consolidating the operatorship of fields in a given area reduces cost. This was the underlying rationale for the transfer of operatorship from Hydro to Statoil relating to fields on the Tampen area on the NCS, which was agreed between Hydro and Statoil at the time of the Saga acquisition. The cost performance of the Snorre and Vigdis fields improved after transfer of operatorship to Hydro after the Saga acquisition, however, there is potential for further improvement by consolidating operations for all fields in this area.

Costs can also be reduced by portfolio optimization including divestment of fields nearing the end of their economic lives. For example, in August 2002 Hydro divested its interest in the license covering the Varg field.

In addition, in January 2003, Hydro announced organizational adjustments as a result of fewer prospective development tasks and the transfer of operatorship of the fields in the Tampen area referred to above. The adjustments will include a reduction of approximately 300 man-years comprised of consultants and permanent employees. This comes in addition to the 535 employees that were transferred to Statoil as part of the transfer of operatorship. Associated costs will be included in Hydro s results for 2003 while cost savings are expected beginning 2004.

Hydro s objective is to maintain its position as an efficient operator on the NCS and to maintain its operating cost[1] at approximately the same level as 2002.

Finding and development costs (F&D costs) represent the cost to add one barrel of oil equivalent (boe) of proved reserves to Hydro s reserve portfolio. The Company s goal is to reduce its three-year average F&D costs (excluding acquisitions and disposals) to USD 5 per barrel of added proved reserves. Hydro will seek to achieve this goal through a combination of measures, including more focused exploration activities and a reduced time period between discovery and start up of development. In 2002 Hydro s three-year average F&D costs increased from USD 5.9 to 7.2 per barrel of reserves added. However, the Company expects to make progress toward its target during 2003 as the Plan for Development and Operation of the large Ormen Lange field is expected to be submitted to the Norwegian authorities for approval in the fourth quarter of 2003 and as a result, the reserves of this field will be included in the reserve estimate.

[1] Defined as the sum of field production cost (including insurance and transportation system costs), depreciation and abandonment, net tariffs and other income/cost, but excluding exploration

**Industry Trends**

***Reduced exploration results internationally***

In the last few years, worldwide exploration activities generally indicate reduced findings despite increased drilling efforts. According to industry sources, there was an increase in the number of wildcat exploration wells in the world (exclusive of North America) from 895 in 2000 to 968 in 2001. However, despite this increased drilling effort, the number of discoveries fell by approximately 14 percent over the same time period. In particular, within the area of the Atlantic Ocean Margins, discovery trends appear in general to be declining due to the maturing of many basins and shelves notwithstanding that some areas, such as Nigeria and Gulf of Mexico still yield good results. In these mature areas, exploration activities have shifted towards the deep water sections of established basins, as seen in Gulf of Mexico and Angola. However, in other parts of the world such as the Middle East, Australia, and Russia - exploration has yielded increasing amounts of new technical resources in the last few years. This is illustrated by the fact that six major discoveries (larger than 500 million boe) were discovered in this part of the world in 2001, while only 2 such discoveries were discovered in the Atlantic region. A challenge for western oil companies in certain of these countries is to get access to exploration areas on attractive terms.

***Maturity of the NCS***

The NCS is maturing and reserve additions have been low in the recent years. In the 15th licensing round the major discovery was the Hydro operated Ormen Lange field made in 1997. The 16th licensing round has so far yielded disappointing results with no commercial discoveries made related to major prospects. This overall negative trend is reflected in an even lower planned exploration level on NCS for 2003. Hydro s NCS exploration profile is influenced by an increase in the perceived risk/reward level of real exploration opportunities. On the prospective resource side, Hydro still believes that there is interesting remaining exploration potential on the NCS; primarily divided into four different opportunity options. Areas around existing infrastructure in the North Sea offers interesting oil and gas potential in terms of satellite tie-ins to increase the economic life of current installations. In addition, this area still offers some standalone possibilities. The Norwegian Sea still offers interesting potential in particular on larger gas prospects, although the results from the 16th licensing round have increased Hydro s perceived risk in this area. The northern part of the NCS, including the Barents Sea, has a potential both in terms of oil and gas prospects while the perceived risk is high. Activity in this region is halted at present pending completion of the regional environmental impact assessment study currently being undertaken by the Norwegian government. This issue, combined with fiscal incentives and other factors determine the risk/reward ratio for the industry and are important to address by the industry as well as the authorities to ensure that the NCS remains competitive for the oil companies.

**Competitive Strengths**

***Strong position on the NCS***

In terms of equity production and reserves, Hydro is the third-largest interest holder on the NCS, following Petoro (which handles the Norwegian state s direct ownership) and Statoil.

Hydro s position on the NCS was strengthened in 2002 with the acquisition of increased interest in the Oseberg, Tune and Grane fields from the Norwegian state. Hydro s total production on the NCS increased in 2002 to a record level of 432,000 boed.

In 2003 Hydro s position will be further strengthened with, among other things, the start up of the Grane field, which is the largest oil field on the NCS under development and where Hydro has an ownership share of 38 percent. Furthermore, Hydro expects that the plan for development and operation for the large Ormen Lange gas field will be submitted in the fourth quarter of 2003 for approval by the Norwegian governmental authorities. This field, which is the second largest gas field on the NCS, is planned for production start-up in 2007.

***Interesting International Positions***

Hydro s main international positions are in Angola, Canada, Russia, Libya, Iran, and in the US Gulf of Mexico.

**Angola**: Over the past several years, Angola has become one of the world s leading deep-water exploration areas with large oil discoveries, resulting in a significant increase in the long-term production forecast for Angola offshore. Hydro has participated in Angola s oil and gas industry since 1991. Hydro holds a 10 percent interest in the very prolific Block 17, where the Girassol field had steady production throughout 2002 and where the Dalia field and other projects are being launched. In 2001 Hydro signed a production sharing agreement (PSA) with the Angolan governmental authorities, acquiring a 30 percent interest in the ultra-deep water Block 34 and with a technical assistance agreement entered into with Sonangol, the Angolan state-owned oil company. Hydro holds a 20 percent interest in Block 25 and is evaluating the Angola LNG project together with the major oil companies in Angola.

**Canada**: Hydro entered into a strategic alliance with Petro-Canada in 1996 that entailed a swap of certain Hydro interests in licenses on the NCS in exchange for the right to participate in oil production from proven fields and actively explore for further oil discoveries on the Grand Banks. Hydro has ownership in two producing fields, Hibernia and Terra Nova. Hydro has since expanded the exploration effort to include the Scotian Shelf on Canada s east coast.

**Russia**: Hydro s oil and gas business development in Russia has been ongoing since 1990 and has focused on proven resources in the Northwest region of Russia. Hydro participates in the Kharyaga oil project, which has been in production since October 1999. Expansion of the project is expected to be completed in early 2003. Hydro has worked on the Shtokman gas project in the Barents Sea since 1990, and continues to seek an ownership position in this field. Business development activities in other regions in Russia expanded in 2002, focusing on proven oil projects. In February 2003 Hydro signed a protocol of intent with the Russian oil company OAO Lukoil for cooperation in joint projects.

**Libya:** In Libya, Hydro has non-operator positions in one producing field (Mabruk West) and three exploration licenses in the Murzuq basin where the first field Murzuq A is under development and the second field Murzuq D - is expected to be approved for development by the authorities in 2003.

**Iran:** Hydro established an office in Tehran, Iran during November 1999. In April 2000, Hydro entered into a contract with the National Iranian Oil Company (NIOC) for the exploration of the Anaran Block covering an area of 3,260 square kilometers and containing the Changuleh discovery. The contract has a term of 4.5 years, providing Hydro with the right to negotiate a buy-back agreement to develop reserves in the event of a commercial discovery. Drilling is expected to be initiated in the beginning of 2003. In February 2003 Hydro signed an agreement with Lukoil Overseas Anaran Ltd., transferring 25 percent of Hydro s 100 percent interest in the Anaran Block. This agreement has yet to be approved by the Iranian authorities.

**USA:** In September 2001, Hydro entered into a joint venture with ConocoPhillips in deepwater Gulf of Mexico. Hydro was assigned a 25 percent title interest in 55 leases. In addition to five firm and three contingent exploration wells, Hydro has options to participate in future exploration wells resulting from further mapping of leases in ConocoPhillips portfolio through 2005.

**Reserve Information**

At the end of 2002, Hydro s share of proved developed reserves of oil and gas was estimated to be 1,432 million boe. Hydro s share of proved undeveloped reserves accounted for an additional 793 million boe. Total developed and undeveloped reserves amounted to 2,225 million boe, of which gas reserves accounted for approximately 53 percent.

Reserve life, defined as the number of years of production from proved reserves at the present production level, was approximately 13 years at the end of 2002, with approximately 8 years for oil and approximately 29 years for gas.

The following table summarizes Hydro s net quantities of proved oil and gas reserves as of December 31, 2002, 2001 and 2000.

**Oil and Gas Reserves**

| Oil in millions of boe<br>Gas in billions of cubic feet (bcf) | 2002 | | | 2001 | | | 2000 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Norway | Int'l [1] | Total | Norway | Int'l | Total | Norway | Int'l | Total |
| Proved oil reserves, developed and undeveloped [2] | 883 | 172 | 1055 | 825 | 193 | 1,018 | 820 | 156 | 976 |
| Of which developed | 559 | 93 | 652 | 564 | 62 | 626 | 555 | 33 | 588 |
| Proved gas reserves, developed and undeveloped | 6,629 | | 6,629 | 5,986 | | 5,986 | 6,004 | | 6,004 |
| Of which developed | 4,416 | | 4,416 | 3,669 | | 3,669 | 3,644 | | 3,644 |
| Proved oil and gas reserves, developed and undeveloped (in millions of boe) | 2,053 | 172 | 2,225 | 1,880 | 193 | 2,073 | 1,884 | 156 | 2,040 |
| Of which developed | 1,339 | 93 | 1,432 | 1,211 | 62 | 1,273 | 1,201 | 33 | 1,234 |

(1) Reserves under international activity are shown net of Royalties and Government s share of Profit Oil.

(2) For the definition of proved, developed and undeveloped reserves, see Oil and Gas Terms in Appendix A on pages 40 and 41 of this report.

Hydro s reserve replacement ratio in 2002 including purchase and sale of reserves and the effect of production sharing agreements (PSA) on some international fields was 187 percent. Excluding purchase and sale and the effect of PSA, the ratio was approximately 98 percent. Positive developments in the reserve replacement ratio resulted from the maturing of technical resources into proved reserves, primarily in Norway and Angola, and revisions to recoverable reserve estimates for other fields in the portfolio.

Proved reserves are estimates and are expected to be revised as oil and gas are produced and additional data becomes available. Accordingly, recoverable reserves are subject to upward or downward adjustments.

An analysis of changes to proved developed and undeveloped reserves of oil and gas as of and for the three years ended December 31, 2002, 2001 and 2000 is incorporated by reference to the table in Note 26 to the Consolidated Financial Statements found on page 120 of the Company s 2002 annual report to shareholders. Information relating to the various fields comprising proved reserves as of December 31, 2002 and production of oil and gas for 2002 is incorporated by reference to the tables of proved reserves and production of oil and gas included in the section on operational data on pages 135 and 136 of the Company s 2002 annual report to shareholders.

**Exploration**

The following tables reflect the number of exploratory oil and gas wells drilled by Hydro as of December 31, 2002. The first table represents all the exploratory wells drilled and completed during the years indicated but excludes wells that are under evaluation, and the second table represents the exploratory wells in the process of being drilled or evaluated as of year-end 2002. A total of 31 wells were drilled in 2002 of which 2 wells remained under evaluation. In addition, one well, which did not result in a commercial discovery, was in the process of being drilled at year-end.

**Drilling Activity**

| | | Norway | | | International | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2002 | 2001 | 2000 | 2002 | 2001 | 2000 | 2002 | 2001 | 2000 |
| Exploratory | productive [1] | 6 | 8 | 6 | 6 | 7 | 6 | 12 | 15 | 12 |
| | dry [2] | 5 | 10 | 8 | 12 | 4 | 7 | 17 | 14 | 15 |

**Present Drilling Activities**

| As of December 31, 2002 | | Norway | International | Total |
|---|---|---|---|---|
| Exploratory | gross [3] | 0 | 3 | 3 |
| | net [4] | 0 | 0 | 0 |

(1) Productive well: an exploratory well deemed to be commercially viable.
(2) Dry well: an exploratory well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.
(3) Gross well: a well in which a whole or fractional working interest is owned.
(4) Net well: the sum of the whole fractional working interests in gross wells which equal 1.

***Norway***

Hydro participated in nine exploratory and two appraisal wells that were completed during 2002. Commercial discoveries were made by four of the exploration wells and the two appraisal wells confirmed the expectations made by previous discoveries. Hydro s last obligatory exploration well from the 16th licensing round, drilled at a record depth on the NCS of 1,725 meters, turned out to be dry.

During 2002 the Norwegian government awarded new licenses through the 2001 North Sea application round, and through the 17th concession round covering the Norwegian Sea. Hydro was awarded operatorships in two licenses in each round and participation as partner in one more license in each round.

In October 2002 the Norwegian authorities announced 109 blocks located in the North Sea area (the 2002 North Sea round). The target date for submitting applications was January 28, 2003 and awards are anticipated to take place in the beginning of the second quarter of 2003. Norsk Hydro was among the nine oil companies submitting applications.

In 2003, Hydro plans to participate in 5 exploratory wells on the NCS, of which 2 wells will be drilled with Hydro as operator.

The Ormen Lange partnership agreed in December 2002 that the development application to the authorities for the field will be based on a sub-sea development with an onshore gas processing

plant located at Aukra in Northwest Norway. The Plan for Development and Operation is planned to be submitted to the authorities in the fourth quarter of 2003 together with the Plan for Installation and Operation of the export pipeline system to the UK. Ormen Lange is the largest undeveloped gas field on the NCS, at a water depth of 1,000 meters. Production is scheduled to begin in 2007. Hydro will be the operator for the development of the field.

***International***

In 2002 Hydro s international exploration activities encompassed Angola, Canada, Russia, Libya, Iran, Trinidad, Denmark and the US (Gulf of Mexico). Hydro participated in the drilling of twenty, exploratory and appraisal wells that were completed during 2002 of which two still are under evaluation. In addition one well was in the process of being drilled at year-end. Six discoveries were made, all expected to have a commercial potential.

In **Angola**, Hydro has a 10 percent interest in Block 17 where the promising Zinia discovery made in 2002 represents the thirteenth oil discovery on this deepwater offshore block in Angola. This positive result will be followed by further geological and engineering studies in order to appraise the newly discovered structure. The remaining two exploration wells were drilled in November and December of 2002 and are presently under evaluation. The first well drilled in April 2002 on Block 34, where Hydro holds a 30 percent interest, did not encounter hydrocarbons. However, Block 34 is a large block and the contractor group is now working to define new prospects as a basis for further drilling. During 2002, Hydro has increased its participating interest in Block 25 from 10 to 20 percent. The well drilled in 2002 on Block 25 did not encounter hydrocarbons. Exploratory wells for both Blocks 34 and 25 are scheduled to be drilled in 2003. Following completion of the minimum exploration program on Blocks 5 and 9 without proving hydrocarbons, both blocks have been relinquished to the concessionaire.

In **Canada**, Hydro has developed a substantial license portfolio following its entering into a strategic alliance with Petro-Canada in 1996. Hydro participated in the drilling of three wells during 2002. The Annapolis well, offshore Nova Scotia, discovered natural gas, however further delineation is required to determine possible development solutions. The partners decided in 2002 to discontinue the joint evaluation of the Hebron project due to the complexity of the project. However it is Hydro s view that the resource base of Hebron is good and that the field may have longer range development potential.

In **Northwest Russia**, Hydro is involved in the early phases of several projects, which aim to explore and develop oil reserves in the Pechora Sea and in the onshore Timan Pechora area. Hydro is also part of a group that has been engaged in the technical and commercial evaluation of the Shtokman gas field in the Barents Sea.

In **Libya**, Hydro has a non-operating interest in the Murzuq exploration licenses NC186, NC187 and NC 190. By the end of 2002, ten exploratory wells and three appraisal wells had been drilled on the three licenses with four discoveries and three successful appraisal wells. The exploration and appraisal program in Libya will continue in 2003 with the drilling of 4-6 wells.

In **Iran**, during 2002 Hydro has carried out an operation in clearing minefields and doing necessary fieldwork to allow for the collection of seismic data. Procedures and work methods had to be designed to allow for a safe operation in the field. The seismic operation is now underway and the first well is scheduled to be spudded in 2003.

In **Trinidad and Tobago**, where Hydro has a 19 percent interest in the deep water Block 27, the Catfish-1 exploratory well was completed in April 2002. Catfish-1 did not result in a commercial

discovery. Further evaluation of the exploration potential offshore Trinidad and Tobago is scheduled for 2003.

In **Denmark**, Hydro participated in an exploration well in the Danish offshore license DK 4/98. The well tested a technical gas discovery but preliminary post-test analyses resulted in a negative conclusion regarding productivity and possible commerciality of the discovery. The Danish Energy Agency (DEA) has, upon request from the operator ConocoPhillips and the license group, postponed the license period for 2 years and removed the spud deadline for the second commitment well in the license. This is done in order to allow for a proper evaluation of all exploration possibilities within the license. Should no such possibilities materialize into a drillable prospect the DEA has expressed a willingness to re-consider the issue of relocation of the commitment well.

In the **US Gulf of Mexico**, Hydro entered into a farm-in agreement with ConocoPhillips in September 2001, which provided Hydro with a 25 percent working interest in five firm and three contingent exploratory wells. Of the five firm wells, four wells have so far been drilled without any commercial discoveries. This includes the Voss well which was under drilling as of year-end 2002. It is expected that the remaining well will be completed in 2003. Evaluation of prospects on leases in ConocoPhillips portfolio that Hydro has options to participate in will continue in 2003. Hydro will in 2003 also be evaluating other opportunities available in deepwater Gulf of Mexico.

**Development**

In 2002, Hydro invested NOK 8,222 million in the development of new and existing fields and transportation systems compared to NOK 7,763 million and NOK 7,926 million in 2001 and 2000, respectively. Grane and Tune, were the two most important development projects for Exploration and Production in 2002.

A summary of the fields under development as of December 31, 2002 is set forth in the following table:

**Development** (1)

| Field | Type of Field | Approved for Development | Production Scheduled to Commence | Total Estimated Investment | Hydro s share of | |
|---|---|---|---|---|---|---|
| | | | | | Total | Incurred to date |
| | | | | in NOK billion | | |
| ***Norway*** | | | | | | |
| Kvitebjørn | Gas/Condensate | July 2000 | October 2004 | 10.5 | 1.8 | 0.9 |
| Grane(2) | Oil/Gas | June 2000 | October 2003 | 15.6 | 5.7 | 3.4 |
| Fram Vest | Oil/Gas | March 2001 | October 2003 | 4.3 | 1.2 | 0.5 |
| Mikkel | Gas/Condensate | September 2001 | October 2003 | 2.4 | 0.3 | 0.2 |
| Kristin | Oil/Gas | December 2001 | October 2005 | 18.2 | 2.5 | 0.2 |
| Snøhvit | Gas/Condensate | March 2002 | October 2006 | 46.9 | 5.1 | 0.3 |
| Visund Gass | Gas | October 2002 | October 2005 | 2.3 | 0.5 | 0.01 |
| Vigdis extension | Oil/gas | December 2002 | December 2003 | 2.8 | 0.4 | 0.04 |
| Byggve/Skirne | Gas/Condensate | July 2002 | March 2004 | 2.5 | 0.3 | 0.1 |
| ***International*** | | | | | | |
| Kharyaga phase 1 & 2 | Oil | October 1997/ October 2000 | October 1999 / December 2003 | 3.2 | 1.3 | 1.1 |
| Murzuq A-field | Oil | July 2002 | October 2004 | 1.7 | 0.2 | 0.01 |
| Jasmim | Oil | September 2001 | October 2003 | 3.9 | 0.4 | 0.1 |
| Dalia | Oil | 2003(3) | October 2006 | 42.3 | 4.6 | 0.1 |

(1) The table excludes the **Rosa Lirio** field in Angola as it was not sanctioned by year-end 2002.
(2) The Grane development is exclusive of the gas phase. The table does not include cost related to purchase of assets on the Grane field from SDFI.
(3) The development of the Dalia field in Angola was accepted by the Company s Board of Directors in February 2003, and is expected to be approved by the partnership and Sonangol in the first half of 2003.

***Norway***

Gas and condensate from the **Kvitebjørn** field will be exported to the Kollsnes gas terminal and the Mongstad terminal, respectively. Production is scheduled to commence in October 2004.

Pre-drilling of development wells for the **Grane** field commenced in August 2001 and the project is proceeding according to plan. Production is scheduled to begin in October 2003. Oil from the field will be exported in a new pipeline from the Grane platform to the Sture terminal in Øygarden, Norway. Gas will be imported from the Heimdal Gas Center, which is located in the vicinity of the Grane field, for injection to ensure optimum production of oil.

Oil and associated gas from the **Fram Vest** field will be produced by four sub-sea wells with production scheduled to commence in October 2003. The well stream will be piped to the Troll C platform for processing. Processed oil will be transported to the Mongstad terminal while gas will

be returned for reinjection for a period of approximately six years to facilitate oil recovery. After this period, gas will be transported to the Kollsnes gas terminal. Predrilling of production wells commenced in July 2002 and the project is proceeding according to plan.

The development concept for the **Mikkel** field consists of four production wells from two sub-sea templates linked to the Åsgard B platform for processing. The Mikkel condensate will be exported from Åsgard C for offshore loading. The Mikkel gas will be transported to the Kårstø terminal through the Åsgard transport system. Production is scheduled to begin in October 2003.

The development concept for the **Kristin** field consists of twelve production wells from three sub-sea frames linked to a dedicated floating production unit for processing. Gas will be exported through the Åsgard Transport pipeline while condensate will be loaded offshore from Åsgard C. Production from the field is expected to commence in October 2005.

The Norwegian authorities approved the development concept for the **Snøhvit** field in March 2002. The development consists of nine wells from three sub-sea templates and the well stream will be transported through a 26" pipeline to the LNG plant at Melkøya close to Hammerfest for processing. Final products of LNG, LPG and Condensate will be shipped to the markets by boat. Statoil, the operator of Snøhvit announced in December 2002 that the development of the field and terminal would be NOK 5.8 billion higher than the estimate used in the plan for development and operation due to underestimation of the weight of the LNG plant, change of the LNG plant design basis, and delayed approval by the EFTA Surveillance Authority of the project s tax conditions which allows for depreciation of investments over a 3 year period compared to 6 years for other petroleum installations. Hydro has announced its interest in selling its ownership interest in the field.

The **Skirne** and **Byggve** gas and condensate fields will be developed with one sub sea well at each field tied to the Heimdal Gas Center. Drilling of the wells will start in the first quarter of 2003 and the production start is currently planned for the first quarter of 2004.

***International***

**Angola, Block 17:** The **Jasmim** field is a satellite to the Girassol field. The field was declared commercial in the middle of 2001. The development concept comprises a sub-sea tie-in to the Girassol floating production and storage-offloading (FPSO) unit. The partnership approved the project in 2001 and the main development contracts were placed in early 2002. Production from Jasmim is expected to begin in second half of 2003. The development concept for the **Dalia** field comprises a sub-sea production system linked to a FPSO having a production capacity of approximately 225,000 boed. Dalia is expected to be finally sanctioned in the first half of 2003 and production is expected to begin in 2006. The development concept for the **Rosa Lirio** field is a sub-sea solution with tieback to the Girassol field. Rosa Lirio is anticipated to be sanctioned in 2003.

**Northwest Russia:** The first phase of the **Kharyaga** field began production in 1999. Phase 2 is now under development and production is expected to commence in 2003.

**Libya**: The Libyan authorities approved the field development plan for the Murzuq A-field in 2002. The field development plan for the Murzuq D-field was submitted for approval to the Libyan authorities in October 2002.

The following table shows the number of development wells in which Hydro had interests as of December 31, 2002. These wells were drilled in 2002 in the fields listed in the above table summarizing fields under development.

| Development wells | Norway | International | Total |
|---|---|---|---|
| Number of wells | 13 | 0 | 13 |

**Production**

The following table shows the number of gross and net productive oil and gas wells in which Hydro had interests as of December 31, 2002. A gross well is one in which a whole or fractional working interest is owned. The number of net wells is the sum of the whole or fractional working interests in gross wells. Productive wells are producing wells or those capable of production and deemed commercially viable.

| Type of well | | Productive Wells Norway[1] | International | Total |
|---|---|---|---|---|
| Crude oil | gross | 513 | 82 | 595 |
| | net | 67 | 15 | 83 |
| Natural gas | gross | 83 | 0 | 83 |
| | net | 10 | 0 | 10 |

(1) Twenty wells with multiple completions (i.e., more than one formation producing into the same well bore). If one of the multiple completions in a well is an oil completion, the well is classified as an oil well.

**Production of Oil and Gas**

The following table sets forth Hydro s share of average daily production of oil and gas for calendar year 2002 and 2001. All volumes are calculated based on the Norwegian Petroleum Directorate s current conversion factors. The conversion factor for NGL is 1 ton equal to 11,951 boe.

**Hydro s Share of Average Daily Production[1]**

| | Hydro s share of average daily production in 2002 | | | Hydro s share of average daily production in 2001 | | |
|---|---|---|---|---|---|---|
| Field | Total in thousands of boe | Oil in thousands of boe[1] | Gas in millions of cubic feet | Total in thousands of boe | Oil in thousands of boe | Gas in millions of cubic feet |
| ***Norway*** | | | | | | |
| Oseberg fields | 114.9 | 97.8 | 90.9 | 99.0 | 83.5 | 84.1 |
| Troll | 79.7 | 37.7 | 242.5 | 69.7 | 34.5 | 203.3 |
| Snorre fields (2) | 66.4 | 63.6 | 14.6 | 67.4 | 64.1 | 16.9 |
| Sleipner fields (3) | 34.1 | 11.8 | 122.3 | 32.1 | 13.1 | 106.8 |
| Åsgard | 33.5 | 21.5 | 67.4 | 23.2 | 16.5 | 37.6 |
| Ekofisk fields | 28.6 | 24.0 | 24.9 | 27.4 | 22.9 | 24.1 |
| Gullfaks fields | 24.9 | 21.0 | 22.3 | 25.0 | 22.8 | 12.9 |
| Norne | 15.6 | 14.6 | 5.9 | 17.6 | 16.1 | 8.4 |
| Brage | 9.9 | 9.4 | 2.3 | 10.6 | 9.9 | 4.0 |
| Visund | 8.2 | 8.2 | | 8.9 | 8.9 | |
| Njord | 7.2 | 7.2 | | 11.4 | 11.4 | |
| Frigg | 4.0 | | 23.1 | 4.2 | | 24.2 |
| Varg | 3.5 | 3.5 | | 8.6 | 8.6 | |
| Heimdal | 1.2 | 0.3 | 5.3 | 0.5 | 0.1 | 2.1 |
| Vale | 0.5 | 0.2 | 1.2 | | | |
| Yme | | | | 0.5 | 0.5 | |
| **Total Norway** | **432.2** | **320.8** | **622.7** | **406.1** | **312.9** | **524.4** |
| ***International*** | | | | | | |
| Girassol | 17.6 | 17.6 | | 0.4 | 0.4 | |
| Terra Nova | 15.8 | 15.8 | | | | |
| Hibernia | 9.0 | 9.0 | | 7.4 | 7.4 | |
| Kharyaga | 3.4 | 3.4 | | 4.4 | 4.4 | |
| Mabruk | 2.4 | 2.4 | | 2.6 | 2.6 | |
| **Total International** | **48.2** | **48.2** | | **14.8** | **14.8** | **0.0** |
| **Total** | **480.4** | **369.0** | **622.7** | **420.9** | **327.7** | **524.4** |

(1) Includes crude oil and NGL/condensate.
(2) Includes Snorre, Tordis, Tordis Southeast, Tordis East, Borg, Statfjord East and Sygna fields.
(3) Includes Sleipner West, Sleipner East, Gungne and Sigyn fields.

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*Norway*

**Oseberg Fields**. The Oseberg Fields consist of the Oseberg Field Center, Oseberg C and the two satellites, Oseberg Øst and Oseberg Sør. Oil and gas from the satellites are piped to the Oseberg Field Center for processing and transportation. Oil from Oseberg Field Center is brought ashore by the Oseberg Transport System pipeline to the Sture terminal in Norway. Oil production from the Oseberg Field Center and the Oseberg C platform are currently in the decline phase. Gas export from the Oseberg Field Center and the satellites began in 2000 and 2001, respectively. **Tune**, a sub-sea well template, came on stream in November 2002. The template is tied in to the Oseberg Field Center. The rich Tune gas arriving at Oseberg Field Center is processed and routed in the Oseberg Gas Transport pipeline to the Heimdal terminal and further to continental Europe. In February 2003, a revised PDO for the development of the Oseberg Sør field was sent to the authorities for approval. The revised PDO covers the J-structure which now is planned to be developed with a separate sub-sea installation with production start up in October 2004.

**Troll Field**. The Troll operations consist of two floating production units linked by oil pipeline to the Mongstad terminal in Norway and a gas platform linked by pipeline to treatment facilities located at the Kollsnes gas terminal in Norway. Gas from the Troll field represents a major part of Hydro s current developed gas reserves and gas production.

**Snorre Fields**. The Snorre fields include the Snorre, Tordis, Vigdis, Statfjord Øst and Sygna fields. Production of oil and associated gas from the **Snorre field** began in 1992. Snorre B came on stream in June 2001. Oil and gas from the Snorre field is piped to the Statfjord field for processing, storage and transportation. Production of oil and gas from the **Tordis field** began in 1994. Oil from the Tordis field is processed on the Gullfaks C platform. Production from the field peaked in 1996 and is currently in the decline phase. Since the Tordis field started declining, several satellite structures have been connected to the field, Tordis Øst (1998), Borg (1999) and Tordis Sørøst (2001). In 1999, water injection was implemented to increase the recoverable reserves from the field. Production of oil and gas from the **Vigdis field** began in early 1997. The Vigdis field production started declining in 2000. To maintain production, a plan for development and operation for the Vigdis Extension was submitted to and approved by the government in 2002. Production start-up is expected in December 2003. Oil from the Vigdis field is processed on the Snorre platform and piped to Gullfaks A for storage and transportation. The **Statfjord Øst** and **Sygna** fields started production in 1994 and 2000, respectively. Both fields are linked to the Statfjord C platform.

**Sleipner Fields**. Production of gas and condensate began at **Sleipner Øst** in late 1993 and from **Sleipner Vest** in the middle of 1996. Production from the satellite fields, **Gungne**, **Loke Trias** and **Sigyn** began in 1996, 1999 and 2002, respectively. Gas from Sleipner is exported through Gassled and the condensate is transported to the Kårstø facilities. A decision was taken in 2002 to develop the northern part of the Sleipner Vest field with 3 sub sea-wells. These wells will come on stream during the second half of 2004.

**Gullfaks Fields**. The Gullfaks complex consists of three integrated platforms where production started in 1986. The satellite fields **Gullfaks Vest, Gullveig**, **Rimfaks** and **Gullfaks Sør** are linked to the field. Oil is transported by tankers from the fields while gas is transported by pipeline to the Kårstø terminal in Norway.

**Ekofisk Fields**. Ekofisk is the oldest operating field complex within Hydro s portfolio, having commenced production in 1971. In 1984, subsidence of the seabed around the complex was observed as a result of gradually decreasing reservoir pressure. In 1987 and 1989, measures were taken to safeguard recovery, including water injection, raising the oil platform and reinforcing storage facilities. In 1998 the original platforms were shut down and replaced by new facilities (**Ekofisk II**). Start up problems relating to gas processing equipment have affected and continue to affect production efficiency relating to gas output. However, oil output has gradually increased each year.

Abandonment of the satellite platforms has started and alternatives are being discussed for extending the lifetime of the centrally located Ekofisk I and Eldfisk platforms so as to increase both well potential and production capacities. The Ekofisk Area Growth project aims at installing a new wellhead platform tied in to the Ekofisk II process platform. The decision for this project is planned for spring 2003, with potential first production in 2005.

**Njord Field**. Production at the Njord field began in late 1997. The installation consists of a floating production unit combined with a tanker for storage and loading of oil. Gas produced is reinjected into the field to maintain reservoir pressure. An agreement related to the sale and lease back of the Njord B ship was entered into in January 2002. In 2002 Hydro entered into an agreement with OER Oil AS to reduce its ownership in Njord to 20 percent.

**Norne Field**. Oil production at Norne started in late 1997. The installation consists of a combined production and storage vessel including gas handling facilities and a gas transportation pipeline. Gas production from the field began in February 2001. The gas is transported via the Åsgard to the Kårstø gas terminal in Norway.

**Åsgard Unit**. The Åsgard Unit infrastructure covers the three fields, Midgard, Smørbukk and Smørbukk Sør. Oil production started from Åsgard in May 1999 and gas export from Åsgard B commenced in October 2000. Since the commencement of production, average gas export from Åsgard B has varied due to considerable technical problems. Beginning in the fourth quarter of 2000, Åsgard B experienced unforeseen technical problems resulting in substantially lower than expected production. In August 2001, the Åsgard B platform was shut down for repairs. Production at a lower rate commenced in January 2002. The repair work was completed by October 2002. Regularity arrangements were entered into with several fields to fulfill Hydro s delivery commitments and redelivery of the gas was fulfilled by end of 2002. In the early part of 2003 Åsgard Gas export has been shut down in 21 days due to technical problems, but these problems are now considered solved.

**Brage Field**. Production from the Brage field began in late 1993. Oil from Brage is transported to the Sture terminal via the Oseberg Field Center. Production from the field is currently in the decline phase. In 2002, Hydro entered into an agreement with OER Oil AS to reduce its ownership in Brage to 20 percent.

**Varg Field**. Varg is a minor field and nearly depleted. Hydro has sold its ownership share in the production license covering the field to Pertra effective August 1, 2002.

**Visund Field**. The Visund field floating production unit came on stream in early 1999. Oil produced from Visund is stored in and shipped from Gullfaks A. A sub-sea installation for developing the northern reservoir of Visund was put on stream early 2002. In October 2002 the authorities approved the plan for development and operation of the Visund Gas volumes. The project with start of export late 2005, includes increased gas treating and injection capacity, and export pipe via Kvitebjørn to Kollsnes.

**Frigg Field**. It is currently anticipated that the reserves from the Frigg gas field will be fully depleted between 2003 and 2004. Future production will be insignificant. The full carrying value of Hydro s investment in the Frigg fields has been written down in prior years due to low remaining production and high operating costs.

**Heimdal Field**. Heimdal is currently operated as a gas processing and distribution center for several operators after reconstruction of the platform in 2000 and 2001. Production of remaining reserves began in August 2001 after a temporary shut down during the construction period. This tail end production is expected to last until December 2003. The **Vale** field is developed by one satellite well that is tied to the Heimdal Gas Center. Production started in May 2002.

*International*

**Hibernia Field**. The Hibernia field is located in the Grand Banks area off the east coast of Newfoundland in Canada. Oil production came on stream in November 1997 Hydro has a 5 percent interest in the field.

**Terra Nova Field**. The Terra Nova field is also located in the Grand Banks area offshore Newfoundland and started production in January 2002. Hydro has a working interest of 15 percent.

**Kharyaga Field**. The Kharyaga field is located in Northwest Russia. The Russian authorities entered into a PSA under which production commenced in October 1999. Hydro s share in the PSA is 40 percent. However, in 2000 Hydro entered into a farm-out agreement with Lukoil that will reduce Hydro s share in the project to 30 percent. Approval of the agreement by Russian authorities was received in 2002 and the change will be reflected as soon as formalities have been solved. Phase 2 of the project is scheduled to start production in 2003.

**Mabruk West Field**. The Mabruk West field is located in Libya. Production started in 1995. Hydro became owner of a 25 percent interest in the license through the acquisition of Saga in 1999.

**Girassol Field**. The Girassol field is located in Angola. Oil production from Girassol started in December 2001. The installation consists of a FPSO vessel that is the largest of its type ever built. The processing capacity is above 200,000 boed and the storage capacity is 2 million barrels. Hydro has a working interest of 10 percent.

**Marketing of Production**

Energy and Oil Marketing buys and/or markets almost all oil and gas production from Exploration and Production (See the business description for Energy and Oil Marketing below).

**Transportation of Oil and Gas**

*Norway*

Effective January 1, 2003, the major gas transportation pipelines on the NCS merged into a new joint venture named Gassled. This is described more in detail in the business description for Energy and Oil Marketing below.

The information that follows reflects Hydro s interest in the major pipelines for the transportation of oil and gas from the NCS and in the corresponding land terminals as of January 1, 2003.

| Pipeline | End Point | Length (km) | Hydro s interest (percent) |
|---|---|---|---|
| Gassled | From the NCS to Germany, Belgium, France and the U.K | More than 6,000 | 11.134[(1)] |
| Norpipe Oil A/S (oil) | Ekofisk - Teesside (U.K.) | 354 | 3.50 |
| Oseberg Transport System (OTS) (oil) | Oseberg - Sture (Norway) | 115 | 22.23 |
| Frostpipe (oil) | Frigg - Oseberg (Norway) | 82 | 13.75 |
| Sleipner Øst NGL pipeline (NGL) | Sleipner - Kårstø (Norway) | 245 | 10.00 |
| Troll Oil 1 & 2 (oil) | Troll - Mongstad (Norway) | 165 | 9.73 |
| Norne Transport (gas) | Norne- Åsgard (Norway) | 130 | 8.10 |

(1) Hydro s interest will be 9.386 effective January 1, 2011

The **Sture** terminal includes facilities for further processing of crude oil from the Oseberg fields and production of a propane and butane mix (LPG). Three groups own these facilities (the SCUP facilities): OTS, Hydro (as 100 percent owner of the LPG facilities) and Vestprosess DA . Hydro owns a 17 percent interest in Vestprosess, a transportation system for condensate and NGL from Kollsnes and Sture to Mongstad, and a fractioning plant for refining of these products at the Mongstad plant. Vestprosess transports and processes products as produced from the Troll facilities at Kollsnes, from OTS, the SCUP facilities at Sture and from the Mongstad refinery. In 2002 there has been expansion work at the Sture terminal, preparing for the Grane oil in 2003.

***International***

Crude oil from the Hibernia and Terra Nova fields in Canada is transported from the field in dedicated offshore loading tankers directly to market or to a terminal located at Whiffen Head, Newfoundland. Hydro has an ownership interest in two of the tankers of 14.9 percent and 12.7 percent, respectively, and a 5 percent interest in the terminal. In addition, Hydro has long-term contracts for use of storage capacity at the terminal. The terminal has been expanded to accommodate the commencement of production at Terra Nova.

**Government Regulation**

The exploration and production activities of Hydro, as is the case for other oil and gas companies, are subject to government regulations of various kinds in different countries. In Norway, the oil and gas industry is governed by laws defining the rights of the government and license holders. The Norwegian government s participation in new licenses may vary from license to license. No maximum level has been indicated. In the 16th and 17th licensing rounds, the maximum government participation was 45 and 20 percent, respectively.

For licenses granted after July 1, 1985, the Norwegian governmental authorities can delay development of a field indefinitely under the Norwegian Petroleum Act. Should development be delayed, licensees can apply for an automatic extension of the license term corresponding to the delay period. For licenses granted before July 1, 1985, the conditions in the specific license apply.

Under the Norwegian Petroleum Act, the Norwegian government may, if vital national interests are at stake, direct the oil companies with interests on the NCS to reduce petroleum production. Due regard must be given to long-term gas supply agreements. The Norwegian government exercised its right under the Act in the period from 1987 to 1990, from May 1, 1998 until July 1, 2000 and for the first half of 2002.

The Norwegian government can require that licensees participate in the removal of offshore oil and gas installations (platforms, pipelines etc.) on the NCS when production ceases or at the expiration of the concessions, whichever occurs first. Under Norwegian law, dismantlement and removal costs are presently not tax deductible. However, a change in tax regulation related to this is expected in 2003. Under the current regulation the Norwegian government is required to reimburse participants for a portion of these costs. Costs are reimbursed in the same proportion as the accumulated petroleum taxes paid by each company over the time the installations have been in use in relation to the accumulated petroleum tax base for the same period. Hence, with the tax regime applicable to the petroleum industry, the Norwegian government would carry the larger part of such costs. The cost of any dismantlement and removal will vary depending on the type of installation and the decision of the authorities regarding the timing, type and degree of removal. Licensees are responsible for closure of individual wells and all costs related to the decommissioning of installations on the NCS. These costs are treated as deductible expense for both ordinary tax and special petroleum tax purposes. As indicated above the tax regime regarding the treatment and reimbursement of dismantlement and

removal costs is presently under evaluation. It is expected that the new regulation will allow for full deductibility for dismantlement and removal cost instead of a calculated reimbursement for the Norwegian government.

The Norwegian government has the option to take ownership of an installation at no cost to it at the end of the applicable concession period. In such case, the Norwegian government would assume total responsibility for any well closure and decommissioning costs after this time, and removal costs of the installation. As a basis for estimating Hydro s future liabilities related to well closures, decommissioning and removal costs of the installation, management evaluates Norwegian and international laws, treaties and practices, and the estimated value of recoverable oil and gas reserves that are expected to exist at the end of the various concession periods.

**Taxation in Norway**

**Ordinary Taxes.** Profits from Norwegian oil production are subject to Norwegian income taxes at the rate of 28 percent. Investments in oil and gas production facilities are depreciated over six years using a straight-line method of depreciation (i.e., 16 2/3 percent per year). According to a law introduced in 2001 such investments are depreciated over three years (i.e. 33 1/3 percent per year) if the purpose according to the development and operation plan is to liquidate the gas in a large-scale liquefaction facility**.** Depreciation starts when expenditures are incurred. Deductions for exploration and other costs can be taken in the year such costs are incurred. Revenue for tax purposes is based on market norm prices (as determined by a government-appointed board normally on a quarterly basis, but in recent years with large price fluctuations on a monthly basis) for crude oil and on realized prices for gas and other primary products. The taxation of a company s income associated with its exploration and production activities on the NCS is assessed on a consolidated basis.

**Special Petroleum Tax.** A special petroleum tax is levied on net income from oil and gas activities on the NCS less an uplift deduction at a rate of 50 percent. For capital expenditures incurred after January 1, 1992, the uplift is equivalent to five percent per year of the original amount of the capital expenditure for a six-year period starting when the expenditure occurs. Any uplift in excess of the net income can be carried forward indefinitely. Deficits relating to NCS exploration and production activities can be carried forward indefinitely, both for ordinary and special petroleum tax purposes. Deficits incurred in 2002 can be carried forward with interest. The Ministry of Finance is authorized to give guidelines on the interest rate.

**Thin Capitalization Rules/Allocation of Financial Costs.** Net financial costs previously have been allocated between offshore-related activities and other activities based on the relative net income from such activities. As of January 1, 2002, the allocation is based on the net tax values of the respective assets. Under the thin capitalization rules, the portion of interest expense, which is deductible for ordinary and special petroleum taxes, will be adjusted to reflect a debt-to-total capital ratio of 80 percent.

**Carbon Dioxide Emissions Tax.** Beginning January 1, 1991, the Norwegian government introduced a tax on carbon dioxide ($CO^2$) emissions from platforms. In 2003 the tax has been set at NOK 0.75 per standard cubic meter of gas. The $CO^2$ tax, which is treated as part of operating costs, is a deductible expense for both ordinary and special petroleum taxes.

**Royalty.** As of today, only two oil fields in which Hydro has an interest, Oseberg and Gullfaks, are subject to Norwegian government royalty levied on production. The royalty is being phased out and will be eliminated at the end of 2005.

**Area Fee.** The area fee is a fee per square kilometer of license area. The rates increase over time, beginning with the award of the license. The rate structure was modified and the rate level reduced in 1998. As of January 1, 1999, the area fee is not applied during the first year after the

license is awarded. The rate then increases to a maximum of NOK 70,000 per square kilometer per year approximately 16 years after the award of the exploration license.

**Taxation Outside Norway**

Hydro s international oil and gas exploration activities are covered by the tax legislation of the respective countries where it is involved, and is also to a large extent regulated by production sharing agreements (PSAs). The PSAs are normally negotiable, and the terms are unique for each project. Under a PSA, a host government typically retains the title to the hydrocarbons in place. When a discovery is made, the PSA typically allows the contracting company to recover all its exploration, development and operating costs and receive a share of profit, subject to certain limits. Normally, contractors carry exploration costs and risk prior to a commercial discovery. The fiscal and contractual conditions vary. A short description of the fiscal/contractual regimes in countries where Hydro has production of hydrocarbons follows:

**Canada.** The fiscal regime consists of both royalty and provincial/federal tax systems. Hibernia and Terra Nova have unique royalty systems, and there are also generic royalty regimes for the Grand Banks and Scotian Shelf areas. East Coast royalty regimes are project-specific and a resource allowance of 25 percent of operating income is deductible for income tax purposes in lieu of royalty paid. The East Coast royalty regimes are progressive with gradually increasing gross royalty prior to project payout, and net royalty tiers payable subject to payout tests on cumulative net revenue after deduction of uplifted costs. Tax depreciation of facilities is 25 percent per year based on a declining balance method of depreciation. Exploration expenses may be fully written off. The combined Canadian federal and provincial taxes are approximately 43 percent. Consolidation for tax purposes across all Canadian income is allowed within one legal entity (corporation), however it is not allowed between separate legal entities.

**Russia.** The Kharyaga field is taxed based on a PSA. The gross revenues after royalty are split on a cost oil share for cost recovery and a profit oil share for allocation between the State and the contractors. Unrecovered costs in a given year can be carried forward for later recovery. The share of the profit oil to the State is derived from a sliding scale that is both triggered and directly related to the project s accumulated internal rate of return. Thereafter, an additional 35 percent tax will be charges to the profit oil that was allocated to the contractor.

**Libya.** The Mabruk field is taxed based on a Development Production Sharing Agreement. A royalty share of the gross revenue is allocated directly to the State. The remaining gross income after royalty is split between a cost oil share to recover cost and a profit oil share allocated between the State and the contractors. Unrecovered costs in a given year can be carried forward until full recovery. The share of the profit oil to the State is derived from a sliding scale that is both triggered and directly related to the daily production rate and a payback factor. Thereafter, no additional tax is charged to the profit oil allocated to the contractor.

**Angola.** The producing field, Girassol, is taxed according to the PSA for Block 17 in Angola. A ring fence around each development area in the block applies for tax purposes. The State takes no direct participation in this block. The gross revenues are split between a cost oil share for cost recovery and a profit oil share for allocation of profit between the State and the contractors. Development costs are uplifted by a set percentage, and recoverable in yearly installments normally over a four-year period. Unrecovered costs in a given year can be carried forward for later recovery. Profit oil is split between the State and the contractors according to a sliding scale. As the internal rate of return of the accumulative net cash flow after tax increases, the profit oil split becomes more favorable to the State. Petroleum income tax is levied at a rate of 50 percent of the contractor s share of profit oil.

**Appendix A**

| Term | Definition |
|---|---|
| bcm | Billion cubic meters ($Sm^3$) |
| boe | Barrels of oil equivalents |
| boed | Barrels of oil equivalents per day. |
| bcf | Billion cubic feet. |
| cf | Cubic feet. |
| condensate | Light hydrocarbon substances produced with natural gas which condense into liquid at normal temperatures and pressures associated with surface production equipment. |
| LNG | Liquified natural gas. A liquid composed chiefly of natural gas (i.e., mostly methane). Natural gas is liquefied to make it easy to transport if a pipeline is not feasible (as across a body of water). Not as easily liquefied as LPG, LNG must be put under low temperature and high pressure or under extremely low (cryogenic) temperature and close to atmospheric pressure to become liquefied. |
| LPG | Liquefied petroleum gas. |
| NGLs | Oil and gas condensate and natural gas liquids. |
| proved reserves | The estimated quantities of crude oil, natural gas and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. |
| proved developed reserves | Reserves that can be expected to be recovered through existing wells with existing equipment and operating methods. Additional oil and gas expected to be obtained through the application of fluid injection or other improved recovery techniques for supplementing natural forces and mechanisms or primary recovery are included as proved developed reserves only after testing by a pilot project or after the operation of an installed program has confirmed through production response that increased recovery will be achieved. |
| proved undeveloped reserves | Reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion, but does not include reserves attributable to any acreage for which an application of fluid injection or other improved recovery techniques is contemplated, unless such techniques have been proved effective by actual tests in the area and in the same reservoir. Reserves on undrilled acreage are limited to those drilling units offsetting productive units that are reasonably certain of production when drilled. Proved reserves for other undrilled units can be claimed only where it can be demonstrated with certainty that there is continuity of production from the existing productive formation. |

| Term | Definition |
|---|---|
| $Sm^3$ | Standard cubic meters. For purposes of converting quantities of natural gas cited in this Annual Report, 1 $Sm^3$ = 35.3147 cubic feet. |
| development well | A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive. |
| exploratory well | A well drilled to find and produce oil or gas in an unproved area, to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir, or to extend a known reservoir. |
| field | An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature and/or stratigraphic condition. |
| reservoir | A porous and permeable underground formation containing a natural accumulation of producible oil or gas that is confined by impermeable rock or water barriers and is individual and separate from other reservoirs. |

**Energy and Oil Marketing**

Business information relating to Hydro s Energy activities and Oil Marketing operations are described separately below.

**Energy**

Energy s business activities include:

- marketing Hydro s equity oil production, including gas liquids
- marketing Hydro s gas production as well as third party gas to customers primarily on the European continent;
- Hydro s refinery operations;
- managing Hydro s sea borne transportation of crude oil, natural gas liquids (NGLs) and other petroleum products and Hydro s interest in the gas transportation system on the Norwegian Continental Shelf (NCS);
- production and sale of electricity generated at hydroelectric power plants in Norway;
- sourcing Hydro s natural gas and power requirements for its Norwegian and European industrial facilities; and
- developing Hydro s hydrogen and renewable energy business activities.

**Strategy**

As described above, one of the strategic directions for Hydro s Oil and Energy segment is to further enhance Hydro s position in the European energy market based on increasing gas production and commercial competence gained from the European gas market and the liberalized Nordic power market. Focusing on northwest Europe, Hydro is targeting the midstream market, including larger industrial customers and local distribution companies.

Focus areas comprise:

- enhancing the value of Hydro s Norwegian and international crude oil portfolio
- enhancing the value of Hydro s gas portfolio
- selective growth of Hydro s power sector business in the Nordic Region and continental European markets; and
- pursuing hydrogen and renewable energy opportunities.

***Enhancing the Value of Hydro s Norwegian and International Crude Oil Portfolio***

The focus of Energy s marketing efforts with respect to Hydro s North Sea and international crude oil production is to achieve optimal prices by marketing fewer grades of crude, in larger volumes, while minimizing logistical costs. Swap arrangements result in savings in logistical costs, particularly with respect to production from Hydro s international crude oil portfolio.

***Enhancing the Value of Hydro s Natural Gas Portfolio***

A major focus for Hydro in 2003 will be to increase the value of Hydro s natural gas portfolio through, among other things, more optimal utilization of Hydro s production and transportation capacity. Hydro will also work to increase its market share in the developing liberalized European gas market, particularly Northwest Europe growing both by increased access to gas from fields in which Hydro has an equity interest and by sourcing gas in the market. For a more detailed description of the liberalization process of the energy markets in Europe, see Industry Trends Liberalization of European Energy Markets.

In 2001, the Norwegian government decided to dismantle the system of collective Norwegian gas sales administered by the Gas Negotiating Committee (GNC). As a result, individual companies are now responsible for disposing of their own gas production. The new company-based gas sales system will allow Hydro to supply gas under new contracts from any part of its gas portfolio (rather than from specific fields), creating greater commercial flexibility.

The degree of implementation of the EU gas directive varies from country to country and, accordingly, the full effects of the liberalization process are not yet evident. However, more gas is available on the European continental short term market and liquidity is increasing at new hubs, complementing the existing long-term, bilateral agreements between producers and large end users and distributors. Hydro intends to evolve its trading activities reflecting the new regulatory regime, which is characterized by more flexible and liquid markets, new participants and a wider range of products being traded. Such market developments have been evident in the UK for some time and similar developments are under way on the European continent, most notably around the market hub in Zeebrugge in Belgium. Because of the increasing liquidity of the European gas market, Hydro no longer views having new long-term gas sales contracts in place as a prerequisite for making investment decisions for new gas fields such as the Ormen Lange field.

***Selective Growth of Hydro s Power Sector***

Since the liberalization of the Norwegian electricity market in 1991, Hydro has developed trading and marketing activities, along with analysis, portfolio and risk management systems. Hydro s Nordic electricity portfolio includes owned generation facilities, long-term supply contracts, internal and external sales contracts and short-term optimization contracts. Hydro has more recently begun to build a continental European electricity portfolio based upon optimization of supply to Hydro s larger consuming plants. Hydro is providing Nordic and continental European customers structured energy products and energy services ranging from physical power supply to advanced hydro-power optimization, pricing services and portfolio management, including market analysis, price forecasting and risk management/trading.

In 2003, Hydro will continue to pursue a selective growth strategy, with expansion into new markets and growth of Hydro s Nordic and continental European power portfolios based on demonstrated profitability. Hydro will endeavor to strengthen its systems, business model and control infrastructure to enable increased trading activities without increasing risk, and to expand its business in structured products and energy market services.

***Pursuit of Hydrogen and Renewable Energy Opportunities***

There is an increasing interest in renewable energy projects and the utilization of hydrogen in the energy market in developed economies throughout the world. The major political drive and basis for a number of public support schemes has its roots in the concerns about the security of energy supply and environmental considerations. Hydro has extensive experience within the traditional industrial hydrogen markets as well as with renewable hydroelectric energy production. Hydro is combining this experience with the new developments to establish the Company as a player in renewable energy projects and new energy markets for hydrogen.

Hydro is involved in several hydrogen projects targeting the transportation market and renewable hydrogen energy systems. The hydrogen generation solutions produced by Hydro s wholly owned subsidiary, Norsk Hydro Electrolysers, a world leading company within alkaline electrolysers, is one element of Hydro s strategy.

Hydro considers wind generation as a promising part of the renewable energy market and is making selective investments in this market. In 2002, Hydro completed the Havøygavlen wind park, located in Northern Norway, where Hydro holds a 41.5 percent interest. Havøygavlen is one of the largest wind power projects in Norway with an expected annual output of 118 GWh.

**Industry Trends**

***Oil and Refining Markets***

By historical standards crude oil prices have been high over the past three years. However, in real terms crude oil prices have trended downward since 1986, primarily as a result of lower production costs outside of OPEC due to technological progress. This trend is expected to continue. OPEC aims to function as a stabilizing force in the market, with varying levels of success. Its long-term price target is still considered to be approximately USD 25 per barrel, significantly above the marginal cost of new production outside OPEC. This makes the price target unrealistic in the long term and results in cyclical periods of high and low prices from the interplay between market forces and actions taken by the cartel.

The global oil market in 2003 will continue to be heavily influenced by the OPEC cartel and the world economy. In addition to these factors the market faces a possible war in Iraq and political unrest in Venezuela. Market management by OPEC, together with tension in Iraq and Venezuela is expected to keep the forward Brent Blend market at levels well above the average price for 2002 during 2003. The forward market is currently close to the average price for 2002 for the second half of 2003, as the market expects reduced world political tension later in the year.

In the long term, refinery margins are expected to gradually improve as a result of a strong political drive to tighten product specifications on transportation fuels as a result of environmental concerns. This will require investment to upgrade refineries and will simultaneously lead to increased operating costs at refineries.

***Liberalization of European Energy Markets***

Both the gas and electricity markets are undergoing liberalization as a result of EU policy. The European Union (EU) gas directive of 1998 required owners of gas pipelines to open up their transport systems, including systems within domestic markets, to third parties, such as distribution companies and large industrial customers, in order to bring greater competition to the European gas markets. In June 2002, the Norwegian parliament (Stortinget) agreed to incorporate the EU gas directive into its legislation as part of the European Economic Area (EEA) agreement.

Since adoption of the EU gas directive, the European Commission has launched proposals for accelerating the liberalization process. An agreement was reached in the EU Council on November 25, 2002 on proposed amendments to the gas directive which was presented to the EU Parliament for a second review in early February 2003. The proposed amendments contemplate a fully open market for nonresidential customers by July 1, 2004 and for all customers (including residential customers) by no later than July 1, 2007.

Liberalization of electricity markets in Europe continues at varying rates of progress from country to country. Implementation of the deregulation process required by the EU electricity liberalization directive of 1996 was, to a large extent, left to the EU member states. As a result each country designed its own national market structure which are, to some extent, not compatible. The European Commission has acknowledged these deficiencies on a number of occasions, indicating that action will be taken to remedy the situation. Amendment proposals for the electricity directive have been developed.

***Growth in European Natural Gas Demand; Market for Norwegian Gas in the UK***

The demand for natural gas in Europe is, by some estimates, expected to grow significantly from the level of 480 billion cubic meters in 2001, fueled in large part by demand from the electric power industry. However, there are uncertainties regarding the timing of further increase in the gas consumption in the electricity sector. Norway s share of European gas markets is approximately 12

percent. However, it is expected that this percentage will rise in future years based on existing contract commitments and remaining reserves.

The UK, in particular, is an interesting market for new Norwegian gas due to an expected decline of production as a result of maturing UK North Sea fields by 2005. Given its close proximity, Norway is considered a competitive source for new deliveries. Norwegian fields are presently linked to the UK through the Vesterled pipeline to St. Fergus, which can handle 11-12 billion cubic meters per year. Necessary additional pipelines are being evaluated as part of development plans for new gas fields such as the Ormen Lange field.

***Development of Gas for Power***

Growth in power consumption in Europe is expected to be approximately 1 percent per year for the foreseeable future. Demand for gas for power production in Europe is expected to grow substantially during the next 20 years. Several factors influence this trend, including the ongoing liberalization of electricity markets, implementation of environmental restrictions relating to CO2 emissions and developments in oil and coal prices. Current market conditions in continental Europe appear not to justify investment in new gas for power facilities. However, the Nordic region is experiencing a change towards much tighter electricity supply, as experienced during the winter of 2002/03 and gas for power production may become economic sooner in this area.

***Integration of Energy Markets***

Along with the liberalization of the energy markets in Europe there is a trend towards integration of the electricity and gas markets because the business models are, to a large degree, based on the same competence, types of customers and similar risk management systems. The restructuring among industry participants reflects a trend toward integrated European energy companies, both upstream and downstream in the value chain.

***Energy Trading***

After the withdrawal of certain primarily trading based companies from the European energy markets, trading volumes of both gas and electricity has declined. However, the current size of the financial trading activity appears more in line with the general development of liquidity in the physical spot market.

Unusually low precipitation in Scandinavia during the autumn of 2002 and high demand due to cold weather resulted in record high power prices on the Nordpool power exchange and a temporary decrease in trading liquidity. However, this is not expected to have a negative long-term effect on the future liquidity of the Nordic power market or the power exchange.

**Competitive Strengths**

***Experience from liberalized Energy Markets***

Hydro has an established position in the value chain in both the European gas and power markets, being a producer of gas and power, an owner of natural gas transportation systems, an active trader in the markets, and having customer portfolios in the industrial/wholesale market both for gas and electricity.

By combining all commercial activities for energy products and services in one operating segment, Hydro leverages its commercial skills and contacts in each of the energy sectors. Hydro is able to build on experiences gained in one market in pursuing opportunities resulting from similar processes underway in new markets. Hydro s experience as a major producer and consumer of energy products has enabled it to provide services to major electricity customers in the Nordic region.

***Major Gas Producer in the NCS***

Because of location, transportation infrastructure and substantial reserves, both discovered and undiscovered, Norwegian gas is competitive in the European region. Hydro is the third-largest producer on the NCS. Hydro has an interest in all the major gas fields and pipelines on the NCS. From 2002 to 2006, Hydro s gas production is expected to increase from 6.4 to around 10 billion cubic meters. Hydro is also operator in the development phase of Ormen Lange, the second-largest gas discovery on the NCS and a major candidate for long-term supply of gas to Europe. Production is expected to begin in 2007.

Hydro has made substantial investments in gas export capacity from the Oseberg and Troll fields, together comprising a major portion of its proved gas reserves. This capacity will enable Hydro to increase exports of gas significantly in the coming years as reservoir conditions allow more off take of gas without the need for further investment.

***European Downstream Gas Position***

Through the NCS gas transportation system, Hydro has access to four landing points for gas in Europe. This situation offers a flexible and favorable position with respect to capturing value in the market. In the Continental market, Hydro has achieved an attractive position through a combination of long-term sales contracts, long-term supply contracts, access to transportation and as a result of being the largest industrial consumer of natural gas in Europe. On the basis of this portfolio, Hydro is actively addressing the end-user market as liberalization continues in addition to trading on the different gas trading hubs.

**Power Sourcing and Marketing Activities**

| (in TWh) | 2002 | 2001 | 2000 |
|---|---|---|---|
| Power production | 10 | 10 | 12 |
| Acquired under long term contracts for production facilities | 7 | 7 | 7 |

All of Hydro s power plants are hydroelectric. Annual production varies depending on annual precipitation and inflow to reservoirs. It is expected that the production in 2003 will be lower than normal due to less precipitation in Norway during the autumn and winter of 2002/03.

Hydro has clear title concessions (which do not revert to the Norwegian government) for power plants with a generating capacity of 2.7 TWh per year. This represents approximately 31 percent of Hydro s normal production capacity. The remaining production capacity will revert to the Norwegian government without compensation at the expiration date of the concessions. This will take place in the period between 2018 and 2052.

Energy supplies electric power to Hydro s industrial plants in Norway. To meet those needs, Hydro has entered into long-term purchase contracts, the majority of which are with the Norwegian state-owned power company, Statkraft. These long-term contracts provide assurance of the availability of a certain quantity of power to Hydro s power-intensive industries. In 1997, Hydro entered into an agreement with Statkraft to purchase electricity from 2000 to 2020. The agreement replaces supplies under existing contracts, which terminate during the 2006 2010 period. In addition,

the 1997 Statkraft agreement provides an additional 1 TWh per year from 2000 to 2020. The price for these deliveries is based on a price formula tied to market prices for aluminum.

**Oil Trading and Refining**

| Sales (000's tonnes) | 2002 | 2001 | 2000 |
|---|---|---|---|
| Crude oil/NGL | 19,068 | 17,507 | 16,307 |
| Oil products | 2,326 | 2,912 | 2,795 |

| Refining (000's tonnes) | 2002 | 2001 | 2000 |
|---|---|---|---|
| Gasoline | 660 | 841 | 956 |
| Diesel fuels, gasoils, etc. | 796 | 897 | 915 |
| Heavy fuel oil | 550 | 440 | 516 |
| Other | 36 | 66 | 59 |
| Total refining | 2,042 | 2,244 | 2,446 |

Trading activities include the sale of Hydro s crude oil, refined oil products and NGL production, as well as the supply of NGL feedstock to Hydro s fertilizer and petrochemical plants. The volumes of these activities have increased partly due to Exploration and Production s increased oil and gas production over the past years.

Hydro owns 25 percent of the Scanraff refinery in Sweden after the merger in 2002 of the companies Scanraff and Scancracker. Scanraff is one of Europe s most modern refineries with a crude oil capacity of ten million tonnes per year.

**Marketing of Natural Gas**

| (in bcm) | 2002 | 2001 | 2000 |
|---|---|---|---|
| Equity gas production | 6.4 | 5.4 | 5.1 |
| Non-equity sales and sourcing | 4.2 | 2.7 | 2.4 |

Natural gas produced from fields in which Hydro has an interest is mainly sold under long-term contracts. Pricing under such contracts is generally based on a market principle whereby the natural gas price is indexed to oil product prices in the end user market, mainly gas oil and low sulfur fuel oil, and has provisions for price reviews based on changes in certain market conditions.

In 2002 equity gas production from NCS amounted to 6.4 bcm. Based on producing fields and fields under development, this is expected to increase to 10 bcm in 2006. In addition to its equity gas, Hydro in 2002 supplied 4.2 bcm based on non-equity gas of which 2.1 bcm was supplied to Hydro s industrial factories on the European continent.

**Transportation of Natural Gas**

Gassled the new gas infrastructure joint venture on the NCS has been in operation from January 1, 2003. The gas pipelines and associated terminals had previously been organized as several different joint ventures owned by oil companies and the Norwegian government. During the spring of 2001, the Norwegian parliament requested the owners of the infrastructure to initiate negotiations with the aim to establish a unitized ownership structure. The objective was to facilitate an efficient operation and to simplify further development of the transportation system. During the spring of

2002, the infrastructure owners agreed to establish Gassled, the merged gas infrastructure joint venture. Gassled will consist of the following systems: Europipe, Europipe II, Norpipe, Zeepipe, Franpipe, Vesterled, Statpipe, Oseberg Gass Transport, Åsgard Transport and the Kårstø terminal. Gassco, a 100 percent state-owned company, is the operator of Gassled. Hydro holds an initial direct ownership interest of 11.134 percent in Gassled. The ownership interest will be reduced to 9.386 percent in 2011. Hydro also has a minor indirect ownership interest through the ownership of Norsea Gas. Hydro does not anticipate that the establishment of Gassled will substantially change Hydro s net gas transportation cost consisting of tariff payments and system revenues.

A uniform access regime for the gas infrastructure on the NCS has been established resulting from legislation imposed by the Norwegian Ministry of Petroleum and Energy. The objective has been to create a neutral regime for all companies requiring transportation capacity. All natural gas undertakings and eligible customers that have a duly substantiated reasonable need of transportation will, in the future, have a right to access the system under non-discriminatory, objective and transparent conditions. Access to the system will be based on long term and short term transportation agreements. Gassco will be responsible for enforcing the capacity management system. The new access regime was implemented by the Norwegian Government through amendments to the petroleum regulations. Tariffs have been established through new, separate regulations with effect from January 1, 2003.

**Investments**

The amounts disclosed in this section represent investments made in the respective years, which include additions to property, plant and equipment, plus long-term securities, intangibles, long-term advances and investments in non-consolidated investees.

Investments in 2002 totaled NOK 443 million, related primarily to the upgrading of the Tyin hydro power station in Norway.

**Electricity Ordinary Taxes (Norway)**

Profits from hydroelectric power production are subject to ordinary Norwegian income taxation at a rate of 28 percent. Fixed assets are depreciated for tax purposes over 67 years or the concession period, if shorter (dams and tunnels); 40 years (machinery); and at a 5 percent declining balance (transmission and other electrical equipment). The depreciation base of fixed assets was revalued as of January 1, 1997. The higher basis will be deductible in future years in the form of increased tax depreciation.

A company s ordinary income tax for hydroelectric power plants is assessed on an aggregated basis and may be tax consolidated with other activities in Norway.

**Electricity Surtax on hydroelectric power plants (Norway)**

In 1996, a tax law was enacted in Norway for hydroelectric power plants effective from January 1, 1997. In addition to ordinary income tax, the major provisions of the law called for the introduction of a surtax. The surtax rate is 27 percent. The surtax is assessed individually for each hydroelectric power plant (ring-fenced taxation). Unlike the ordinary income tax, finance costs are not deductible. Uplift is a special deduction in the net income computed as a percentage of the average tax basis of fixed assets (including intangible assets and goodwill) for a given year. The percentage, which is determined annually by the authorities, essentially provides for a certain return on capital that is not subject to surtax. The percentage used to calculate the uplift for 2002 was 10.5 percent.

Revenue for surtax purposes is based on market spot prices with certain exceptions. Revenues from power supplies used for a company s own industrial production facilities and from sales under certain long-term contracts are not subject to market spot price adjustments. As most of Hydro s hydroelectric production is used for its own production or sold under qualifying contracts, only a minor portion of the production is subject to taxation based on spot prices at the time of production.

Losses can be carried forward indefinitely or until the plant reverts to the Norwegian government. Losses carried forward is increased with interest.

As mentioned above the depreciation base for ordinary taxation was revalued as for January 1, 1997. This revaluation also has effect for depreciation and uplift for the surtax. For additional information see Note 10 to the Consolidated Financial Statements.

Apart from the uplift deduction, the provisions for finance costs and the use of spot prices for revenue measurement, the elements of the ordinary tax and surtax base are identical.

A natural resource tax related to hydro-generated electricity became effective as of January 1, 1997. The rate for 2003 is NOK 0.013 per kWh. The tax is fully deductible from the ordinary income tax of the company.

**Oil Marketing**

Oil Marketing markets and sells refined petroleum products (gasoline, diesel and heating oil) and electricity to retail customers in Scandinavia and the Baltic countries. Hydro owns 100 percent of the Company s operating unit in Sweden and 50 percent of Hydro Texaco, an oil marketing company with retail outlets in Norway, Denmark and the Baltic countries. Hydro markets a range of complementary energy products in addition to refined petroleum products, such as electricity, natural gas, biogas for cars, bioenergy for heating purposes and convenience store goods.

**Strategy**

Hydro s strategy for the foreseeable future is to maximize Hydro s return on investments already made in its gasoline station chains by focusing on the most profitable stations and closing smaller and unprofitable outlets, building a strong brand recognition and expanding on profitable segments of the market. Service stations with high profitability potential will be expanded to include a convenience store/fast food unit, and service stations with limited prospects will be converted into automatic stations.

**Industry Trends**

***Increased Competition in the Service Station Segment***

Many industry experts believe that competition in the service station segment will continue to intensify as in the recent years. Several oil companies and food retailers have entered this segment by investing substantially in the convenience store concept. As a result, it is expected that the convenience store/fast food unit concept will be the focus of future development.

**Competitive Strengths**

***Extensive Service/Automate Station Network***

Hydro has invested and continues to invest significantly in automated stations and continues to introduce convenience stores at filling stations. Hydro and Hydro Texaco operate both service stations and automated stations in the retail segment. As a result, Hydro s established market position provides flexibility to maintain its competitiveness.

***Large Customer Base***

Hydro has brand name recognition and a strong position in the most profitable segments of the industrial and residential heating oil markets. Its large customer base offers a platform for the sale of electricity, which is the main substitute for heating oil. Also, Hydro s and Hydro Texaco s large customer bases provide a significant potential for cross sales. Sales of electricity have, to date, been relatively modest compared to Hydro s sale of gasoline and gasoil, but is growing.

**Sales and Distribution**

At the end of 2002, Hydro s retail network in Sweden comprised 574 gasoline stations and 117 Hydro Diesel service stations. Hydro operates both Hydro and the Uno-X branded stations in the Swedish gasoline market. Approximately 50 percent of the station network is Hydro-branded.

Hydro Texaco operates 398 gasoline outlets and 46 diesel sites in Norway, 444 gasoline outlets and 106 diesel sites in Denmark, and 39 gasoline outlets and 10 diesel sites in the Baltic countries with Hydro Texaco or Uno-X brands.

Gasoline is sold through service stations and unmanned, automated stations in all markets. Gasoils are sold through automated diesel stations and through direct deliveries from depots to end consumers.

| Volumes (000 s m3)[1] | 2002 | 2001 | 2000 |
|---|---|---|---|
| Gasoline | 1,476 | 1,500 | 1,534 |
| Gasoil | 2,074 | 2,084 | 2,042 |

[1] Includes 100 percent of Hydro Texaco

The market share in the Swedish gasoline market declined by approximately 1 percent in 2002 mainly as a result of the discontinuation of agreements with Volvo dealers and their customers. These agreements will be phased out over a period of 5 years, from 2001 to 2005. Oil Marketing is currently evaluating potential deals to compensate for the loss in market share.

The Danish gasoil market share declined by 1.6 percent mainly as a result of HydroTexaco s decision to go out of low margin volumes.

| Market share (%) ( 2002))[1] | Sweden | Norway [2] | Denmark [3] |
|---|---|---|---|
| Gasoline | 10.5 | 20.0 | 15.6 |
| Gasoil | 14.5 | 16.2 | 18.0 |

[1] Includes 100 percent of Hydro Texaco
[2] As of November 2002
[3] As of October 2002

**Investments**

The amounts disclosed in this section represent investments made in the respective years, which include additions to property, plant and equipment, plus long-term securities, intangibles, long-term advances and investments in non-consolidated investees.

Investments for the Oil Marketing segment in 2002 totaled NOK 56 million, related primarily to repairs and maintenance of depots and the existing retail network, and the construction of new automate outlets in Sweden. Hydro Texaco had investments of NOK 140 million in 2002, primarily related to repairs and maintenance and the construction of new outlets.

**Hydro Aluminium**

During the first quarter of 2002, Hydro acquired VAW and the French building systems company, Technal. Both companies are fully integrated into Hydro Aluminium s operations. Hydro s consolidated results include the operating results of VAW as of March 15, 2002 and Technal, as of January 26, 2002. Hydro s acquisition of VAW continued the trend of increasing industry consolidation, driven by the need to generate greater economies of scale and cost savings in an increasingly mature and more globally cost-competitive industry.

As of January 1, 2002, Hydro Aluminium s organizational structure is as follows:

During year-end 2002, an agreement was signed to sell the Flexible Packaging operations. The transaction was approved by regulatory authorities in EU in February 2003.

With the VAW acquisition, Hydro Aluminium solidified its position as one of the top three integrated aluminium companies in the world (Alcoa is number one; Alcan; number two). Hydro Aluminium is now a more full range aluminium company with leadership positions in, for Hydro Aluminium, new market segments (foil and lithography in the Rolled Products sub-segment), a strengthened extrusion and automotive offering and a greater presence in North America and Asia. With the strategic steps taken in 2002, Hydro Aluminium has strengthened its position as a world-class, integrated player in the aluminium industry.

The VAW acquisition represented the single biggest step Hydro Aluminium took in 2002 to enhance its competitive position in the midst of rather challenging market conditions for the aluminium industry. The global recession and the generally weak demand for aluminium continued throughout 2002. This exacerbated the global supply/demand imbalance leading to high inventory levels and weak aluminium prices. For the industry as a whole, price developments for critical raw materials for upstream production (i.e., electricity and alumina) resulted in a further squeeze on margins. The impact on Hydro was less severe because of its numerous long-term or London Metal Exchange (LME)-related energy and alumina contracts. In general, there was deterioration in operating results among industry participants. In 2003, weak economic conditions, the threat of war in

Iraq, and uncertainty about the level of aluminium exports from China provide an outlook of continued weak demand and prices, creating the potential for further downward pressure on margins.

The VAW acquisition has provided a greater balance between Hydro Aluminium s primary upstream production and downstream activities, as the value chain depicted below illustrates. Further, VAW s downstream activities complement and broaden Hydro Aluminium s product portfolio, contributing to such activities achieving a critical size. Accordingly, Hydro Aluminium perceives that it is now well-positioned to face the current and future market and industry challenges, drawing upon its considerable organizational strengths, innovative business solutions and good customer relations.

The VAW acquisition had the immediate advantage of expanding Hydro Aluminium s portfolio of cost-attractive plants given the scale of several of the smelters and rolling mills acquired. Furthermore, it provided new opportunities to capture the synergies available from a larger scale of operations. This included streamlining the selling, general and administration processes, reducing manning, and sharing best production and other practices to enhance productivity (revenues) and reduce fixed and variable costs. Hydro Aluminium dedicated significant time and attention in 2002 to the successful integration and extraction of synergies from the acquisition. These efforts will continue with full force in 2003 to assure the entire potential is realized.

Even before the VAW acquisition, Hydro Aluminium had implemented cost improvement programs. In 2002, Hydro Aluminium achieved its cost and manning targets for these programs. This resulted in aggregate savings of approximately NOK 1 billion during 2002 compared to the base line cost level in 2001 for the combined Hydro Aluminium and VAW businesses. Closure of the primary magnesium production in Norway yielded NOK 430 million of the total savings. Additional programs announced in connection with the VAW acquisition resulted in the remaining NOK 560 million in savings. Staff reductions during 2002 totalled 528 employees in the primary magnesium operations and 708 employees associated with other cost reduction initiatives.

Hydro Aluminium increased its total savings targets in the fourth quarter of 2002. Cost reduction targets for the combined savings programs were increased by NOK 400 million to a total of NOK 2.5 billion by the end of 2003, to be achieved with full effect in 2004. These savings are compared to the cost level of the combined Hydro Aluminium and VAW businesses in 2001. This includes the target for cost savings of NOK 500 million related to the closure of the primary

production of magnesium in Norway, of which NOK 430 million was, as noted above, achieved by year-end 2002. Total costs directly related to the implementation of the improvement programs are expected to be approximately NOK 1.4 billion, of which NOK 990 million was incurred by the end of 2002.

***Effect of Currency Exchange Rates on Operating Results***

LME prices are denominated in US dollars. Further, a portion of Hydro Aluminium s production of aluminium is sold in local currencies based on US dollar exchange rates. This leads to operating results, which are reported in NOK, being negatively impacted by the strengthening of the NOK against the USD. However, as a result of the acquisition of German and overseas smelters as part of the VAW deal, the Metals sub-segment is now relatively less exposed to the USD/NOK exchange rate and more exposed to the USD/EURO exchange rate.

Although the alumina price is also denominated in US dollars (as are most raw material costs), Metals Brazilian-based alumina business (through its non-consolidated investee, Alunorte) is heavily exposed to the USD/Brazilian real exchange rate. A decline in the value of the Brazilian real against the USD, which is the predominant financing currency for Hydro s aluminium operations, can lead to a currency loss with respect to Metals interest in Alunorte, as occurred in 2002.

**Metals**

Hydro Aluminium s Metals sub-segment ( Metals ) consists of the two sectors, Primary Metal and Metal Products. The Metals sub-segment encompasses Hydro Aluminium s upstream activities, principally the production and sale of virgin aluminium produced in Hydro s smelters. Metals activities also include the processing of scrap into high quality products for the mid- and downstream markets, all aluminium and raw materials trading activities, Hydro s magnesium operations and its high purity business.

**Strategy**

Metals business strategy reflects a continued focus on:

- active restructuring and improvement of the production portfolio to increase volumes and improve the relative cost position of Hydro s smelter system;
- leveraging its increasingly global metal supplier concept of developing alternative metal sources and expanding Hydro Aluminium s remelt capacity;
- improving operational performance by implementing improvement projects and capturing synergies; and
- sourcing a sufficient and cost-effective supply of alumina.

***Active Restructuring of Production Portfolio***

The acquisition of VAW was a step forward in one aspect of meeting Hydro s ambition to be one of the top three integrated aluminium companies in the world. However, being among the top is not only about size but performance. In order to be cost competitive in the primary metals industry, scale of production necessary to achieve cost competitive unit production costs is crucial. Metals principal focus throughout 2002 has been on improving its competitive position. The VAW acquisition improved significantly Hydro Aluminium s average upstream production cost position by expanding its portfolio of cost-attractive smelters beyond Norway and Central Europe to, most notably, Australia

(the location of the wholly-owned Kurri Kurri smelter) and Canada (the location of the Alouette smelter, in which Hydro Aluminium now has an equity interest of 20 percent).

Hydro Aluminium plans to increase the share of its production being produced at smelters with a capacity of more than 250,000 tonnes per year from 27 percent in 2002 to approximately 46 percent in 2006. The expansions are in the upstream area (both alumina and primary production), where the existing infrastructure supports a larger capacity. This can be done at a lower investment level than a corresponding new or greenfield investment. Expansion of an existing facility improves the operating cost position of the plant, thereby improving Hydro Aluminium s overall long-term cost position.

To streamline operations and improve its overall cost position, Metals has initiated several expansion projects. Phase one of the aluminium plant expansion in Sunndal, Norway started production in fourth quarter 2002, as planned. The new production line replaced an old line (based upon outdated Søderberg technology) that was no longer cost-competitive and did not meet modern environmental performance requirements. The plant expansion will be completed in 2004, increasing capacity in total by 173,000 tonnes to approximately 330,000 tonnes. Furthermore, Hydro approved the participation in the expansion of the Alouette smelter in Canada. Total annual primary aluminium production capacity will increase by 307,000 tonnes to 550,000 tonnes in 2005, making Alouette the largest aluminium smelter in North America and among the world s lowest cost smelters. Hydro s share of the production is 20 percent. To strengthen its internal supply of alumina, a raw material, Metals is participating in an expansion project of the Alunorte alumina refinery in Brazil. When completed, Alunorte will be one of the most competitive alumina refineries in the world. During 2002, Hydro decided not to take part in a greenfield aluminium smelter in Iceland. These decisions are consistent with Metals strategy to selectively invest in high potential, brownfield expansions with comparatively low investment cost and a high overall cost improvement ratio.

An example of a small-scale efficiency improvement investment is the on-going program to increase the amperage in the smelter potrooms to increase output and improve productivity, with virtually no capital cost.

***Metal Supplier Concept***

In view of the high investment costs associated with new smelter capacity, since the 1990s Hydro Aluminium has pursued a multi-sourcing strategy, which it refers to as the metal supplier concept. This strategy has had two primary components: (1) develop alternative metal sources through commercial alliances and other agreements; and (2) expand Hydro Aluminium s remelt activities.

Hydro Aluminium has entered into several long-term commercial alliances and agreements that further its strategy of developing and leveraging the metal supplier concept with limited asset investment. Under the most recent of these agreements, Hydro Aluminium will participate in upgrading the aluminium cast house at Rusal s Sayanogorsk smelter, located in southern Siberia. Upon completion of the first stage of the construction, anticipated at the end of 2003, Hydro Aluminium will be supplied with 80,000 tonnes per year of high quality extrusion ingot. The second stage, to follow a few years later, will further increase casting capacity up to 160,000 tonnes.

As an active player, especially in the central markets in Europe, Hydro Aluminium has developed its network of extrusion ingot suppliers and other cast house products so that its proximity to customers is as close as possible.

Hydro Aluminium has established remelt plants for conversion of scrap metal into extrusion ingot in all major European markets. Facilities are located in Luxembourg, the UK, Germany and France, as well as at the metal plants in Norway. A new remelt and extrusion ingot cast house in

Spain came on stream in 2002. The plant, with an annual capacity of 60,000 tonnes, will serve the growing market for extrusion ingot in Spain and Portugal.

***Operational Performance***

Following the completion of the VAW acquisition on March 15, 2002, Hydro Aluminium undertook the rapid integration of the two companies upstream activities. To capture the synergies associated with the acquisition, Hydro Aluminium launched a program encompassing internal benchmarking to identify and implement cost savings through the introduction of best practices work processes across the units and the optimization of production systems. Together with the improvement programs already in place, these programs have made a significant contribution to the reduction of average cash costs per tonne (defined to include liquid metal costs, casthouse costs, site overhead costs, freight costs, interest costs of work in progress and other costs). Implementation of improvement programs in 2003 is expected to result in realization of further synergies and cost savings.

***Sourcing Supply of Alumina***

Hydro Aluminium has secured a part of its long-term alumina requirements for its primary metal production through equity investments. In 2002, approximately 40 percent of its alumina requirements for primary metal production were provided by such investments. With the expansion at Alunorte, a Brazilian alumina refinery, this share will increase to approximately 50 percent in 2003.

The Alunorte expansion program, to be completed in 2003, will increase Alunorte s capacity from 1.5 million tonnes to approximately 2.3 million tonnes per year. In connection with this expansion, Hydro s equity interest increased from 32.3 percent to 34 percent in 2002. The refinery has the potential for further expansions based on local bauxite resources.

Hydro Aluminium also has a 35 percent equity interest in the Alpart alumina refinery in Jamaica, which has an annual production capacity of 1.5 million tonnes. Alpart secures long-term supplies of bauxite from local sources.

Hydro Aluminium s remaining alumina requirements are covered by medium- to long-term contracts with price formulas based upon a percentage of the LME price.

Notwithstanding the current primary aluminium overcapacity situation, industry analysts expect that some 2.6 million tonnes per year of new aluminium smelting capacity will come on stream in the Western World alone in the next four-to-five years; up to 5.2 million tonnes per year of new capacity could come on stream in China during this period. Some industry analysts have expressed concerns about whether the greenfield and expansion projects in the alumina sector that are currently in the planning stages will be adequate to meet the projected growth in demand from the aluminium sector. The cost of alumina is the biggest single component of the cash cost of producing primary aluminium metal, comprising around 35-40 percent on average. Although the price of alumina has been historically correlated with the price of aluminium in the long-term, there might occur differences in the market price between alumina and aluminium at least in the short-term, when an increased aluminium production is not supported by new alumina capacity. This risk is heightened given the greater industry concentration for alumina (as compared to the upstream aluminium production market) that affords alumina industry suppliers greater pricing power.

Hydro Aluminium s overall short strategy is based on the belief that over time new alumina production capacity will materialize to support the growth in world alumina consumption. Higher prices would encourage expansion in the alumina industry, the closure of less productive aluminium production and restored balance in the market over time. Brief periods of tight alumina supply will occur from time to time, but Hydro Aluminium does not base the sourcing of alumina on spot market operations, thus the sourcing portfolio is not very exposed to short-term imbalances. The share of

Hydro Aluminium s metal production being supplied from its own alumina sources is evaluated periodically as part of an ongoing monitoring of the alumina industry. Hydro s portfolio of equity alumina, medium- and long-term contracts, and a flexible smelter system capable of accepting many sources of alumina, positions it well to face shorter term alumina shortages.

**Industry Trends**

***Increasing Global Aluminium Production Capacity***

Shipments of aluminium in the Western World increased by close to 500,000 tonnes in 2002 (roughly 2.5 percent). Western World production increased by around 600,000 tonnes. About 400,000 tonnes related to new capacity and the balance was due to the restart of previously idled capacity in Brazil. Worldwide, production grew a reported 5-6 percent in 2002 to approximately 26 million tonnes.

China increases uncertainty around the potential oversupply situation that could negatively affect international prices. China has traditionally been a net importer of aluminium. However, during 2002 China s capacity and production increased by about 30 percent while consumption grew by roughly 20 percent. Net exports from China in 2002 were estimated at 250,000 tonnes. Over the longer term, China s consumption is expected to utilize more of its aluminium production.

Registered stocks increased by 280,000 tonnes in 2002. However, taking into account accumulation of unreported inventories, the total estimated increase in primary inventories amounted to some 600,000 tonnes. This reflects the low growth in industrial activity in 2002.

The worldwide balance between supply and demand and the extent of the overcapacity will depend on economic conditions and the rate of growth in demand for aluminium. In 2002, growth in demand in the US, currently the world s largest aluminium consumer, and Europe was low to moderate. The outlook for 2003 is uncertain, although macroeconomic forecasts have gradually become more pessimistic. Early warning signals and confidence indicators have improved somewhat in the US. Macroeconomic forecasts would suggest that there could be a recovery in US aluminium shipments in 2003. However, this will depend upon, among other things, uncertainty around or an actual war in Iraq. Europe and Japan are expected to have moderate, though potentially improving, growth. The Asian market (excluding Japan) is expected to experience strong growth. While shipments may increase in the Western World by approximately 4-5 percent, worldwide production is likely to increase by close to 600,000 tonnes. If these estimates prove accurate, inventories in 2003 would be expected to increase by approximately 500,000 tonnes.

In light of the current oversupply situation, low aluminium prices and higher energy costs, there is a need to cut production. In 2002, several of the leading players in the industry, including Alcoa and Alcan, announced the permanent closure of smelter capacity. Continued low prices may also accelerate the closure of older, inefficient smelters, which could positively contribute to the demand-supply balance.

***Long-Term Growth in Consumption***

Notwithstanding current market conditions, the longer term prospects for aluminium companies remain more optimistic. During the last 50 years, the growth rate in the consumption of aluminium has been higher than any of the other competitive metals. Presently, more aluminium is produced than all other nonferrous metals combined. The estimated average long-term growth in total aluminium consumption in the Western World amounts to approximately 3 percent per year, somewhat higher than the expected growth in GNP/industrial production of 2.5 percent per year. The demand for virgin, primary metal is expected to increase on average by about approximately 3 percent per year, taking into consideration the long-term growth in total aluminium consumption and estimated increase in recycling of used scrap of more than 4 percent.

***Restructuring in the Industry***

Important structural changes continue to take place within the aluminium industry. Ownership concentration, defined as the share of primary aluminium capacity held by the six major companies in the Western World, has increased from 43 percent in 1995 to about 55 percent in 2002. Major acquisitions contributing to this trend are the Alcan/Algroup (Alusuisse) merger and Alcoa s takeover of Reynolds Metals in 2000, as well as Hydro Aluminium s acquisition of VAW in 2002. The industry consolidation is being driven by the need to generate economies of scale in an increasingly global, competitive and mature marketplace. Reinforcing the level of consolidation among primary metal producers is the increasing concentration of control of alumina suppliers.

Although the Western World aluminium industry has become less state-influenced, with government-controlled production dropping from 25 percent in 1995 to about 18 percent at the end of 2002, in Asia there has not been the same trend. Future privatization of aluminium companies in countries such as China and India may create opportunities for further industry consolidation.

**Competitive Strengths**

***Customer Service***

Metals has extended significantly its supply capabilities through the expansion and modernization of existing plants, acquisitions and the construction of remelt plants. Moreover, Hydro Aluminium has consistently strengthened its commitment to customer service and increased the efficiency of its production systems. Metals regional market teams have competencies within technical and commercial service, research and development, logistics, contract administration and scrap conversion. Market teams are organized in such a manner that each member of the team can communicate in the local language of the customer s respective professionals.

To enhance its existing service level, Metals implemented a new program in 2001 called Hydro Billet Plus. The aim of the program is to reward the sub-segment s most important customers and customers who wish to increase their business volume. The program includes a comprehensive service package including technical support, as well as activities aimed at helping customers manage their own business and market risks. The program was also extended by an ePortal where customers can initiate orders and access a range of additional technical and financial services.

***Remelt Know-How***

The remelting and recycling of aluminium is not only an environmental and political issue, but also an important part of Hydro Aluminium s business strategy. Conventional wisdom in the aluminium industry, particularly in the US, has been that high quality metal could only be produced by primary smelting operations. Scrap-based facilities were thought to produce alloys with less rigorous specifications. Ten years ago, Hydro Aluminium determined to channel its research and development efforts into technology and operating practices to achieve primary quality metal from scrap. By controlling the metal microstructure and cleanliness, through the use of Hycast molten metal degassing and filtration equipment, state-of-the-art homogenizing furnaces and cooling chambers, Hydro Aluminium has been able to produce specific alloy series from scrap of a quality on par with primary metal, both in terms of physical properties and rate of extrusion.

***Duty Advantages***

Aluminium produced within the European Economic Area, which includes Norway and some other countries, presently enjoys a nominal duty advantage of 6 percent (effectively about 5 percent)

of the metal price on sales to within the EU. This has been subject to debate within the EU and it is not possible to predict whether this advantage will be maintained in the medium to long-term.

**Issues/Risks Relevant to Competitive Position**

***London Metals Exchange Price Level***

The projected London Metals Exchange (LME) price for standard aluminium ingot in 2003 is USD 1,350 per tonne. This figure reflects the expected metal surplus described above. Metals operating results are negatively affected by lower LME prices, although some major costs for the production process (purchased alumina and electricity in the German and Canadian smelters) are linked to the LME price. The variance in the LME price, combined with changes in currency exchange rates, can have a material impact upon Hydro Aluminium s results as a whole even though its downstream operations are principally margin businesses that are less directly impacted by the LME price level.

***Power Contracts***

To mitigate risks related to increases in power prices, Hydro Aluminium has negotiated long-term contracts for the Norwegian smelters (much of which is purchased within the Group) with pricing terms not tied to changes in the LME price. For the former VAW smelters in Germany and Canada, the power contracts are linked to the LME price. The contract for the Canadian smelter is a long-term contract, whereas the power contracts for the German smelters will expire at the end of 2005. New contracts will be negotiated, but given the present market situation and political threat of new eco-taxes to be levied on energy producers, it is not possible predict the outcome of such negotiations. The contracts for the Australian smelters are also long-term contracts that ensure a competitive cost position.

**Production of Virgin Primary Aluminium**

Alumina (aluminium oxide) and energy are the major raw materials for primary aluminium production. Alumina is produced from bauxite through a chemical process. It takes 4-5 tonnes of bauxite to produce two tonnes of alumina. Aluminium is produced through the electrolytic reduction of alumina. Approximately two tonnes of alumina yield one tonne of aluminium.

The process of separating the aluminium from the oxygen in alumina requires electrical energy. The smelting of one tonne of aluminium requires between 13 and 17 megawatt hours of electric energy. Hydro Energy produces a significant part of the electricity required by its Norwegian primary aluminium smelters at its own hydroelectric generating plants, the basis for competitive aluminium production in Norway.

Hydro Aluminium produces its virgin primary aluminium at twelve wholly- or partly-owned primary aluminium smelters. Due to high power prices in Norway in 2002, Hydro Aluminium made minor reductions in the production at some of its Norwegian smelters where it was possible to sell electricity back to the market under terms of the electricity contracts. This reduced production by approximately 1,000 tonnes. Most smelters operated at full capacity during 2002. Production at the smelters and tonnes sourced from other main sources during the three most recent years is reflected in the table below:

| Aluminium production (tonnes) | 2002* | 2001 | 2000 |
|---|---|---|---|
| *Primary Aluminium* | | | |
| Karmøy | 273,000 | 272,000 | 270,000 |
| Årdal | 206,000 | 206,000 | 204,000 |
| Sunndal | 153,000 | 156,000 | 154,000 |
| Høyanger | 73,000 | 71,000 | 72,000 |
| Søral (Hydro s 49.9 percent share) | 67,000 | 62,000 | 62,000 |
| Slovalco (20 percent share) | 22,000 | 18,000 | 17,000 |
| Rheinwerk | 173,000 | | |
| Elbewerk | 48,000 | | |
| HAW (33.3 percent share) | 33,000 | | |
| Kurri Kurri | 122,000 | | |
| Tomago (12.4 percent share) | 45,000 | | |
| Alouette (20 percent share) | 38,000 | | |
| Total virgin primary aluminium production | 1,253,000 | 785,000 | 779,000 |
| Remelting | 449,000 | 425,000 | 387,000 |
| Average price primary aluminium (USD/tonne per LME 3-month price) | 1,365 | 1,454 | 1,567 |

* Excludes VAW volumes before the closing on March 15, 2002

**Sales and Trading**

Most of Hydro Aluminium s own production of aluminium cast house products is sold in Western Europe, to semi-fabricating plants like extruders, rollers and wire mills, as well as foundries. The main consumer areas are transportation, construction and packaging. The major consuming countries are Germany, France, the UK, Italy and Spain. The aluminium is sold in the form of value-added products such as extrusion ingot, sheet ingot, wire rod and foundry alloys.

Hydro Aluminium also engages in trading of aluminium and related raw materials. Aluminium trading activities consist of physical metal purchases and sales, as well as trading on the LME. Hydro Aluminium s raw material and metal traders sold externally 478,000 tonnes of primary aluminium products in 2002 compared to 538,000 tonnes in 2001. The main trading product is standard aluminium ingot, which is also the global aluminium product on which price quotations on the LME and other metal exchanges are based. For additional information on derivative commodity instruments, see Item 11. Quantitative and Qualitative Disclosures about Market Risk.

**Metals Magnesium Business**

Hydro is the world s largest producer of primary magnesium. The industry in the Western World, excluding China and CIS, is comprised of fewer than 10 producers with a total production estimated at 220,000 tonnes. China was reported to be producing roughly 195,000 tonnes, 170,000 tonnes of exports and 25,000 tonnes of indigenous production. In 2002, Hydro Magnesium s combined production of primary and recycled magnesium was 80,000 tonnes.

The increased quantities of Chinese magnesium available in Western markets have resulted in significant downward pressure on magnesium prices over the past several years. The doubling of the European Union s anti-dumping duties in 2000 had limited effect. The downward price pressure was exacerbated by the soft aluminium and automotive markets in North America and low growth in demand in Europe. In view of these market conditions, Hydro Aluminium terminated its primary magnesium production in Norway. A magnesium remelt plant is now operating on the site of the closed primary metal facility utilizing certain of the plant equipment and expertise formerly engaged

in the production of primary metal. The closure of the Norwegian operations reflects the Company s strategy to focus capacity within the higher margin alloy and remelt market sectors. The Becancour plant in Canada has a total annual production capacity of 48,000 tonnes of primary metal (pure magnesium and magnesium alloys) and a recycling capacity of up to 22,000 tonnes per year. It was recently announced that the Noranda magnesium plant in Canada would be temporarily closed. The potential impact on the magnesium market is not yet foreseeable.

In 2002, the new magnesium foundry in Xi an, China continued to ramp-up. The plant started operations in late 2001 and has a capacity of approximately 10,000 tonnes of metal and 400 tonnes of anodes after full ramp-up. This first venture in China is expected to provide a foundation for additional activities in the future.

Hydro Aluminium also has a recycling plant in Germany with a capacity of 7,500 tonnes.

**Metals High Purity Business**

As a result of the VAW acquisition, Hydro Aluminium is now a world market leader, in terms of production, for high purity aluminium products. The industry is quite concentrated, with two producers in Europe, four in Japan, two in China and one in Russia. The high purity aluminium business is a niche business tied to the electronics industry. Most of the material is used as raw material for electrolytic capacitors or for semiconductors. The worldwide consumption of high purity aluminium for capacitors with an aluminium content between 99.98 99.998 percent was about 60,000 tonnes in 2002. The demand for aluminium content between 99.999 99.9999 percent**,** primarily for semiconductors, is estimated to be 800 tonnes. Through its three production sites in Japan, Norway and Germany, Hydro Aluminium sold about 15,000 tonnes in 2002.

After a substantial decline in the market in 2001, there was a significant recovery beginning in the second quarter of 2002. Global production capacities are still not fully utilized, putting downward pressure on market prices. Given these market conditions, Hydro Aluminium reduced its high purity aluminium inventories in 2002 by more than 50 percent and is now positioned to restart temporarily stopped furnaces. Japan currently represents roughly 75 percent of the market for high purity aluminium, but demand in China increased significantly in 2002.

**Investments**

In 2002, Metals investments (defined to include additions to property, plant and equipment, long-term securities, intangibles, long-term advances and investments in non-consolidated investees) totaled NOK 12,728 million, compared with NOK 1,872 million in 2001 and NOK 2,437 million in 2000. The primary contributor to the increase in 2002 was the acquisition of VAW. Other large investments in 2002 included the modernization and expansion at Sunndal, the expansion activities at Alunorte, and a new baking furnace built at the carbon plant, Aluchemie. These investments were made to improve the operating cost position of the plants (through economies of scale), thereby improving Hydro Aluminium s overall long-term cost position.

**Rolled Products**

Hydro Aluminium s Rolled Products sub-segment ( Rolled Products ) consists of four business units serving different market segments: Lithography, Foil, Strip and Automotive. Hydro s product range comprises a wide variety of foil, strip, sheet and plate products used in the packaging, automotive and transport industries, as well as the construction and printing industries. In addition to flat rolled products, the sector sells and produces wire rod, a semi fabricated product used mainly in the electrical conductor market. The table below illustrates the different products and the markets served by each of Rolled Products business units:

| | Lithography | Foil | Strip | Automotive |
|---|---|---|---|---|
| Products | Strip/Sheet<br>- Plain | Foil<br>- Plain<br>- Converted | Strip/Sheet<br>- Plain<br>- Lacquered<br>- Cladded<br>- Converted<br><br>Wire rod | Strip/Sheet<br>- Plain<br><br>Welded tubes |
| Markets | Offset plates for the printing industry | Flexible packaging<br><br>Technical applications | Packaging<br><br>Beverage cans<br><br>Building<br><br>General engineering<br><br>Heat exchanger<br><br>Electrical applications | Wheel and axle components for the automotive industry |

Volumes, sales growth rates, and market shares in the Rolled Products business description are *pro forma* figures for the combined VAW and Rolled Products assets for all of 2002, unless explicitly expressed otherwise.

With the ambition of becoming one of the top three integrated aluminium companies in the world, Hydro Aluminium recognized the need to strengthen its flat rolled products segment since such products represent 50 percent of the world s aluminium consumption. As a result of the VAW acquisition, Hydro established important European positions within high margin rolled products segments such as lithographic (printing) plates and foil, as well as obtaining a 50 percent ownership interest in the world s largest hotmill, Aluminium Norf GmbH (Alunorf).

With the acquisition, Hydro Aluminium evolved from a rather marginal to a leading position in the European rolled products business with more than 80 years of experience as a specialist in the rolling and converting of rolled products. Rolled Products is the world s fourth-largest producer of flat rolled products measured by volume. In Europe, Rolled Products has a clear number three position with an overall market share of 19 percent. Within attractive business units such as lithography and foil, Rolled Products has a number one position in the main geographical areas in which these units operate.

During the past few years, the industry has consolidated due to major acquisitions for example, Alcoa s acquisition of Reynolds Metals and Alcan s merger with Alusuisse. Hydro s downstream aluminium operations now face competition from increasingly global and stronger players. As explained more fully below, Rolled Products intends to meet the competitive challenges presented by focusing on productivity and cost improvements, product development and innovation, and pursuing limited growth opportunities in areas of strength.

The rolling business is seasonal in nature. Demand is typically low during July, August and December, especially within the building, construction, foil and can businesses. During these months, planned maintenance work is scheduled.

**Strategy**

***Optimization of Product Mix and Capacity Utilization***

Rolled Products, like the rest of the rolling industry, produces a wide variety of products for different industries and with very different product margins. The important success factors within the rolling industry are to optimize the product mix and capacity utilization, as well as to streamline the production system. There are large spreads in margins between different products, with the most attractive products limited in terms of demand. It is vital for a rolling mill to have a high degree of capacity utilization to be cost competitive. Delivering customer value, while optimizing product mix and continuously improving the production system, is therefore a day-to-day challenge. Rolled Products has implemented a sophisticated IT-based planning tool to optimize mill loading to ensure the highest contribution per bottleneck capacity.

***Productivity and Cost Improvements***

Enhancing productivity and reducing cost levels are high on the agenda in all areas within Hydro Aluminium. In 2002, a separate program with defined actions was established to contribute to an improved cost base for Rolled Products. The synergies captured are expected to be a mix of cost savings, optimization of production systems, capitalization on specific technical and commercial knowledge, and increased sales through an extended customer base. Moreover, a cost improvement program will be launched in 2003 to reduce costs, both within sales and general administrative functions, in addition to improving the cost base in the production system.

***Market Position in Lithography***

Both on the demand and supply side, the lithography market is characterized by a few large players. Rolled Products has a strong global presence with an approximate 29 percent market share, placing it number one in this market. Over the last four years, the Lithography business unit had an average annual growth in sales volume of about 7 percent, outpacing the 3 percent growth in general lithography demand. Rolled Products attributes this primarily to its focus on quality and customer service. Hydro s Lithography business is well-positioned to continue to expand its customer base and meet increased competition from more consolidated industry players.

***Market Position in Foil***

In Europe, Rolled Products Foil business unit has a number one position, with an overall market share of 30 percent. Foil has leveraged its market-leading position in Europe to respond to the needs of global customers for a global supplier with a local presence. In 2001, Rolled Products acquired a 65 percent ownership interest (increased to 81 percent in 2002) in a Malaysian rolling mill to serve as a base for sourcing customers in the Asian region. Living standards in Asia are rising hence packaging needs are growing rapidly and foil is one of the most important packaging materials.

***Optimize Strip Production System and Product Range***

The Strip unit is Rolled Products base business, characterized by high volumes and lower margins. For this business, high capacity utilization and production efficiency are key. The current strategy is to optimize the combined production and market system of Hydro s Rolled Products and the former VAW to realize the full potential of the integrated business operations.

***Develop Opportunities in Automotive Body Sheet***

Automotive flat rolled products are expected to have higher growth than other flat rolled products in Europe, with an estimated annual increase in consumption from 2001 to 2006 of 20 percent. Principally using its existing asset base, Hydro Aluminium intends to expand its flat rolled

product range from non-visible applications to applications that are visible (referred to as the body-in-white market) on a finished manufactured vehicle. Body applications are expected to be a strong, growing market segment due to the car makers constant need to reduce weight. As the surface quality requires a special quality, a new finishing line is under construction in Grevenbroich, Germany.

**Issues/Risks Relevant to Hydro s Rolled Products Business**

***German Legislation to Promote Recycling of Beverage Cans***

In January 2003, Germany enacted legislation to promote, through refunds, the recycling of all types of sparkling beverage packaging. The legislation may have the effect of reducing the can packaging market in Germany, though any decrease would be expected to be more significant for cans made of steel rather than aluminium given aluminium s greater ability to be recycled. Rolled Products is only marginally exposed because 95 percent of its present beverage can business is for consumption outside Germany.

***Capacity in the Finished Product Sector***

Rolled Products constantly monitors the capacity utilization rate in the industry, as overcapacity is always a threat to maintaining margins. Capacity restructuring and consolidation within the rolled products industry can present a challenge for all market participants. At the present time, Rolled Products is not experiencing any material long-term margin deterioration.

**Production**

The physical lead-time in the rolling production process averages between 2 to 3 months. The rolling process from rolling sheet ingots is illustrated below.

The table below shows the ownership interest and production volume per site in Rolled Products production system.

| Site | Share % | Sales Volume for 2002 (in kilo tonnes) * |
|---|---|---|
| Grevenbroich, Germany | 100 | 494 |
| Hamburg, Germany | 100 | 127 |
| Slim, Italy | 100 | 79 |
| INASA, Spain | 100 | 24 |
| AISB, Malaysia | 82 | 12 |
| Karmøy, Norway | 100 | 62 |
| Holmestrand, Norway | 100 | 65 |
| Alucoat, Norway | 100 | 29 |
| Wire Rod, Karmøy, Norway | 100 | 75 |
| Alutubes, Germany | 100 | Tube welding |
| Hydro Dormagen, Germany | 100 | Slitter only |
| Alunorf, Germany | 50 | 591 |

* includes 647 kilo tonnes per year of external shipments

**Sales and Distribution**

A major part of the sales functions is organized centrally along the product and business unit dimension. Such organization enables optimization of sales, planning and production in Rolled Products total rolling system. Distribution is partly organized centrally and partly decentralized to ensure customer satisfaction. All major transportation contracts are optimized and negotiated centrally.

**Investments**

In 2002, Rolled Products investments (defined to include additions to property, plant and equipment, long-term securities, intangibles, long-term advances and investments in non-consolidated investees) totaled NOK 7,437 million, compared with NOK 201 million in 2001 and NOK 249 million in 2002. Investments in 2002 were primarily used for the acquisition of VAW s rolling business. In comparison, a normal investment level necessary for maintaining the Rolled Products existing operations would be approximately NOK 600 million on an annualized basis.

**Extrusion and Automotive**

The Extrusion and Automotive sub-segment of Hydro Aluminium consists of three sectors: Extrusion, Automotive and North America.

**Extrusion**

The Extrusion sector ( Extrusion ) is primarily focused on the European market, but also has some operating entities in Brazil, Argentina and South Africa. Extrusion is Europe s largest soft alloy extruder of aluminium in terms of volume. Extrusion mainly consists of general extrusion activities and its Building Systems unit. With respect to its general extrusion activities, Extrusion supplies custom-made general extrusions of soft alloy aluminium, surface treatments such as anodizing and powder coating, fabrication, components and finished products. Building Systems supplies complete design and solution packages to metal builders, enabling them to supply both the commercial and residential building markets with products, such as facades, partition walls, doors and windows, as well as other building applications through its three main brands: Technal, Wicona and Domal.

In January 2002, Extrusion enhanced its position through the acquisition of Technal, a French-based manufacturer of aluminium building systems. Integration of Technal progressed ahead of schedule throughout 2002, allowing the sector to realize more of the estimated synergies more rapidly than originally planned. Technal s strong market position in France and solid positions in Spain, Portugal and the UK complements Extrusion s overall European standing. Prior to the acquisition, Extrusion s largest markets were Germany and Italy. The Technal acquisition augmented Extrusion s general extrusion operations through the addition of extrusion capacity in France and by doubling Building Systems volumes. This puts Extrusion into a leading position in building systems in Europe based on extruded aluminium.

**Automotive**

The Automotive sector ( Automotive ) comprises all of Hydro Aluminium s precision tubing, structures and casting businesses worldwide. Automotive is a world-leading supplier of aluminium extrusion-based applications within crash management, drawn tube applications used primarily within radiators, fuel coolers and liquid lines, and casting of cylinder heads and engine blocks. Automotive is the market leader in crash management applications in Europe and has a market share of 80 percent of aluminium bumper beams. Automotive is involved in crash management in North America and will increase its US bumper production in 2003 based upon existing contracts. The sector has achieved safety awards for crash management systems supplied to several vehicles.

Automotive s precision tubing unit has a global leading position with market shares of approximately 60 percent in Europe, 40 percent in North America, and 50 percent in South America. The unit also supplies part of the Chinese market through its plant in China.

Through the acquisition of VAW, Hydro s Automotive sector acquired VAW s casting business and technology. The sector is now the world s leading (non-captive) supplier of aluminium cylinder heads and engine blocks. Through its technological leadership and in cooperation with Daimler Chrysler, Automotive has developed the first aluminium high performance, high volume diesel engine block.

**North America**

The North America sector ( North America ) is comprised of all non-automotive extrusion and remelt plants in the US. Through the acquisition of Wells Aluminum in 2000 and VAW s North American extrusion assets in 2002, the sector has become the third-largest extrusion company in the North American market with a market share of approximately 8 percent. The North America sector has a leading position within the North American drawn tube market and also supplies extrusion-based products to the transportation, building and construction, and consumer durable markets. The sector operates six remelters, including its new remelter in Commerce, Texas (started operations in 2002), representing one of the largest remelting systems in the US. In 2002, progress was made in improving performance at several of its remelters.

**Strategy**

***Focus on Value-Added Products in Extrusion***

In 2002, the Extrusion sector successfully focused on improving performance in a continued challenging market, gaining market share while not impairing margins. The Extrusion sector intends to continue to expand its product offering through selected forward integration into product refinements such as surface treatment and machining of extruded profiles to improve margins and volume. Further, the Extrusion sector will seek to increase its production capacity through organic growth and selective acquisitions should the right opportunities appear.

***Improving profitability in Automotive***

In 2002, Automotive continued to focus on its core competencies within crash management, cast cylinder heads and engine blocks, and continuous development of products within the drawn tube area. The sector signed new contracts within all its strategic focus areas, which will increase capacity utilization levels going forward. In the last few years, Automotive has had a high period of growth necessary to establish itself as a serious supplier to the highly demanding automotive industry. Automotive has been challenged by a substantial number of new product introductions, start-up problems common on new lines and rapid organizational development. The main emphasis in 2003 will be a fix strategy aimed at improving profitability by streamlining production processes to reduce costs.

***Permanent Capacity Reduction and Press Productivity in North America***

In 2002, the North America operation was challenged by poor customer demand that would not support its existing cost structure. The old VAW headquarters in Florida and a Kentucky office were closed in 2002. Furthermore, the asset portfolio was adjusted to market conditions by the closure of a Georgia extrusion plant, allowing the transfer of existing contracts to other facilities to improve press utilization and profitability. These closures are part of an overall strategy to upgrade North America s operations and improve the asset base following the integration and restructuring of the three previously separate entities that now comprise this sector (i.e., the original Hydro activities and the former Wells Aluminum and VAW plants).

Currently, North America s press productivity, although on par with the average within the North American industry, lags behind that of the European Extrusion units. Corrective actions to narrow the gap through controlled maintenance and competence transfers between Hydro activities are underway to increase productivity.

During 2003, the main strategy will continue to be to increase productivity, improve product quality and reduce cost to raise profitability for the North American operation to an acceptable level.

**Issues/Risks Relevant to Extrusion and Automotive s Business**

***Volatility of Extrusion Business***

The US market has proven to be more volatile to market downturns in the economy than Europe. The North American extrusion market fell by approximately 21 percent from 2000 to 2001, and remained flat in 2002. European shipments declined by approximately 4 percent and 3 percent during the same periods. The US market tends to be a more homogenous market, while the European market has different cycles in different countries. North American operations were particularly effected by the trailer market segment, which experienced the largest decline. Weak demand is expected to continue in 2003. The lower production levels have been met by plant closures both by Hydro and its competitors. However, the primary response to a falling market is to scale back production at the plants, through reduction in number of shifts and consequently reduction in work force.

***Building/Construction Markets in Europe Remain Depressed***

In Germany, the biggest building and construction market in Europe, construction level contracted throughout 2002. There were also weaker market conditions in Portugal, Spain and the UK. France and Italy were better than the trend curve in 2002; however, a weakening is expected in 2003.

***Sales of Global Light Vehicles to Remain Flat***

The global light vehicle market in 2002 was slightly down compared to the 2001 when approximately 56 million units were sold. The primary reason was Europe, with a decline of about 4 percent. US sales were up approximately 1 percent, stimulated by strong incentive programs throughout the year. Anticipated sales for global light vehicles for 2003 remain uncertain. The US market is expected to decline if the high level of incentives offered by the car manufacturers are either dropped or reduced. The European markets are also showing signs of continued weakness, particularly in the important German market. The uncertain political situation pertaining to the Iraqi situation is expected to have a considerable negative impact on new car sales if a war should erupt.

**Production and Products**

The conversion of aluminium billets into fabricated and finished products requires the application of a variety of intermediate processes. The primary products produced within all three of Extrusion and Automotive s sectors are extruded aluminium profiles, used primarily within the building and construction markets and the transportation segment. Within the Automotive sector, extrusion technology is coupled with the high technological competence level in Hydro to produce solutions for the automotive industry, primarily within the crash management area. In addition, in North America sales include high quality extrusion billet from its remelt system.

**Sales and Distribution**

Through its organizational model, Hydro s extrusion businesses have implemented a strong decentralized operation, facilitating close relationships with customers. By combining the entrepreneurial and performance-driven plant system with Hydro s global metal competence base, Hydro is able to sell not only value-added products but also value-added services. Through its extensive network of more than 80 manufacturing plants throughout Europe, the Americas and Asia, Hydro is able to provide global competence for local needs.

**Investments**

In 2002, Extrusion and Automotive s investments (defined to include additions to property, plant and equipment, long-term securities, intangibles, long-term advances and investments in non-consolidated investees) totaled NOK 5,153 million, compared with NOK 1,454 million in 2001 and NOK 2,389 million in 2000. Investments in 2002 principally related to the acquisition of Technal and VAW, as well as rationalizing and upgrades of the existing business activities.

## AGRI

### General

Hydro Agri produces and sells ammonia and mineral fertilizer products, including nitrogen-based finished products such as urea, nitrate fertilizer and complex fertilizer, as well as third-party sourced phosphate and potash fertilizer. Hydro Agri s fertilizer business is global and substantial in size. Over half of Hydro Agri s sales are made outside its home market of Europe, a position which is unique in the industry. This reduces exposure to problems in one specific region and also provides arbitrage opportunities between different geographic markets. It also helps smoothen the effects of seasonality inherent in the mineral fertilizer business. Hydro Agri s purchasing power promotes advantageous pricing terms when buying from other producers and reduces the need for heavy investment in new plant and equipment to support growth.

***Fertilizer value chain***

Hydro Agri is sourcing fertilizer product from a combination of own production plants mostly located in Europe, from joint venture plants and from third parties. A global planning function optimizes supplies for sale through Hydro Agri s regional business units. A current drive to further enhance productivity in Hydro Agri s plants both in Europe and in overseas growth markets like Brazil and Vietnam, is expected to increase availability of own product and may influence the trend of steadily increasing third-party sourcing. The current situation with a nearly balanced position between deliveries to European and non-European markets, demonstrates the substantial impact a flexible sourcing system has had and will continue to have on Hydro Agri s overall business.

***Seasonality***

The fertilizer industry is characterized by seasonal fluctuations. Generally in Europe about 80 percent of annual fertilizer use occurs in a six-to-eight week season. In contrast, production takes place evenly throughout the year. Approximately 65-70 percent of the annual sales of Hydro Agri s European production of fertilizers takes place in the period from September to March. In order to assure that product is available at agricultural cooperatives and wholesalers in the peak period and to fully utilize the storage capacity of the total distribution system, Hydro Agri seeks to sell products more evenly throughout the year. The combination of Hydro Agri s distribution network in Europe and overseas smoothens seasonal demands for deliveries and allows for better capacity utilization in the distribution as well as the production system.

***Successful turnaround***

In 2001, Hydro Agri completed a turnaround program begun in 1999, achieving total manning reductions in excess of 30 percent compared to 1998 levels, as well as equivalent fixed cost reductions. During this period, production per employee increased by 1000 tonnes or 37 percent, while fixed costs per tonne decreased by approximately NOK 40 or 17 percent.

Further measures were initiated during 2001 to drive fixed costs lower, including new organizational structures at certain production sites aimed at delayering and merging operational functions. In addition, actions aimed at improving capacity utilization were identified and targets established at specific sites for volume improvements. Aiming to avoid new turnarounds, Hydro Agri is focused on continued improvement through a large number of smaller projects throughout the organization, such as seeking to extract more product from existing plants, and scale and synergies in the global logistics and marketing network. Targeted reductions in fixed costs in 2003 are more modest than in the past several years as Hydro Agri approaches the bedrock of its current business and organizational structure.

In the period from 1999 to the end of 2002, Hydro Agri has exited nearly 50 substantial operations considered outside the segment s core area. In 2001, Hydro Agri completed a substantial restructuring of its Central European operations, closing offices, consolidating activities and exiting unattractive market areas. These additional measures have further simplified the Hydro Agri business and have contributed to improved operating results. In November 2002, substantially all of the assets owned by Farmland Hydro, L.P. , a 50/50 JV between Hydro Agri and Farmland Industries, Inc, were sold to Cargill Fertilizer, Inc. after final approval was given by a federal bankruptcy court in Kansas City, Mo., allowing Farmland to participate in the deal.

Hydro Agri has also instituted an operating capital improvement programme, aimed at achieving a reduction in net operating capital days (defined as the 12-month rolling average sum of credit days plus inventory days, less payable days).

***Production System and Raw Materials***

Hydro Agri s major large-scale fertilizer production facilities include two plants in Norway and in Germany, three plants in France and in Italy, one plant in Sweden and one plant in the Netherlands. Plants are modern, efficient and well located. The bulk of the production equipment was put into operation during the 1980s and 1990s. At the end of 2002, Agri s total production capacity was approximately *11.9* million tonnes per year.

The most important raw material for Agri s fertilizer operations is natural gas. Natural gas serves as a hydrogen source with which nitrogen from the air is reacted to produce ammonia. Ammonia is used to produce a full line of upgraded fertilizer products, including urea and NPK. Agri purchases most of its annual consumption of natural gas from external suppliers. Agri s annual consumption of natural gas in Europe amounts to about 140 million MBTU. A 1USD change in the crude oil price implies a NOK 110 million effect on gas costs.

**Business model**

***Capacity to create value*** The value of Hydro Agri has increased over the past 3-4 years. The main drivers of this value creation are summarized in the figure below and can be explained as:

1. Income drivers where both supply side effects (like US gas costs for nitrogen products) and demand side effects (like grain prices) are influencing price levels of commodity fertilizer products. Prices of the more sophisticated products are influenced by regional supply/demand balances and marketing tools.

2. Cost drivers where Hydro Agri is specifically exposed to oil prices and productivity development.

3. Growth will influence future value creation.

After the successful completion of its turnaround program, Hydro Agri has emerged as the world s largest fertilizer player and the only truly global company, having a product portfolio well balanced between the three key plant nutrients N, P and K, a strong sourcing power and unique brands. Hydro Agri has improved its competitiveness significantly from the situation in the late nineties as a result of the turnaround process.

**Areas of particular strength and related strategy**

Hydro Agri has six areas of particular strength, and strategic priorities are aimed at enhancing and developing these to achieve further expansion of the business in areas presenting earnings potential as indicated in the figure below.

***Ammonia***

Ammonia is the key raw material for all nitrogen fertilizers. Hydro Agri s ammonia plants are characterized by high technological and environmental standards. As a result, mandatory future investment in existing plants is expected to be relatively low. Hydro Agri s extensive shipping and logistical network for ammonia enables participation in contracts that few competitors are able to execute.

Agri is the leading ammonia player in terms of production capacity, shipping and trade and storage capacity in deep sea ports. In addition to ammonia plants in the Netherlands, France, Italy and Norway, Hydro Agri has a 49 percent interest in Trinidad Nitrogen Co. Ltd. (Tringen) in Trinidad and Tobago and a 25 percent interest (Qatar Petroleum has the remaining 75 percent interest) in the Qatar Fertilizer Company (Qafco) in Qatar.

In Trinidad, Hydro Agri operates and manages the two plants owned by Tringen (and a third plant in which Hydro is the sole owner), which have a combined annual ammonia capacity of approximately 1.3 million tonnes. Hydro Agri has a long-term commitment for 227,000 tonnes of this volume while the remainder is marketed on a commission basis. The location of these plants is advantageous from the standpoint of access to long-term supplies of natural gas. In addition, Trinidad serves as an important strategic location for exports to the United States.

In Qatar, Hydro Agri provides marketing support and technical assistance to Qafco. In September 2001, the shareholders in Qafco approved plans to construct Qafco 4, a new ammonia-urea complex at Messaied, Qatar, expected to be in operation during the second half of 2004. In connection with the project, Hydro Agri also signed a new 13-year marketing agreement with Qafco to sell part of its urea production in international markets. After the completion of Qafco 4, Qafco will have a total production capacity of 2 million tonnes of ammonia and 2.8 million tonnes of urea, making Qafco the world s largest producer of ammonia/urea. Hydro Agri s 25 percent share ownership corresponds to 0.5 million tonnes of ammonia and 0.7 million tonnes of urea.

***Ammonia strategy Growth by playing on strength***

Hydro Agri is the world leader in ammonia. Consisting of modern, efficient world scale plants, Hydro Agri s ammonia production capacity is larger than that of the biggest of its peers. Access to ample shipping and maritime storage capacity in deep sea ports in combination with large scale

downstream upgrading of ammonia to fertilizer products, provides opportunities to maximize the value of ammonia through a global logistical handling system.

Hydro Agri is seen as an interesting partner for many types of projects and commercial arrangements and intends to further leverage its ammonia strengths in order to get access to increased ammonia volumes from locations considered well placed to serve demand in growth markets for mineral fertilizer, as well as to extend its position in the large North American market where high domestic gas prices are weakening domestic producers. The future gas market in the US is expected to be strong (Gas Future Market) and should create a floor for the ammonia price as long as the US producers continue to play a role as swing producers* for the industry. The October 2001 decision to participate in the Qafco 4 ammonia and urea project is one example of this strategy, and the December 2002 long term agreement to market the ammonia from the Burrup Fertilizer project in Australia being another.

* Swing producers are operators who only enter the market when prices rise to a level sufficient to cover their cash costs.

***Nitrates***

Hydro Agri is the largest and most cost-effective producer of nitrates, the most important type of fertilizer in Europe. The recent restructuring of the European nitrate industry has resulted in a better market balance and improved prices.

***Strategy Nitrates Maintain market share in Europe***

Nitrate is the most important fertilizer in Europe, and Agri is the leader both in sales and production of nitrate fertilizer with higher production capacity and lower average production cost than the rest of the nitrate industry as indicated in the graph above. The European fertilizer market is mature and growth is foreseen as being flat to negative. However, with much of its nitrate capacity located in Europe, Agri has a good basis to further develop its European market share**.** Many of Hydro Agri s European competitors have owners that do not view the fertilizer industry as a core activity. Hydro Agri expects that its dedication to its key customers and its well maintained production facilities will create a good basis for development of market share.

***Balanced fertilization/NPK***

Hydro Agri is a world leader in deliveries of NPKs, products that contain all three of the main plant nutrients. In order to promote balanced fertilization, Hydro Agri offers complex fertilizers essentially combining all three nutrients within every single fertilizer particle. The Porsgrunn plant is strongly focused on NPK export markets with approximately half of its production going to premium priced markets**.**

The Porsgrunn and Glomfjord plants are using a nitro phosphate process to produce NPKs, thereby avoiding the generation of gypsum (calcium sulphate) waste resulting from standard phosphate upgrading processes based on the use of sulphuric acid. The equivalent process step in a nitro phosphate plant creates calcium nitrate, a useful byproduct developed into a speciality mineral fertilizer, thereby generating additional income instead of gypsum disposal cost.

***Balanced Fertilization (NPK) strategy Growth in high value markets***

Hydro Agri has a strong focus on balanced fertilization and the overall product offering seeks to reflect market demand for the three main plant nutrients N, P and K. NPK products are offered with formulas targeting specific high value markets around the world. Hydro Agri holds a leading position in this market segment. The future market for these products will be heavily influenced by technical and quality developments within the more advanced agricultural market segments. Competition today comes from Russian plants.

Hydro Agri s presence in these overseas markets is being developed through continuous marketing efforts in partnership with local distributors and agronomic advisors. China is an example where this approach is currently giving significant results. A productivity focus in all Hydro Agri plants is expected to result in increased availability of NPK product and should further strengthen Hydro Agri s competitive edge.

***Speciality fertilizers***

Specialty fertilizer products are fertilizers targeted for growers of cash crops such as fruit, plant fibers and flowers, called cash crops, as opposed to so-called food crops like grain. The higher growth rates and better margins that tend to be achieved by growers of cash crops rather than food crops, has led to an increased demand for specially formulated fertilizers demonstrating an ability to enhance crop output and optimize crop growing economics. Based on calcium nitrate produced as a by-product from its nitro phosphate process, Hydro Agri is the world leader in one of the key products for cash crops.

***Speciality fertilizer strategy Growth in cash crops***

The global strategic alliance formed by Hydro Agri and SQM, the world leader in production of potassium nitrate, another key speciality product, in 2001 has given both partners critical mass and provides a basis for further development in this attractive segment of the overall fertilizer market. Sales and marketing of products is done under well recognized brands, and products are sourced either from one of the alliance partners or from a 50/50 production JV in Europe that includes the production facilities previously owned by the partners separately. This arrangement has created synergies and cost savings for both partners since implementation started at the beginning of 2002 with resultant benefits for their customers both in terms of pricing and service. Other fertilizer suppliers are also looking for positions in this attractive segment but a combination of the right products at good prices, agronomical advice, service tailored to customer needs and an extensive and easy to reach marketing network is expected to provide a good basis for continued development and leadership.

***Selected industrial applications***

Several production plants within Hydro Agri in Europe are supplying industrial products. This improves production economies and logistics. The infrastructure shared with fertilizers also provides access to raw materials and facilities for local manufacturing of products adjusted to meet defined market needs in the food industry, for environment related technologies and for production of civil explosives. Hydro Agri operates industrial gas businesses, including dedicated production facilities, in Sri Lanka, Thailand and Malaysia and is the leading European supplier of liquid $CO_2$ and ammonium nitrate for civil explosives. Most of Hydro Agri s other products for industrial segments are intermediates in the production of fertilizers without any firm capacity restrictions.

Hydro Agri s downstream system for liquid $CO_2$ in Europe includes specially designed vessels, as well as terminals in a number of countries around the North Sea basin. Hydro Agri has a distribution system for industrial gases and chemicals that covers a major part of Europe. Due to good product and application knowledge in Hydro Agri s organization, health, environmental and safety issues are addressed throughout the distribution and delivery process.

***Selected industrial applications strategy Develop new products and markets***

The strategy of the gas and chemicals operations of Hydro Agri is to offer technical solutions to customers where its existing assets and skills base provide a competitive advantage. The aim is to optimize the use of the common production infrastructure within Hydro Agri by providing sophisticated product applications to customers. Increased quality awareness in the food industry offers new opportunities for carbon dioxide whereas increased environmental awareness presents an opportunity for further development of environmental process applications of nitrogen based chemicals, including treatment of waste water and gaseous emissions from combustion.

***Marketing and Distribution***

Hydro Agri has a marketing network and distribution system for mineral fertilizers in approximately 17 countries in Europe and an international marketing network and distribution system with chartered gas tankers, bulk blending plants, sales offices, terminals and bagging operations in 27 countries outside of Europe, ensuring a local presence on all five continents and sales in about 120 countries.

***Distribution and marketing strategy Reach critical size in all chosen markets***

The operations of most fertilizer industry players are either local or regional in nature. Hydro Agri s extensive distribution and marketing network covers all five continents with a local presence in 47 markets and sales in more than 120 countries, making it the only truly global player. Hydro Agri s global market share for mineral fertilizers is around 6 percent.

**Industry Trends**

***Industry Consolidation***

Several of the European fertilizer producers are parts of big industrial groups now seeking to increase focus on core activities. These processes are fostering speculation that several European fertilizer operations may be offered for sale. In North America, several of the fertilizer producers

seem to be struggling and owners appear unable to take the steps required to improve performance. Hydro Agri believes in pursuing opportunities arising at the bottom of the business cycle as demonstrated by the take over of Kynoch and Trevo in 1999/2000. In Europe the industry as a whole would benefit if more owners viewed fertilizer as a core activity. The North American market offers good opportunities for a leading global nitrogen player like Hydro Agri, able to realize synergies not available to some of the current producers experiencing problems.

***Market Liberalization***

The enlargement of the European Union (EU) and ongoing WTO negotiations are expected to bring about changes in global fertilizer markets in the years to come offering both challenges and opportunities to Hydro Agri. WTO membership is expected to gradually open the markets of China, Russia and India to imports complementary to products produced within those countries. EU membership is expected to expose the East European fertilizer industry to a similar competitive climate as the western industry, with greater emphasis on commercial issues and profitability. Existing antidumping measures aimed at protecting West European fertilizer producers against unfair competition are expected to be gradually dismantled as the industry in the east is restructured. However, since market economics have not yet been achieved in all producing regions of East Europe, it is expected that the EU will maintain balancing systems until unfair competition has been sufficiently addressed. The likely impact of the extension of the EU on Western European fertilizer producers is unclear, but it is expected that the new development will create new opportunities as well as some structural pressure on West European agriculture.

***Increasing Global Fertilizer Consumption***

The population growth and national wealth development in the world has resulted in sustainable growth in mineral fertilizer consumption and this development is expected to continue. The number of hectares per person is declining and mineral fertilizer is considered the only sustainable large scale nutrient source. The industry forecasts reflect a medium-term global nitrogen fertilizer consumption growth rate of 2-2.5 percent per year. The main growth in nitrogen fertilizer consumption over the past decade has been in Asia and Latin America. Growth in fertilizer consumption is expected to be similar for nitrogen, phosphate and potash fertilizers. The general financial development and growth in the third world is expected to be the main risk factor in forecasting fertilizer demand.

***Cereal Consumption Higher than Production***

Consumption of the main cereals, wheat, maize and rice, has recently surpassed production resulting in declining inventories and higher prices. Grain production in 2002 was negatively influenced by adverse weather conditions in several key grain exporting regions, most notably USA, Canada and Australia. This was only partly compensated by strong harvests in FSU countries. This has added to reduction in global grain inventories, and prices increased substantially through the autumn of 2002. The declining crop prices towards the end of the year, however, suggest that the poor harvests in North America and Australia, more than the tightening global supply/demand balance, explained the increase in prices. In spite of a decline towards the end of the year, prices at the end of 2002 were considerably higher than at the end of 2001. Higher cereal prices normally stimulate increased cereal production, driving the demand for fertilizer with resulting upward pressure on fertilizer prices, as can be seen from the graph above.

The supply and demand balance for nitrogen fertilizer is also expected to benefit from limited capacity additions over the next couple of years. There is limited new capacity coming on stream before 2005 worldwide. Permanent closures of existing capacity following high energy costs in several parts of the world, also contribute to reducing supply.

**Issues/Risks Relevant to Competitive Position**

***Imports into Europe***

Imports of finished fertilizer products from fertilizer plants located in Eastern Europe, particularly Russia with its vast reserves of natural gas, continue to be a source of concern in European markets. Russia s entry into the World Trade Organization (WTO) is expected to result in Russian fertilizer plants paying market prices for natural gas, replacing the current subsidy regime. Imports from Eastern Europe represent roughly 20 percent of the market currently after a large decline in 2002.

***The expansion of the European Union***

The expansion of the European Union could gradually lead to decreased subsidies to West European agriculture. It is expected that this will be a gradual process that will allow both the farming community and the industry to adapt. The fertilizer industry does not expect that this will lead to large reductions in the use of agricultural land because the quality and fertility of West European soil is generally excellent. Short term challenges as a result of this development however, are expected.

***Greenhouse Gas regulations***

Greenhouse Gas regulations could imply a challenge to the fertilizer industry by potentially changing the competitive position of companies in different regions. Hydro Agri is concerned that the implementation route that is being discussed in some countries in Europe could negatively impact the cost position of some plants at the same time without achieving an optimal environmental effect.

***Currency***

The Hydro Agri business area operates with USD as the key currency with one important exception; fixed costs in Europe and certain European revenues are not USD related. As a result, 12.5 percent change in USD exchange rate compared to EUR/NOK would result in approximately USD 40 million increase or decrease in EBITDA measured in USD depending on the direction of the change. As a result, currency effects will have a substantial effect on EBITDA in 2003 compared to 2002 if the USD remains at current levels.

**Investments**

In 2002, investments were about NOK 1,543 million compared to NOK 797 million in 2001 and NOK 1,333 million in 2000. The main part of the investments in 2002 related to minor operational projects in the plants. In addition, Hydro Agri started a major program to upgrade the power production and distribution system in the Sluiskil plant, a program that will continue also in 2003. Hydro Agri also spent a major amount related to the JV established in Chile as part of the strategy to strengthen the specialty fertilizer business.

**Other Activities**

Other activities consist of Petrochemicals, Treka AS (formerly known as A/S Korn-og Foderstof Kompagniet, KFK), VAW s Flexible Packaging, Pronova, Industriforsikring-the industrial insurance company, and Hydro Business Partner.

**PETROCHEMICALS**

Hydro s petrochemicals business is involved in all stages of production of the plastic raw material, polyvinyl chloride (PVC), also known as vinyl, and its intermediate products, ethylene, chlorine and vinyl chloride monomer (VCM). Hydro Petrochemicals is the largest PVC supplier in the Nordic countries, with a market share of approximately 66 percent. In the UK, the segment ranks first with approximately 36 percent of the market. The petrochemicals industry in Europe is relatively fragmented, reflecting the industry s development on a national, rather than a European, basis. Hydro has an advantage in having close proximity to other Scandinavian countries and the UK, as well as long-term strategic relationships with customers in these markets.

Petrochemicals operations extend outside of the Nordic countries. Hydro has a 29.7 interest in Qatar Vinyl Company Ltd. (QVC), which operates a petrochemical plant at Mesaieed Industrial City, Qatar. The plant has an annual capacity of 230,000 tonnes of VCM, 175,000 tonnes of ethylene dichloride and 290,000 tonnes of caustic soda. In China, Hydro has a 31.8 percent interest in Suzhou Huasu Plastics Co., Ltd., which produces PVC film and has a S-PVC capacity of 120,000 tonnes per year. Hydro also has a 26.2 percent interest in CIRES, a PVC resin and compound manufacturer in Portugal.

**Strategy**

In 2000 Hydro announced its intention to pursue an active divestment program, seeking to generate NOK 10 billion by the end of 2003 from divestment of operations, both outside and within its core business areas. Among Hydro s larger non-core business areas targeted for divestment is its petrochemicals business. Hydro announced in February 2001 that market and industry conditions at that time were not conducive to a reduction in Hydro s ownership interest in its petrochemicals business. Since then, Hydro has operated its petrochemicals business to secure its industrial potential while endeavoring to identify a structural solution that will provide sufficient value for Hydro and its shareholders.

Since late 1996, the global petrochemical industry has faced an oversupply situation. In that time, competitive pressures have led to alliances, restructurings and mergers within Europe (e.g., the merger of Royal Dutch/Shell s and DEA s petrochemicals businesses in Germany, BP s purchase of Veba Oel from E.On). The consolidation has been motivated, in large part, by the objectives of achieving economies of scale, lowering operating costs and increasing unit margins. Hydro s Petrochemicals business has not participated in the industry consolidation, but it has nonetheless focused on reducing fixed recurring and variable costs and increasing asset productivity through, among other things, de-bottlenecking and staff reductions of roughly 57 percent (including activities sold) compared to 1996 levels.

For the foreseeable future, the competitive environment for world commodity petrochemicals and polymers is expected to be characterized by a widening cost gap between the global petrochemical/polymer producers and the smaller, more regional producers. In view of market conditions, Hydro s Petrochemicals business will continue to focus on operational improvements through the establishment of best practice teams to ensure the transfer of knowledge in both operations management and process technology. The efficiency enhancement process is expected to entail further staff reductions, improved supply contracts, increased productivity and improved margin management.

**Raw Materials and Production**

Hydro has a 50 percent ownership interest in an ethylene cracker through Hydro s joint venture interest in Noretyl AS. The cracker is integrated with Hydro s chlorine and VCM production facilities located at Rafnes in Norway. The production efficiencies inherent in an integrated production process contribute to higher margins compared to margins of competitors that rely on purchased VCM. Petrochemicals has a secure supply for most of its remaining ethylene (43,700 tons) and chlorine (about 100,000 tons) needs through medium-term supply contracts.

**Petrochemicals production**

| ( tonnes) | 2002 | 2001 | 2000 | 1999 |
|---|---|---|---|---|
| *Base Products* | | | | |
| VCM | 540,000 | 591,000 | 536,000 | 539,000 |
| Caustic Soda | 262,000 | 279,000 | 271,000 | 272,000 |
| *Polymers* | | | | |
| S-PVC | 458,000 | 465,000 | 445,000 | 451,000 |
| P-PVC | 70,000 | 72,000 | 76,000 | 68,000 |
| Total Polymers | 528,000 | 537,000 | 521,000 | 519,000 |
| PVC Compounds | 128,000 | 143,000 | 154,000 | 161,000 |

**Average market quoted prices North West Europe**

| | 2002 | 2001 | 2000 | 1999 |
|---|---|---|---|---|
| Ethylene Euro/tonne delivered | 518 | 616 | 662 | 425 |
| VCM Spot export FOB USD/tonne | 451 | 345 | 562 | 418 |
| S-PVC Euro/tonne delivered | 714 | 656 | 857 | 625 |

Hydro manufactures PVC at the following plants: Hydro Polymers AS (Porsgrunn, Norway), Hydro Polymers AB (Stenungsund, Sweden) and Hydro Polymers Ltd. (Aycliffe, UK). The Nordic sites produce suspension PVC (S-PVC) and paste PVC (P-PVC), while the UK site produces S-PVC for external sale and mixing with additives to generate PVC compounds in a variety of grades to meet customer specifications. VCM is produced at Hydro s Rafnes and Stenungsund plants.

Ethylene feedstock for the Rafnes facility is supplied by long-term contracts for natural gas liquids (NGLs) from a number of North Sea fields for approximately 50 percent of the required volumes. The remaining need is covered by spot purchases. Price formulas are linked to naphtha or oil prices. As such, oil prices are an important driver of ethylene costs. Petrochemicals share of ethylene produced at Rafnes in 2002 was 219,000 tonnes. The Stenungsund plant purchases ethylene for its VCM and PVC production and chlorine for the production of ethylene di-chloride (EDC), which is being shipped to the Rafnes plant. The total production of chlorine in 2002 was approximately 232,000 tonnes. Chlorine feedstock in excess of Hydro s own production is covered by medium-term and spot purchases (approximately 85,000 tonnes). Plant closures in Europe have reduced the chlorine supply in 2002.

At present, Petrochemicals transports raw materials and intermediates among its plants in Rafnes, Stenungsund and Aycliffe. Increased efficiency and lower transportation costs could be achieved by an even higher level of balance between input (raw materials) and output (final product) streams at the individual plants. Hydro Petrochemicals management has developed technical plans, which would allow for the increase in the balance at Rafnes by increasing chlorine production. Hydro has received the necessary permits from the Norwegian governmental authorities for increased production and modernization of Rafnes chlorine and VCM plants.

**Sales and Distribution**

PVC and PVC compounds are mainly sold by Hydro s own sales organization. Distribution is mainly by truck. Pipe grade suspension PVC (S-PVC) is considered to be a commodity product, while there is considerable product and price differentiation in other S-PVC applications. Paste PVC (P-PVC) accounts for about 7 percent of the total PVC market. This product is traditionally considered to be a specialty product influenced only to a limited extent by the S-PVC price development.

Caustic soda, a byproduct of chlorine production, which is used by a variety of industries such as in paper and pulp, aluminum and soap production, is sold to customers in Europe and North America through Hydro s own sales organization. Distribution is by vessel, rail or truck. In addition to its own production, Hydro trades moderate quantities of caustic soda in the same markets.

**Investments**

The amounts disclosed in this section represent investments made in the respective years which include additions to property, plant and equipment, plus long-term securities, intangibles, long-term advances and investments in non-consolidated investees.

Investments in 2003 will be concentrated towards cost reduction and efficiency. Investments in 2002 totaled NOK 254 million, compared to NOK 347 million in 2001 and 540 million in 2000.

**TREKA AS (Formerly A/S Korn-og Foderstof Kompagniet KFK)**

A/S Korn og Foderstof Kompagniet (KFK) is a publicly-held Danish company, in which Hydro owned 68.8 percent interest at the time of divestment during the third quarter of 2002. KFK is engaged in the production and sale of animal feed, together with the trading of grain, feed stuffs, fertilizer and other agricultural related products.

KFK signed an agreement with a consortium of eight Danish chemical and feed companies to divest its Danish feed and grain business in the third quarter of 2002. During the same period, a similar agreement was signed to divest its Swedish operations. The sale of the Danish operations was approved by the authorities and completed in the fourth quarter of 2002, while the sale of the Swedish operations was completed in January of 2003.

Following the sale of its feed and grain operation, KFK was renamed to Treka AS. Remaining activities in Treka relate primarily to Biomar fish feed operations.

**FLEXIBLE PACKAGING**

Hydro acquired the flexible packaging business as part of the VAW acquisition in 2002. Flexible Packaging focuses primarily in providing flexible packaging solutions for a wide variety of retail customers.

Hydro announced during the acquisition of VAW its plan to divest the flexible packaging operation of VAW which was considered non-core activity for Hydro Aluminium. Following its planned strategy, Hydro signed an agreement with Alcan Inc. to sell the Flexible Packaging business in the fourth quarter of 2002. The divestment transaction is pending regulatory approvals and is expected to be finalized in coming months. The sale agreement was signed representing an enterprise value of EURO 345 million excluding minority interests. No significant gain or loss related to the sale transaction is expected other than potential currency translation effects at closing.

**PRONOVA**

Hydro Pronova is responsible for commercializing products and businesses at the periphery of the Company s core business areas, with the objective of developing businesses and realizing their long-term potential as part of Hydro or outside of the Company.

Hydro Pronova is comprised of several activities including Omega-3 fatty acids, heparinized surfaces applied on medical devices and implants, formic acid and formates for use as animal feed additive, deicing agents and drilling fluid, packaging systems for transportation of bulk goods and cooling/heating systems based on transcritical (high pressure) CO2 technology.

Hydro Pronova has developed a highly concentrated Omega-3 drug, Omacor , for treatment of post- myocardial infarction (Post MI) and hypertriglyceridemia (HTG). The drug was approved for treatment of Post MI by seven European countries in 2001. Agreements have been signed with four major pharmaceutical companies to launch Omacor in Europe.

Hydro Pronova has global, exclusive rights to commercialize patented technology developed at the Norwegian Institute of Technology using transcritical CO2 as a medium in cooling and heating systems. The technology, branded SheccoTM, provides an energy efficient and environmentally friendly alternative to hydrofluoride carbon gases in such systems. Hydro Pronova has signed agreements with Denso of Japan for the application of Shecco technology to water heating and to mobile air conditioning systems.

Formi, the formate-based feed additive, was the first animal feed additive to be approved as a growth promoter by the EU in 2001. At present, Formi is the only EU-approved non-antibiotic growth stimulant. In 2002, Hydro signed an agreement with a leading chemical company BASF for further commercialization of Formi. The agreement will allow Hydro to produce Formi for the coming 15 years.

**INDUSTRIFORSIKRING**

Industriforsikring a.s (the industrial insurance company) is a wholly-owned subsidiary which provides property, casualty and marine insurance for companies in the Group.

**HYDRO BUSINESS PARTNER**

Hydro Business Partner (HBP) was formed as a sector for service and support functions in the beginning of January 2000. HBP is organized in two primary functional units: Production and Facility Services, and IS Services and Business Support Services.

**ITEM 4.C. ORGANIZATIONAL STRUCTURE**

The following significant subsidiaries, as that term is defined by applicable rules of the Securities and Exchange Commission, are included in the consolidated financial statements of the Group:

| Company Name | Country of Incorporation | Proportion of ownership Interest* |
|---|---|---|
| Norsk Hydro Produksjon AS | Norway | 100 percent |
| Hydro Aluminium AS | Norway | 100 percent |
| Hydro Aluminium Deutschland GmbH | Germany | 100 percent |

*Ownership percentage reflects proportion of voting power.

**ITEM 4.D. PROPERTY, PLANTS AND EQUIPMENT**

The Group s rights to oil and gas located on the Norwegian Continental Shelf, mainly in the North Sea, are among its most important assets. See **Item 4.B. Information on the Company Business Overview Oil and Energy - Exploration, Development and Production** for information with regard to reserves and sources of oil and gas and **Item 4.B. Information on the Company - Business Overview Oil and Energy Government Regulation** with regard to the Norwegian government s authority to increase its participation in the development of certain oil and gas fields and other regulatory matters.

The Group s major production plants in Norway are located at Porsgrunn (fertilizers and PVC), Rafnes (petrochemicals), Karmøy, Årdal, Sunndalsøra, Holmestrand and Høyanger (aluminium) and Glomfjord (fertilizers). The Group owns clear title concessions to hydroelectric power stations with a generating capacity of 2.7 TWh per year. Generating capacity of approximately 8.7 TWh is operated under concessions from the Norwegian government which will expire without compensation in the period between 2018 and 2052. Hydro s principal Agri and Aluminium production facilities abroad are located in Austria, Belgium, Canada, China, Denmark, France, Germany, Hungary, Italy, the Ivory Coast, Luxembourg, the Netherlands, Poland, Portugal, South Africa, Australia, Spain, Sri Lanka, Sweden, Trinidad and Tobago, the United Kingdom and the United States. Hydro has an interest in an oil refinery in Sweden (Scanraff), a retail gasoline and fuel oil marketing network through an affiliated company in Denmark and Norway and wholly owned operations in Sweden. Hydro also participates in a fertilizer complex in Qatar, Trinidad and Tobago, alumina refineries in Jamaica and Brazil, and an automotive parts casting plant in Mexico.

Virtually all of the Group s properties are owned by the Company s subsidiaries, except certain facilities in the oil and gas, hydroelectric and petrochemicals businesses which are jointly-owned with other companies. All major facilities of the Group are insured in line with customary industry practices.

Hydro is subject to changing environmental laws and regulations that in the future may require Hydro to modernize technology to meet more stringent emissions standards or to take actions for contaminated areas. See **Note 21 to the Consolidated Financial Statements** for a description of expenses and accruals relating to corrective environmental measures for the current and preceding fiscal years. There were no environmental measures, implemented voluntarily or required by law, which had a significant effect on the utilization of Hydro s main production facilities in 2002.

**ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS**

**ITEMS 5.A.-D OPERATING RESULTS; LIQUIDITY AND CAPITAL RESOURCES; RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES; TREND INFORMATION**

**2002 Compared with 2001**

The comparative discussion of Hydro s financial condition and results of operations as of and for the years ended December 31, 2002 and 2001, as well as information regarding Hydro s material commitments for capital expenditures as of year-end 2002 and Hydro s research and development policies for the three-year period ended December 31, 2002, is incorporated by reference to the Financial Review section (pages 52 through 85) of the Company s 2002 annual report to shareholders. Such discussion, together with Hydro s consolidated financial statements as of and for the year ended December 31, 2002 and the related notes, included in the 2002 annual report to shareholders, has been filed as an exhibit to this Annual Report on Form 20-F in accordance with applicable rules under the Exchange Act.

**2001 Compared with 2000**

Hydro s net income after tax in 2001 was NOK 7,892 million (NOK 30.50 per share) compared to NOK 13,981 million (NOK 53.40 per share) in 2000. The reduction primarily resulted from lower crude oil prices and lower prices and margins in the Light Metals area. In addition, net income for 2001 included an after tax gain related to divestments of businesses of NOK 520 million (NOK 2.00 per share) compared to NOK 2,800 million (NOK 10.70 per share) for the previous year. The impact of weaker markets became apparent during the second half of the year. The Agri area delivered good results, continuing to reduce costs while increasing market share.

**Operating Results**

Operating revenues in 2001 decreased approximately 3 percent to NOK 152,835 million from NOK 156,861 million in 2000.

Operating income of NOK 21,083 million was roughly 26 percent below the record result in 2000. EBITDA for 2001 was NOK 37,757 million, a decline of 19 percent compared to the prior year. The overall decline was primarily due to weaker markets and restructuring costs in 2001. Hydro changed the way it allocates pension costs to its Norwegian operations in 2000. Previously, costs were determined based on the number of years of service resulting in a concentration of the total costs towards the end of the service period. The change resulted in nonrecurring charges to the segments with a corresponding credit of NOK 2,007 million reflected in Corporate, which is included in Corporate s net periodic pension credit.

Earnings from non-consolidated investees were reduced by NOK 106 million to NOK 566 million, primarily as a result of foreign currency losses on alumina operations in Brazil, of which Hydro s share amounted to NOK 159 million.

Other Income, which consists of pretax gains on divestments of businesses, was on a lower scale than in the previous year. For 2001 these gains represented before tax in the amount of NOK 578 million in 2001 compared to NOK 3,161 million in the prior year. The most significant amounts in 2001 related to the sale of Hydro Seafood s UK operation, plus the sale of electricity grid in Norway.

**Financial items**

Net financial expenses in 2001 were NOK 762 million compared to NOK 2,158 million in 2000. The decrease reflected the Company s increased cash balances resulted in increased interest earnings.

Currency losses were somewhat lower than the previous year notwithstanding losses of approximately NOK 130 million relating to the devaluation of the Argentine peso at the end of 2001.

Net interest bearing debt at the end of 2001 was NOK 21.1 billion, a reduction of NOK 8.6 billion from the end of the prior year.

**Taxes**

The provision for current and deferred taxes for 2001 amounted to NOK 13,750 million, representing 64 percent of pretax income. The corresponding figure in 2000 was NOK 16,178 million, equivalent to 54 percent of pretax income. The tax percentage for 2000 was influenced by the gains on the sales of operations included in Other Income, which were taxed at a lower rate. Excluding the effects of these gains, the tax percentage would have been approximately 59 percent for 2000. The increase in the effective tax rate for 2001 resulted from the relatively larger share of earnings from oil and gas activities in Norway, which were taxed at a marginal tax rate of 78 percent.

Reorganization of the reporting structure in the first quarter of 2002 resulted in certain changes in segment reporting. Hydro s three core business areas remain the same, but the sub-segments within each core business area have been revised. In addition, certain operations identified as non-core activities have been included in Other Activities . These include Petrochemicals and A/S Korn- og Foderstof Kampagniet (KFK). The financial review comparison for 2001 to 2000 for the above mentioned three core areas disclosed below has been revised to be consistent with the 2002 financial review at the business area level.

**OIL AND ENERGY**

**Revenues and market conditions**

Operating revenues declined approximately 6 percent to NOK 52,016 million from NOK 55,123 million in the prior year, primarily as a result of lower crude oil prices and lower refined product prices. However, average production of oil and gas increased by approximately one percent compared to 2000. Oil production outside the NCS increased toward the end of the year as the Girassol field in Angola came on stream. Crude oil prices fell sharply in the latter of 2001 due to global recession and OPEC s production policy in 2001. The growth in global oil demand for 2001 was the weakest since 1985. Additionally, the terrorist attacks in the US on September 11, 2001 increased uncertainty, causing a further reduction in demand for crude oil.

**Operating costs**

Hydro s total expenditures for exploration of oil and gas and appraisal of discoveries increased approximately 12 percent from 2001 to 2000. Exploration costs charged to results were NOK 1,400 million in 2001 compared to NOK 1,701 million in the prior year. The increase was primarily attributable to higher international exploration activity reflecting Hydro s strategy to expand its international oil and gas portfolio. For Energy, refining costs per barrel (comprising both fixed and variable processing costs) increased from NOK 12.3 in 2000 to NOK 13.0 in 2001 as a result of the reduced throughput caused by a five-week refinery outage at the Scanraff refinery, Hydro s partly owned refinery located in Sweden. Product variable costs for refined oil products decreased in 2001 as a result of lower oil prices.

**Operating income and EBITDA**

Operating income for Oil and Energy was NOK 19,178 million in 2001 compared to NOK 21,804 million in 2000. EBITDA was NOK 27,604 million in 2001 compared to NOK 30,641 million in 2000, approximately a 10 percent decrease. The decline in operating income was primarily due to

lower crude oil prices and refined product prices. EBITDA for 2001 included a NOK 179 million gain on the sale of electricity grid assets. EBITDA for 2000 was positively influenced by a gain of NOK 387 million relating to the sale of UK oil and gas operations. EBITDA for both 2001 and 2000 was influenced by nonrecurring pension charges.

**HYDRO LIGHT METALS**

**Revenues and market conditions**

Operating revenues for 2001 of NOK 51,083 million were essentially flat compared to 2000. The Metals sub-segment increased by NOK 992 million in 2001 compared to the prior year and was offset by a net decline of NOK 1,039 million in 2001 compared to 2000 in the other Light Metals sub-segments. The downturn in the business cycle in the second half of 2001 resulted in lower prices and lower margins for both primary aluminium and all fabricated products. Shipments of primary aluminium in the Western World in 2001 decreased roughly 6 percent compared with 2000 representing the largest year-to-year decline since 1981. The downturn was particularly pronounced in the US for primary aluminium and extruded products. In view of these market developments, the average three-month price for primary aluminium on the LME decreased by approximately 7 percent to US dollar 1,454 per tonne in 2001 compared to US dollar 1,567 per tonne in 2000. Realized average aluminium prices in 2001, in NOK, were marginally higher than in 2000. Slightly lower average prices, in USD, were offset by a stronger USD/NOK exchange rate. In November 2001, Hydro signed an agreement to acquire the French building systems Technal group for a price of EUR 73 million (NOK 580 million) and the assumption of NOK 307 million in debt.

**Operating costs**

In 2001, the total operating costs of Hydro s smelters increased by approximately 7 percent compared to the prior year. The biggest component of total operating costs is the cost of raw materials and energy for primary aluminium production, consisting principally of alumina, electricity, and carbon anode (consumed in the smelting process). Raw material and energy costs, per tonne of primary aluminium produced, increased approximately 8 percent in 2001 compared to the prior year.

Responding to market conditions (most notably, the declining demand) in 2001, Hydro implemented several measures aimed at reducing production volumes and saving costs. During the year, Extrusion reduced its European and US extrusion press capacity by approximately 10 percent. This was accomplished primarily by temporary measures such as adjusting factory shifts and reducing staffing. In addition, local market conditions and cost considerations led to the complete shut down of 2 presses. Related workforce reductions during 2001 represented approximately 300 man years.

**Operating income and EBITDA**

Operating income for Light Metals in 2001 was NOK 185 million compared to NOK 3,336 million in 2000. EBITDA for 2001 was NOK 2,543 million compared to NOK 5,501 million in 2000. The decline in operating results was largely attributable to the deterioration in market conditions, particularly in the second half of 2001. In addition, EBITDA declined in 2001 primarily due to losses on aluminium options of NOK 545 million, lower margins at metal plants and the positive effects in 2000 of exceptional metal trading results. Hydro decided in October 2001 to close down its primary magnesium production plant in Porsgrunn, Norway. EBITDA for 2001 included NOK 700 million representing closure costs and costs for workforce reductions. In addition, operating income for 2001 included a write-down of NOK 261 million of fixed assets related to this closure.

**HYDRO AGRI**

**Revenues and market conditions**

Hydro Agri s operating revenues increased in 2001 to NOK 37,407 million compared to NOK 36,607 million in the prior year, an increase of approximately 2 percent. The increase in operating revenues reflected improved fertilizer prices and increased sales volumes outside Europe, primarily Latin America and Asia, offsetting lower volumes sold in Europe. As mentioned above, the sub-segment, KFK, has been moved to Other Activities to be consistent with the 2002 reporting structure.

**Operating costs**

Average prices for the most important nitrogen products and chemicals (primarily natural gas) increased sharply in 2001. The average ammonia price (another primary raw material) increased only slightly, although there was a sharp decline in price in 2001 from the exceptionally high level at year-end 2000.

The Hydro Agri Turnaround program was completed at the end of 2001 achieving total manning reductions of approximately 3,750 people and annual cost reductions of approximately NOK 2,900 million compared to the 1998 level (approximately NOK 200 million was cost savings related to Gas and Chemicals sub-segment). This resulted in total savings in cost by more than 30 percent. Operating results in 2001 included approximately NOK 300 million in redundancy and other costs related to the staffing reductions compared to NOK 460 million in 2000.

Costs in 2001 also included losses and write-downs totalling NOK 126 million related to the disposal of Oleochemicals and other non-core business activities.

**Operating income and EBITDA**

Operating income for 2001 was NOK 2,114 million compared to NOK 1,303 million in 2000. EBITDA was NOK 4,402 million in 2001 compared to NOK 3,553 million in 2000. The increase in operating income and EBITDA compared to the prior year was primarily due to improved fertilizer prices partially offset by reduced sales volumes. Nonrecurring charges of NOK 239 million reduced EBITDA, compared with nonrecurring charges of NOK 731 million in 2000.

**OTHER ACTIVITIES**

Other Activities include Petrochemicals, Pronova, the industrial casualty insurance company, Industriforsikring, Hydro Business Partner, Hydro Technology and Projects, and KFK.

**Petrochemicals**

**Revenues and market conditions**

Petrochemicals operating revenues decreased by approximately 14 percent in 2001, compared to 2000. The reduction is primarily due to lower average product prices, particularly suspension polyvinyl chloride (S-PVC) prices. Hydro s average realized prices for S-PVC was approximately 26 percent lower in 2001 than in 2000 as a result of a decline in demand.

Noretyl, in which Hydro s share was reduced to 50 percent with effect from January 1, 2001, was reported as a non-consolidated investee. As a result, earnings from non-consolidated investees were higher and operating income was lower than compared to 2000.

**Operating costs**

Total raw material costs for Petrochemicals were at a similar level compared to the previous year.

Total fixed costs (excluding a one-time pension adjustment in 2000 and other non-recurring costs) were reduced in 2001 compared to 2000 reflecting reduced staffing and improved work processes.

**Operating income and EBITDA**

Petrochemicals operating income/(loss) in 2001 was NOK (101) million compared to NOK 265 million in the prior year. EBITDA was NOK 363 million in 2001 compared to NOK 662 million in the prior year, a decrease of 45 percent. EBITDA for 2001 was negatively affected by nonrecurring items in the amount of approximately NOK 225 million relating to the costs of staffing reductions and demolition and cleanup costs for the Porsgrunn, Norway facility. This was partly offset by a gain of NOK 59 million on the sale of Singapore Polymer Corporation (SPC). Non-recurring costs in 2000, mainly relating to pensions, were around NOK 173 million.

EBITDA for Other activities was NOK 1,215 million, a decline of NOK 1,735 million compared to 2000. At the end of 2000, the Company sold Hydro Seafood resulting in a gain of NOK 1,609 million. Hydro Seafood s British operations were sold in 2001 resulting in a gain of NOK 418 million. The results for 2000 were also positively influenced by Hydro Seafood s operating results up to the time of sale. In 2001, staffing reductions at the Company s Grenland industrial site in Norway resulted in a nonrecurring charge of NOK 300 million. Underlying operating results improved by approximately NOK 40 million excluding the effects of the divestment of Hydro Seafood and the nonrecurring charges described above.

## ITEM 6. DIRECTORS, SENIOR MANAGERS AND EMPLOYEES

## ITEM 6.A. DIRECTORS AND CORPORATE MANAGEMENT BOARD

Hydro is registered in Norway and the Group s governance structure is based on Norwegian corporate law. This law has been revised in recent years to, among other things, clarify areas of responsibility of the Board of Directors of a Norwegian company.

**Corporate Assembly**

The Corporate Assembly consists of 21 members. Fourteen members are elected by the shareholders, while seven (one-third, according to Norwegian legislation) are elected by and among the employees of the Group s companies in Norway. The Corporate Assembly elects the Board of Directors and nominates the external auditor. At the request of the Board, the Corporate Assembly adopts resolutions in matters concerning investments that are substantial in relation to the Company s resources, or concerning such rationalization of, or changes in, operations as will entail a major change in or redeployment of the labor force. The Corporate Assembly will advise the shareholders at the annual shareholders meeting on the approval of the Company s accounts and dividend distribution as proposed by the Board, and can advise the shareholders to reduce the dividend proposed. The Corporate Assembly met four times in 2002.

**Nomination Committee**

The Company s Articles of Association (See **Item 10.B. Articles of Association**) provide for a nomination committee. The committee consists of four members two of whom are elected directly by the shareholders, one elected by and among the shareholders representatives in the Corporate Assembly, and the chairman of the Corporate Assembly. The committee nominates candidates to the Corporate Assembly to be elected by the shareholders at the shareholders meeting, and candidates to the Board of Directors to be elected by the Corporate Assembly. The committee operates under a charter established by the shareholders representatives in the Corporate Assembly.

**Board of Directors**

The Board of Directors currently consists of nine members who are nominated and elected by the Corporate Assembly. Six Board members are elected by the shareholder representatives in the Corporate Assembly and three Board members are elected by the employee representatives in the Corporate Assembly.

Neither the President and CEO nor any other member of the Company s executive management is a director of the Board (see discussion below under **President and CEO and Corporate Management Board** ). According to Norwegian corporate law, the Board of Directors has the overall responsibility for management of the Company, while the President and CEO is responsible for day-to-day management. The Board supervises day-to-day management as carried out by the President and CEO and the activities of the Company in general, as well as ensuring that appropriate steering and control systems are in place. The Board s internal rules and procedure were amended in 2001 to clarify the Board s role in relation to the management of the Company as well as the other corporate bodies. The President and CEO s authority and responsibilities were defined in greater detail to allow the Board of Directors to concentrate on the Company s strategy and organization, while subcommittees have been appointed to prepare matters for which the Board is responsible.

For each member of the Board of Directors, there follows information regarding his or her age, the period during which the Board member has served as such, and information regarding his or her business experience outside of the Company (including directorships in other companies).

| Name and Age of Director; Tenure as Director | Business Experience |
|---|---|
| Egil Myklebust, 60, Director since 1992 | Mr. Myklebust assumed the position as Chairman of the Board of Directors of the Company on May 2, 2001 following his serving as President and CEO of the Company from 1991 to 2001. Prior to his serving as President and CEO, he held positions within the Company s legal department in both Norway and in the United States, including a period as Head of Corporate Secretariat. He was Executive Vice President of Human Resources from 1982 to 1987. From 1987 to 1989, Mr. Myklebust held the position of General Director for both the Federation of Norwegian Employers and the Confederation of Norwegian Business and Industry (CNBI). Mr. Myklebust is currently serving as Chairman of the Board of Directors of SAS and as a member of the Board of Directors of Norske Skog ASA. Mr. Myklebust earned a Bachelor of Law degree at the University of Oslo in 1967. |
| Anne Cathrine Høeg Rasmussen, 66, Director since 1998 | Ms. Høeg Rasmussen is a partner in the Norwegian law firm of Schjødt AS. She is also a director of K.A. Rasmussen as, Aczo Nobel Car Finishes AS, Technip Norge Offshore AS, Technip Geoproduction Norge AS and Organon AS. She is also a member of Børsklagenemda, the Oslo Stock Exchange Appeals Committee. |
| Borger A. Lenth, 65, Director since 1990 | Mr. Lenth has served as the Deputy Chairman of the Board of Directors of the Company since May 2, 2001. Mr. Lenth was previously CEO of Christiania Bank and Kreditkasse from 1991 to 1997. He has also acted as Permanent Secretary in the Ministry of Development Corporation. He is also Chairman of the Board of Directors of Treschow Fritzøe ASA and BnBank ASA, and Vice Chairman of the Board of Directors of Kommunal Landspensjonskasse (KLP) and Norfund. |
| Ingvild Myhre, 45, Director since 2001 | Ms. Myhre is the President and CEO of Telenor Mobil AS. She is also the Deputy |

| | |
|---|---|
| | Chairman of the Norwegian Defense Research Establishment, a director of the Board on Power and Democracy and the Board of the Research Park in Narvik, a director on the Board of Sonofon (in Denmark), and a director on the Board of the Norwegian Business Daily. |
| Gudmund Per Olsen, 44, Director since 1999 | Mr. Olsen is employed by the Company as a principal engineer in the Exploration and Production segment. He represents the employee s union. |
| Elisabeth Grieg, 43, Director since 2001 | Ms. Grieg is the co-owner of the Grieg Group and the CEO of Grieg International AS. She is also a member of the Board of the Norwegian Shipowners Association and of the Corporate Assembly in Orkla AS. |
| Odd Semstrøm, 58, Director since 1997 | Mr. Semstrøm represents the employee s union and is located at the Company s aluminum plant in Årdal. |

| Name and Age of Director; Tenure as Director | Business Experience |
|---|---|
| Håkan Mogren, 58, Director since 2001 | Dr. Mogren is the Chairman of Reckitt Benckiser plc and Affibody AB. He is also the Deputy Chairman of AstraZeneca plc, and Vice Chairman of Gambro AB. He also serves as a director of Investor AB. |
| Per Wold, 60, Director since 1990 | Mr. Wold represents the employee s union and is located at the industrial plant in Herøya, Porsgrunn. |

**President and CEO and Corporate Management Board**

The President and CEO constitutes a formal corporate body according to Norwegian corporate law. The President and CEO is responsible for day-to-day management of the Company. In Hydro, the division of functions and responsibilities has been defined in greater detail in the rules of procedures established by the Board of Directors.

In accordance with rules of procedure established by the Board of Directors, the President and CEO has established a corporate management board (CMB) to assist in discharging his responsibilities. The CMB consists of the Executive Vice Presidents for the three core business areas in addition to the Chief Financial Officer and the Executive Vice President Organization and Competence. The members of the CMB have a collective duty to promote Hydro s strategic, financial and other objectives, as well as to safeguard the Company s assets, organization and reputation. The CMB convenes at least once a week.

The following table reflects information concerning each member of Hydro s Corporate Management Board, as of February 26, 2003, including his or her age and position, and brief background information regarding his or her business experience.

| Name, Age and Position | Business Experience |
|---|---|
| Eivind Reiten, 49, President and Chief Executive Officer | Eivind Reiten succeeded Egil Myklebust as President and CEO of the Company effective May 2, 2001. From 1999 to the date of his appointment as President and CEO, Mr. Reiten served as Executive Vice President for Hydro s Light Metals business area. Mr. Reiten served as President of Hydro Aluminium Metal Products from 1996 to 1998. This followed four years as President of Hydro s Refining and Marketing Division from 1992 to 1996. From 1991 to 1992 Mr. Reiten held the position of Senior Vice President, Special Projects, after a period as Minister of Petroleum and Energy in the Norwegian government from 1990 to 1991. Mr. Reiten held the position of President of the Energy Division from 1988 to 1990 following a two-year period as manager, and later, Vice President for Hydro Agri. During the seven-year period from 1979 to 1986, Mr. Reiten held several governmental posts including Junior Executive Office, Ministry of Fisheries, and |

Secretary to the Center Party s Parliamentary Group, State Secretary, Ministry of Finance and Minister of Fisheries. Mr. Reiten graduated from the University of Oslo with a degree in Economics in 1978.

| Name, Age and Position | Business Experience |
|---|---|
| Thorleif Enger, 59,<br>Executive Vice President | Thorleif Enger has served as Executive Vice President for Hydro s Agri business area since 1997. Prior to that, he served as President of Hydro s Exploration & Production Division from 1987 to 1996. Mr. Enger also was the Project Director of the Oseberg field for four years (1982 to 1986), following various positions with Hydro s Engineering and Exploration & Production Divisions beginning in 1973. This followed several years as a senior research engineer for the Shell Development Company in the United States. Mr. Enger was educated at the University of Colorado in the United States, receiving bachelors, masters and doctorate degrees in the areas of engineering and structural mechanics. |
| John Ove Ottestad, 53,<br>Executive Vice President<br>and Chief Financial Officer | John Ove Ottestad was appointed Executive Vice President and Chief Financial Officer for Hydro, effective March 1, 2002. Prior to this appointment, he served as Senior Vice President for Mergers and Acquisitions (from 1999 to 2002), as President of Hydro s Refining and Marketing Division (from 1996 to 1999), as President of Hydro s Magnesium Division (from 1988 to 1996), and as President of Hydro Innovation (from 1985 to 1987). This followed eight years of serving in various corporate staff functions (e.g., financial planning and strategy) from 1977 to 1985 and two years experience as an engineer within Hydro s Oil and Gas Division from 1975 to 1977. Mr. Ottestad also served two years as an EDP scientist with the Norwegian Research Foundation, SINTEF. Mr. Ottestad graduated with a degree in Physics from the Norwegian Institute of Technology in 1973. |
| Alexandra Bech, 37,<br>Executive Vice President | Alexandra Bech was appointed Executive Vice President as of January 15, 2002, after serving as Senior Vice President of Corporate Human Resources since 2000. Ms. Bech joined Hydro in New York in 1993 as the legal counsel for Hydro s US subsidiaries. Since then, she has served as Company Secretary and as Vice President of Strategy and Organization in Hydro s Automotive Structures division. Ms. Bech holds a Bachelor of Law degree from the University of Oslo and a Diploma in Legal Studies from Oxford University. She is admitted to the bar in the State of New York, US. |

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|---|---|
| Tore Torvund, 50,<br>Executive Vice President | Tore Torvund has served as Executive Vice President for Hydro s Oil and Energy area since 1997. Prior to this position, he served as Senior Vice President Operations, in Hydro s Exploration and Production (E&P) division from 1992 to 1997. During the period from 1982 to 1992, Mr. Torvund held several management positions within the E&P division relating to drilling operations, field development and technology projects. From 1977 to 1982 Mr. Torvund worked with Elf Aquitaine on the Petronord study in France and the FRIGG development project in Norway. From 1976 to 1977 he worked as a reservoir engineer for the E&P division in Norway. Mr. Torvund graduated with a degree in Petroleum Technology from the Norwegian Institute of Technology in 1976. |

| Name, Age and Position | Business Experience |
|---|---|
| Jon-Harald Nilsen, 51,<br>Executive Vice President | Jon-Harald Nilsen has served as Executive Vice President for Hydro s Aluminium area since February 15, 2001. Prior to this position, he served as President of Hydro Aluminium Metal Products from 1999 to 2001, following seven years as Senior Vice President of various areas within the Hydro Aluminium Metal Products group. From 1985 to 1988 Mr. Nilsen was the Market/Product Director for Hydro and held various managerial positions in financial planning and control for the Oseberg project, financial and market projects, and as an Assistant Export Manager for Bergensmeieriet from 1975 to 1985. Mr. Nilsen graduated from the Norwegian School of Economics and Business Administration in 1975. |

No member of the Board of Directors or the Corporate Management Board has any family relationship with any other director or member of Corporate Management Board**.**

**ITEM 6.B. COMPENSATION**

**Director Compensation Arrangements**

***Compensation for Employee Directors***

Members of the Board of Directors who are also employees of the Company (or any subsidiary of the Company) received a compensation of NOK 210,000 in 2002 for serving on the Board in addition to their normal salaries. Egil Myklebust, Chairman of the Board of Directors, received NOK 410,000 in 2002 for serving on the Board and his salary was reduced accordingly. Mr. Myklebust received salary and other benefits of NOK 3,676,000, excluding remuneration as Board Chairman, in 2002. Mr. Myklebust retired as President of the Company in May 2001 and continued to be employed by the Company in accordance with his employment contract of 1991.

***General Compensation Rules for Non-Employee Directors***

Directors who are not employees of the Company or any subsidiary of the Company ( non-employee directors ) received NOK 210,000 in compensation in 2002 and the Deputy Chairman received NOK 315,000.

**Compensation of Chief Executive Officer**

Eivind Reiten, President and CEO, received salary and other benefits in the total amount of NOK 4,432,000 in 2002. In May 2001, Eivind Reiten assumed the position as President and CEO, but was not made a member of the Board. The President will also receive bonus for 2002 in the amount of NOK 630,000 in 2003.

**Grants of Stock Options in Last Fiscal Year**

Senior officers and other key employees are eligible to participate in the Company s stock-based compensation plans, the 2002 and 2001 Executive Share Option Plans, both of which are intended to provide incentives to plan participants by providing them with opportunities to purchase ordinary