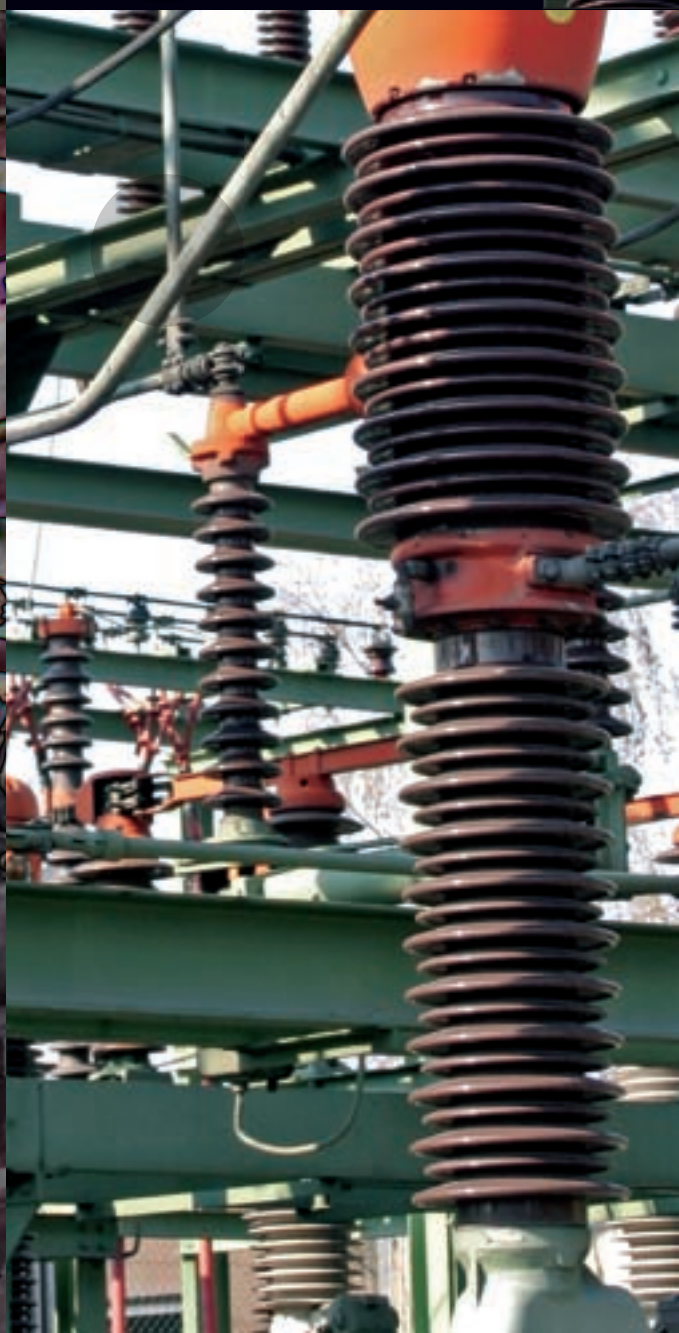
5: Organisation and ownership in the power sector



5.1 Organisation and restructuring of the power supply sector

The Norwegian power sector comprises a large number of participants in various areas of business. The power sector is organised in various ways around electricity generation, transmission and trading activities. Depending on which activity is being pursued, companies can be designated as generating, grid or trading companies, vertically-integrated utilities or industrial undertakings. Additionally, there are companies that solely engage in brokering and trading power contracts. More than 420 members from 20 countries trade on Nord Pool, the Nordic power exchange. They include power companies, financial institutions and some private individuals.

Public sector participants are substantial owners in this sector; for example, around 88 per cent of Norwegian hydropower generation is publicly owned. The combination of large-scale public ownership and a diversity of various participants is a hallmark of the Norwegian power sector.

5.1.1 Organisation

Everyone engaged in production, trade or distribution of electricity must hold a trading licence as specified in Section 4.3.4. Figure 5.1 shows the number of companies with a trading licence by activity as at 1 January 2008. The overlapping circles illustrate the extent to which companies engage in various forms of activities. The figure shows, for example, that 66 companies are engaged in electricity generation, grid operation and trading, and that 42 companies are only involved in grid operation. A total of 355 companies hold trading licences. Holding companies without activities requiring a licence are not included in this figure.

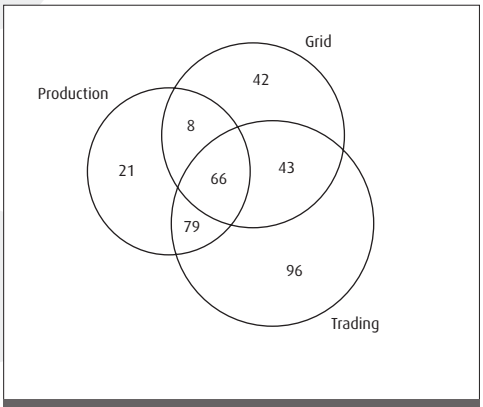


Figure 5.1 Trading licensees by activity as of 1 January 2008.
Source: Norwegian Water Resources and Energy Directorate (NVE)

Figure 5.2 presents trends in the various operating categories in the Norwegian electricity sector for the years 1998–2007. This shows that the number of vertically-integrated utilities[1] has declined in the period, partly as a result of mergers that have formed larger vertically-integrated companies. The number of companies (legal entities) engaged solely in activities subject to competition (generation and/or trading) has been rising since 1998, with the exception of 2001. During 2007 the number of licensees solely engaged in activities subject to competition rose from 87 in 1998 to 196.

To implement the new electricity market directive (Directive 2003/54/EC) the Storting approved requirements for legal and functional unbundling of activities subject to competition on the one hand, and activities related to the grid operation on the other hand, ver-

1 Vertically-integrated companies refers to companies that operate distribution, trading and/or generation activities within a single legal entity.

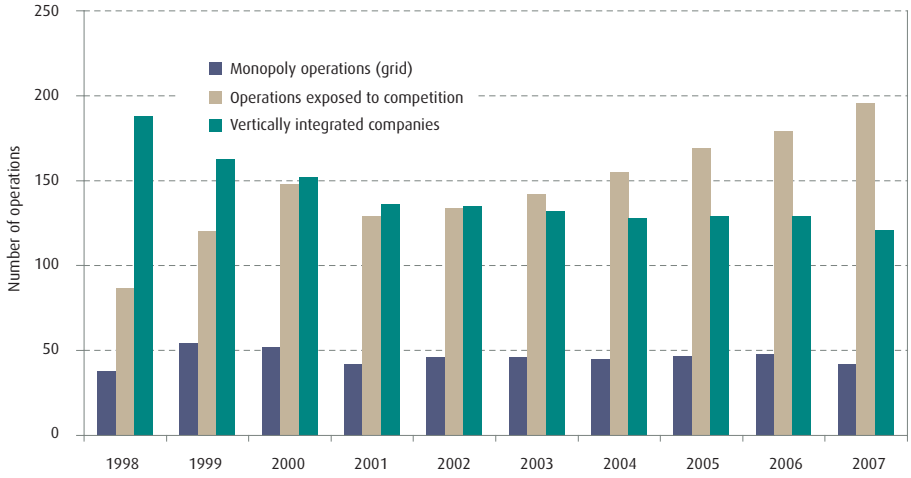


Figure 5.2 Trends in the various operation categories 1998–2007.
Source: Norwegian Water Resources and Energy Directorate (NVE)

tically-integrated companies that that have over 100,000 grid customers or that have the system operation responsibility. This may help explain the lower percentage of vertically integrated companies.

5.1.2 Restructuring of the power industry

In response to the deregulation of the energy sector in Europe, a substantial restructuring of the power industry has taken place in most European countries, also across national borders.

Many municipal and county authorities in Norway have sold holdings in power companies. At the same time, larger regional power companies have been established, partly by acquisition and partly through mergers. Examples are Lyse, Agder Energi, BKK and Skagerak Energi.

In recent years there has been a substantial fall in the pace of restructuring in Norway compared with the 1999–2001 period. As in 2006, not many transactions were carried out in 2007 either. In 2006 the value of shares traded was NOK 2.1 billion. The total value of transactions in 2004 was approximately NOK 16 billion and in 2003 approximately NOK 9 billion.

A distinct feature of the Norwegian hydropower sector has been reversion obligations for licences granted to private entities after 1917. We refer to Chapter 4 for a detailed discussion of this topic. Over time, the right of reversion has resulted in privately developed hydropower plants gradually passing into public ownership, either through sales or reversion. Norway was brought before the EFTA Court by the EFTA Surveillance Authority (ESA) in 2006. In its decision from 2007 the Court found that the previous scheme infringed the EEA Agreement. In spring 2008 the Government presented Proposition No. 61 (2007–2008) to the Odelsting, which continues the current scheme, but altered it on the four points highlighted by the Court.

- New licences for acquiring title to waterfalls may be granted only to public sector owners.
- Acquisition of reverted waterfalls and power plants is restricted to public sector operators.
- The right to a renewed licence for private entities lapses in the event of sale-back/ lease after a reversion right has been exercised.
- The sale of more than 1/3 of publicly owned waterfalls and power plants to private entities is prohibited.

The majority of the Standing Committee on Energy and the Environment endorsed the Government's proposal in Recommendation No. 78 (2007–2008) to the Odelsting. The amendments entered into force on 25 September 2008.

This means that as the reversion date stated in the licence nears, private power plants will be sold to public sector companies or revert to the central government on the reversion date. In both cases, as in previous years, the restructuring from private to public sector owners will continue.

5.2 Owners and forms of business organisation

Local municipalities and county authorities own around 52 per cent of the country's generating capacity. Central government, through Statkraft SF, owns around 36 per cent[2] and private companies roughly 12 per cent[3]. Statkraft was reorganised to be come a limited liability company on 1 October 2004, but as a wholly owned subsidiary of the state enterprise Statkraft SF. Being organised as a state enterprise means that the central government must be the sole owner. The differences between state enterprises and limited companies are otherwise few. A number of companies in the sector have more than one owner, and there is a great degree of cross-ownership.

Central government owns about 87 per cent of the central grid. In addition, private companies and county and municipal authorities own portions of the central grid. Central government ownership of the national grid through Statnett SF. County and municipal authorities own most of the grid on regional and distribution level.

Private ownership is found in all areas of the power sector (generation, transmission and trading). Around 49 per cent of the companies wholly in private hands are solely engaged in trading.

Foreign ownership in the Norwegian power supply system is relatively limited, but some foreign companies have secured a trading licence in Norway. They concentrate mainly on the wholesale (spot) market. In addition, foreign enterprises have bought shares in Norwegian companies with trading licences or established their own Norwegian-registered subsidiaries. Foreign owners have concentrated on trading companies, but foreign holdings can also be found in generating or grid operations.

Around 80 per cent of the companies in the power sector are organised as limited companies, but more and more of them are being organised as corporate groups. Nearly 65 per cent of all holders of trading licences are organised as corporate groups. Around 70 per cent of the parent companies are themselves involved in activities which require licences, whe-

2 In addition the central government owns 43.82 % of Norsk Hydro, which owns capacity of 8.5 TWh/year.

3 Several companies have mixed county authority, municipal authority, central government and private ownership. The breakdown in per cent relates to majority owners.

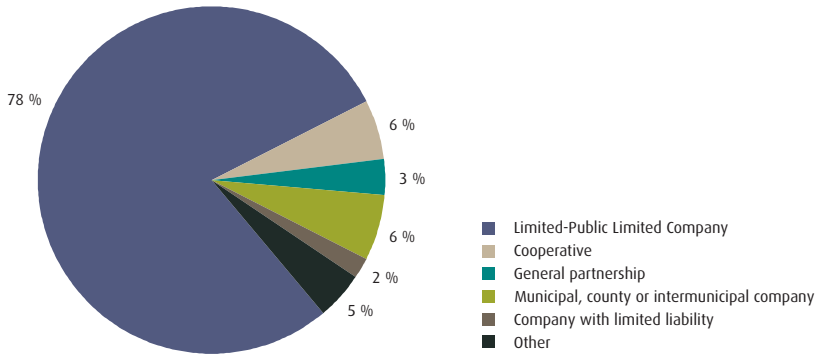


Figure 5.3 Forms of business organisation.
Source: Norwegian Water Resources and Energy Directorate (NVE)

reas the remainder do not engage in activities of this type.

As at 1 January 2008, 76 such groups had a total of 169 subsidiaries. Subsidiaries intending to engage in activities which require a licence must hold their own trading licences. For that reason the number of licence holders is increasing. Figure 5.3 illustrates the forms of company organisation as at 1 January 2008.

5.3 Companies in the different operating categories

5.3.1 Generating companies

Of the 174 companies that generate electricity in Norway, 21 of them are engaged solely in generation.

Table 5.1 provides an overview of the ten largest power generating companies as at 1 January 2008. They account for just over 70 per cent of the country's total mean generating capacity and about 75 per cent of installed capacity.

Most of the generating companies are owned by county or municipal authorities, often jointly by several municipalities in the same region.

Of the privately owned generating companies, 24 are industrial enterprises which primarily supply their own operations. They are granted trading licences on simplified terms (see Section 4.3.4.) and are not included in the list above.

5.3.2 Grid companies

A total of 159 companies are engaged in grid operation at one or more levels (distribution grid, regional grid or central grid). Of these, 42 are purely grid companies. See Figure 5.1. Most grid companies are wholly or partly owned by one or more municipal authorities. The state enterprise Statnett SF owns about 87 per cent of the central grid.

Table 5.2 shows the ten largest grid compa-

Table 5.1 The 10 largest power producers in Norway at 01.01.08. Includes stakes in other companies when these stakes exceed 50 %.
Source: Norwegian Water Resources and Energy Directorate (NVE)

Generating company			Installed capacity	
	Mean annual production (TWh)	Market share (per cent)	MW	Per cent
Statkraft Energi AS/Statkraft SF	43.6	33.8	10 670	35.2
E-CO Energi AS	10.0	7.8	2 871	9.5
Norsk Hydro ASA	8.5	6.6	1 828	6.0
Agder Energi AS	7.4	5.7	1 728	5.7
BKK AS	7.0	5.4	1 655	5.5
Lyse Energi AS	5.9	4.6	1 558	5.1
Nord-Trøndelag Elektrisitetsverk FKF	3.5	2.7	800	2.6
Eidsiva Energi AS	3.1	2.4	757	2.5
Hafslund ASA	2.7	2.1	504	1.7
Sunnhordland Kraftlag AS	1.6	1.2	491	1.6

Table 5.2 The 10 largest grid companies (distribution grid) at 01.01.07.
Source: Norwegian Water Resources and Energy Directorate (NVE)

Grid company	Number of customers	Amount transmitted GWh/year
Hafslund Nett AS	525 468	14 966
BKK Nett AS	182 038	5150
Skagerak Nett AS	176 017	5226
Agder Energi Nett AS	159 287	3734
Eidsiva Energinett AS	134 234	3 951
Lyse Elnett AS	118 880	3 613
Fortum Distribusjon AS	98 079	2 297
Trondheim Energiverk Nett AS	93 574	2 260
Nett AS	79 004	2 001
Troms Kraft Nett AS	66 652	2059

nies (and the portion of vertically-integrated companies engaged in grid operations) at 1 January 2007 by the number of customers and deliveries to end users.

5.3.3 Vertically-integrated companies

Vertically-integrated companies are engaged in grid operation, electricity production and/or trading activities. In all, 117 companies are engaged both in activities subject to competition (generation and/or trading) and in grid operation. Of these, 66 are engaged in generation, trading and grid operation. These figures apply to vertically-integrated companies engaged in grid operation and trading and/or generation within the same legal entity, not corporate groups with separate operations in various subsidiaries.

5.3.4 Trading companies

Trading companies buy power on the market for resale. Of the total of 284 companies engaged in trading, 96 have trading as their sole business.

Table 5.3 shows the ten largest electricity trading companies ranked by supplies to end users in 2006. The table shows both the total quantity of electricity traded and the breakdown between households (including holiday cabins and second homes) and other activities. The two largest trading companies, Statkraft Energi AS and Norsk Hydro Produksjon AS supply electricity only to industrial and commercial activities.

5.3.5 Power brokers and traders

Power brokers do not buy power for themselves, but negotiate purchases and sales on behalf of customers. Power traders buy or sell power and assume a position in the market. Operating as a broker or trader in the financial market does not require a trading licence. However, buying and selling power in the physical market requires a trading licence.

Table 5.3 The 10 largest energy traders in 2006 (GWh/year)
Source: Norwegian Water Resources and Energy Directorate (NVE)

Company	Total sales	Households Cabins/holiday homes	Other activities*
Statkraft Energi AS	18237	0	18237
Norsk Hydro Produksjon AS	11495	0	14495
Fjordkraft AS	8693	3926	4767
Hafslund Strøm AS	6766	3849	2927
LOS AS	5326	2571	2755
Eidsiva Energi Marked AS	3290	1556	1734
Lyse AS	2983	1708	1275
NorgesEnergi AS	2970	2957	13
Troms Kraft Marked AS	2742	896	1846
Statoil Norge AS	2731	2500	231

*Industry and other commercial activities

5.4 Statnett SF

Statnett SF is responsible for operating and developing the central transmission grid in a socio-economically efficient way and operates the grid in its entirety. Statnett SF is also responsible for short and long-term system operation. As the transmission system operator (TSO), Statnett coordinates the operation of the entire Norwegian power supply system so that at all times the supply of power equals demand.

A clarification of the TSO's responsibility in times of electricity shortage with high probability for rationing was provided by Report No. 18 (2003–2004) to the Storting on security of supply for electricity, etc. Statnett is responsible for identifying and developing the instruments required to maintain a momentary balance between supply and demand when electricity supply is very tight. Among these instruments are agreements on energy options in consumption and use of reserve power stations. Statnett is also responsible for continuously assessing whether new measures are required to ensure that the momentary balance is maintained in a more optimal manner than at present.

In addition, Statnett plays a key role in the development and operation of transmission links to other countries. This involves extensive cooperation with the system operator companies and regulatory authorities in the other Nordic countries. This cooperation is an important basis for the Nordic power market. Cooperation between the Nordic TSOs is currently organised through the Nordel organisation, but will in the future (from the end of 2008) take place through ENTSO-E[4]. Nordic regulators collaborate in the organisation NordREG. The Nordic power market is further discussed in Sections 7.4 and 7.5.

4 European Network of Transmission System Operators for Electricity (ENTSO-E)

The Nord Pool Group organises the markets for physical and financial trading in electric power in the Nordic countries. Nord Pool Spot AS, a separate entity in the Nord Pool Group, regulates the physical trading in power on the Nordic power exchange. Nord Pool Spot AS is currently jointly owned by the Nordic TSOs.

5.5 Key financial figures for the power sector

In 2006 the power companies had an operating profit of NOK 30.3 billion, compared with NOK 24.9 billion in 2005[5]. The profit for the year was NOK 17.5 billion in 2006, as opposed to NOK 13.3 billion the previous year (see Table 5.4). Dividend paid in 2006 was NOK 5.4 billion, while in 2005 it was NOK 4 billion. This was approximately 31 per cent of the net profit for 2006. This is about the same as for 2005, when dividend was approximately 30 per cent of the net profit for the year. The book value of assets in 2006 was NOK 256.2 billion, with a book equity ratio of about 45 per cent.

Total asset rate of return before tax – total rate of return[6] – was 13 per cent in 2006, as opposed to 9.8 per cent in 2005. When calculating total rate of return, financial income has been included but not extraordinary items. Return on equity after tax[7] rose from 10.9 per cent in 2005 to 15.1 per cent in 2006.

5 Statistics Norway

6 Total rate of return = ((result before extraordinary items + interest expenses)/average total assets) x 100. Average total assets is the average total assets as at 1 January and 31 December.

7 Return on equity after tax = ((result before extraordinary items - tax)/average shareholders' equity) x 100. Average shareholders' equity is the average shareholders' equity as at 1 January and 31 December.

Table 5.4 Key accounting figures 2005 – 2006.
Source: Statistics Norway

Key accounting figures, NOK billion	2005	2006
Operating income	127,9	127,1
Operating profit	24,9	30,3
Profit before extraordinary items	22,7	30
Profit before tax	22,7	30
Net profit for the year	13,3	17,5
Dividend	4	5,4
Current assets	52,1	51,8
Power stations, waterfall rights, regulation	95,8	98,4
Grid installations	48	48,1
Other fixed assets	51,5	59,1
Short-term liabilities	50,8	55,8
Long-term liabilities	77,8	84,4
Shareholders' equity	118,8	116
Total assets	247,4	256,2
Total return on assets before tax, per cent	9,8	13
Total return on shareholders' equity after tax, per cent	10,9	15,1