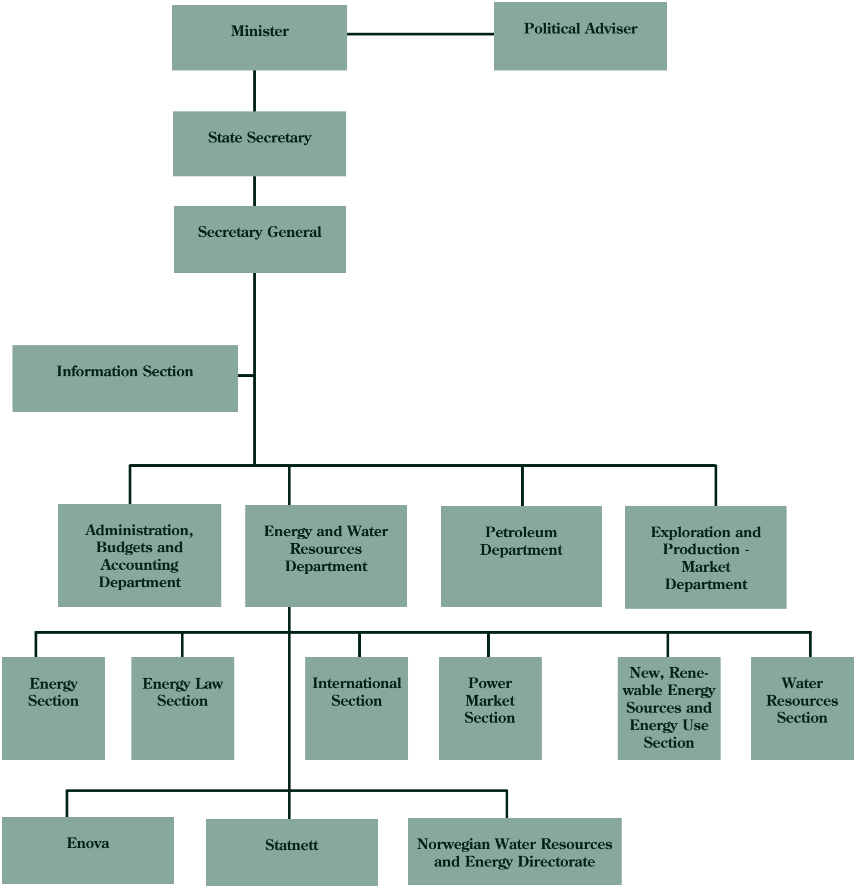


Figure 1.1 Organisation of the Ministry of Petroleum and Energy

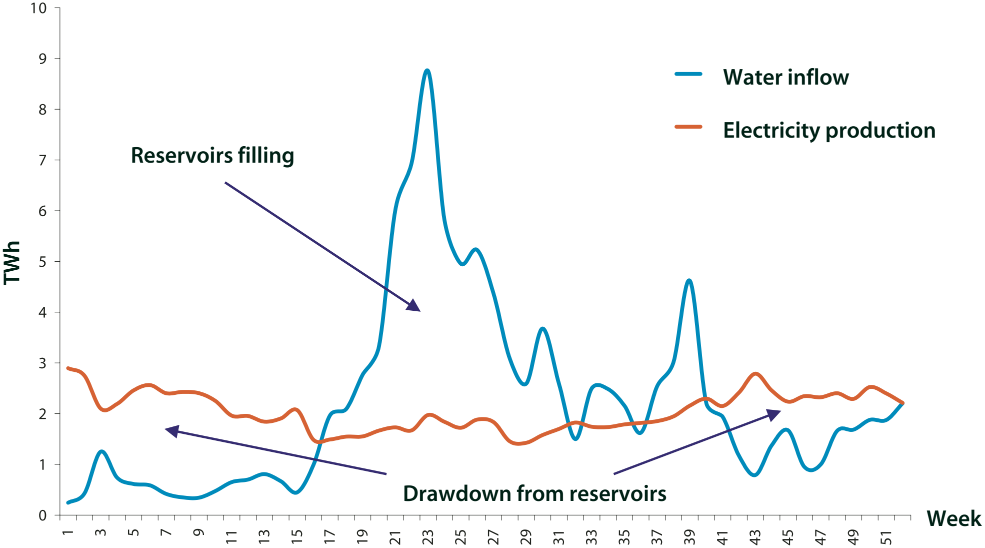


Figure 2.1 Variations in water inflow and electricity output during a year

Source: Nord Pool

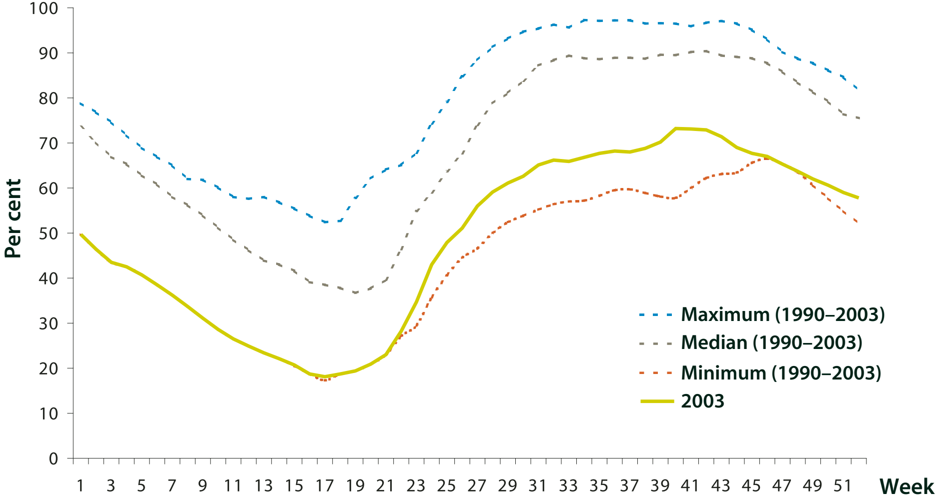


Figure 2.2 Degree of filling of reservoirs in 2003

Source: Norwegian Water Resources and Energy Directorate

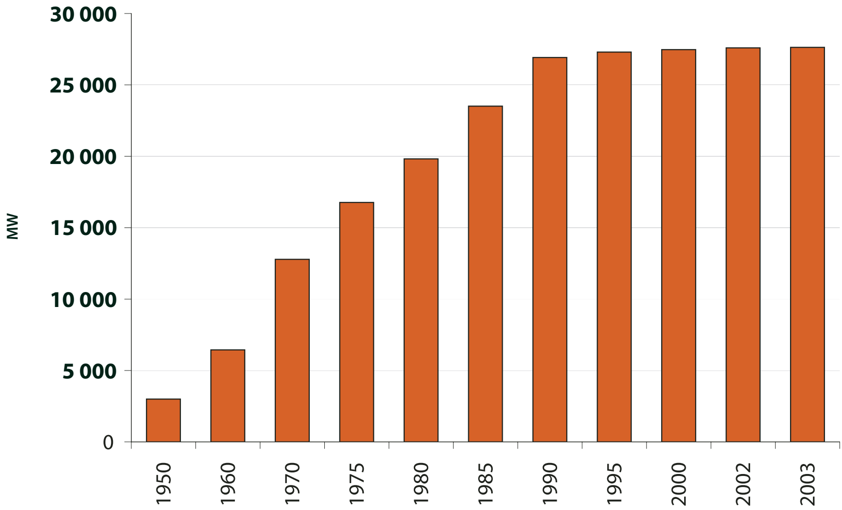


Figure 2.3 Installed capacity

Sources: Norwegian Water Resources and Energy Directorate and Statistics Norway

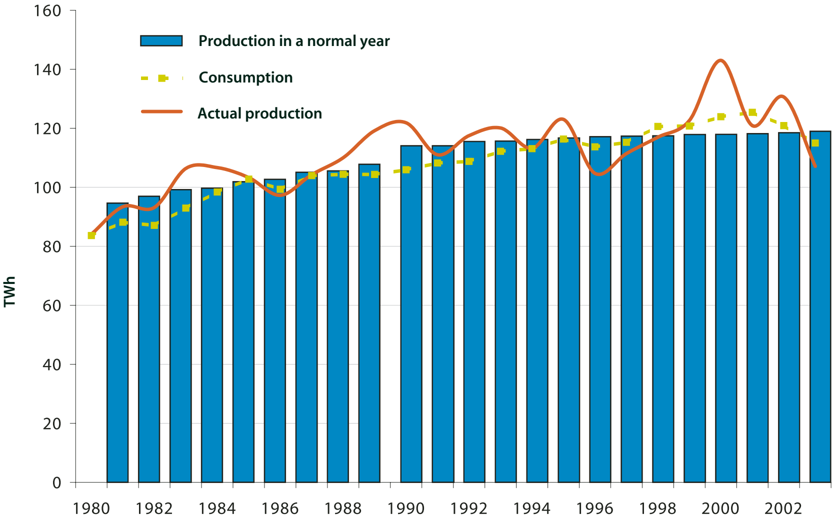


Figure 2.4 Trends in hydropower output and mean annual generating capability

Source: Norwegian Water Resources and Energy Directorate

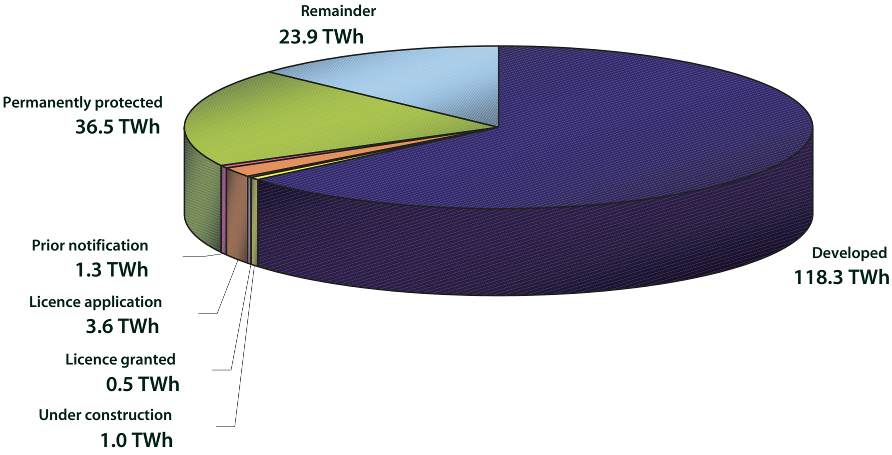


Figure 2.5 Norway's hydropower potential at 1 January 2003, TWh/year

Source: Norwegian Water Resources and Energy Directorate

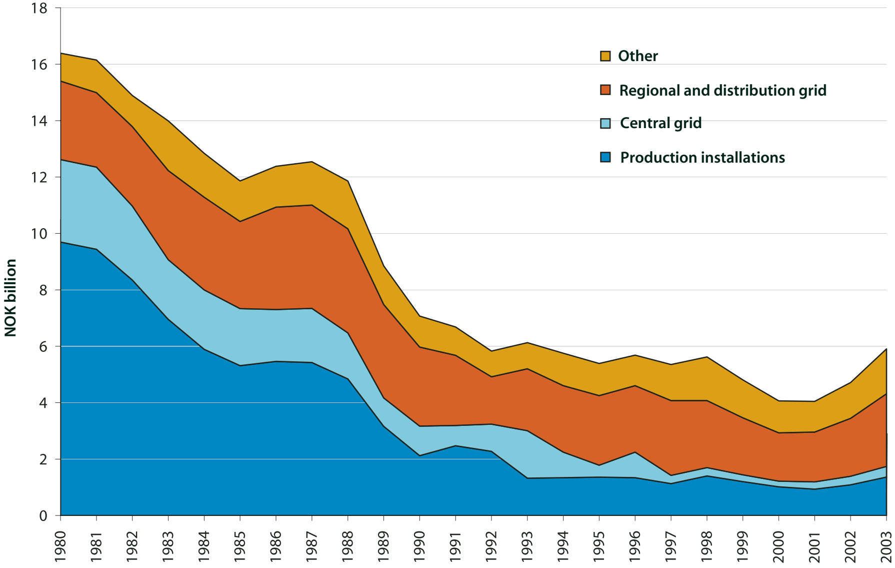


Figure 2.6 Gross investment in the electricity supply system. Fixed 2003 NOK

Sources: Norwegian Water Resources and Energy Directorate, Ministry of Petroleum and Energy

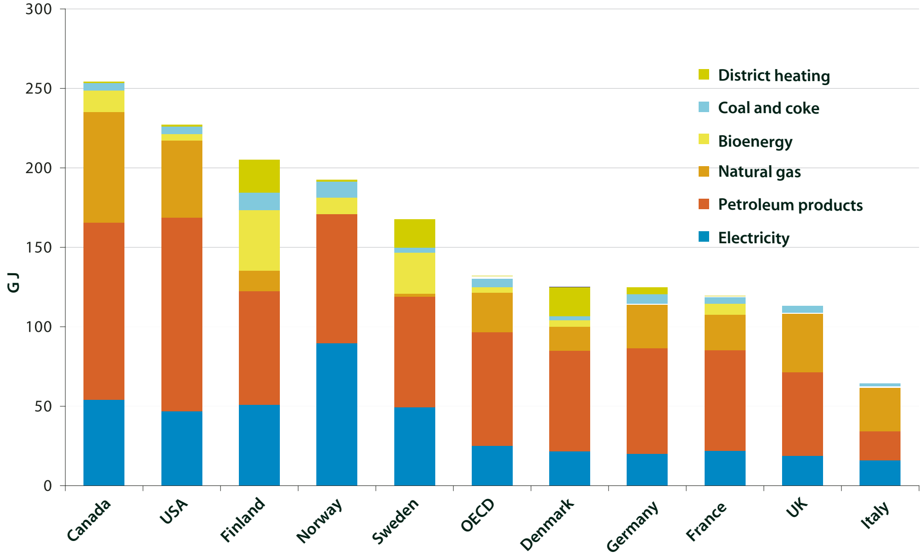


Figure 3.1 Per capita energy use in OECD countries, 2002

Source: Energy balances of OECD countries, IEA/OECD Paris

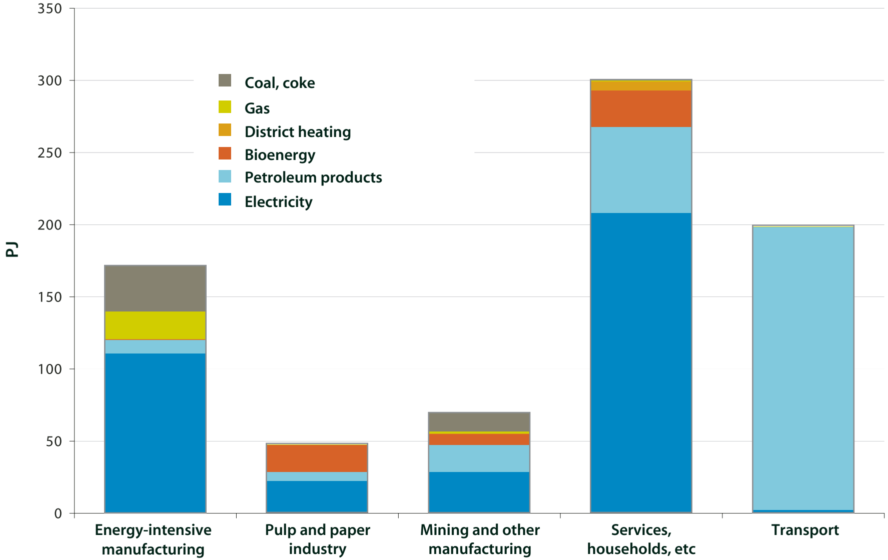


Figure 3.2 Energy use by carrier and category in 2003

Source: Energy accounts, Statistics Norway

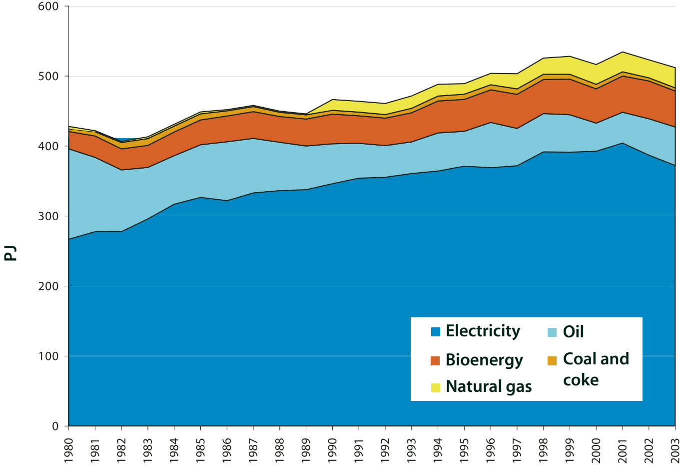


Figure 3.3 Trends in stationary energy use

Source: Energy accounts, Statistics Norway

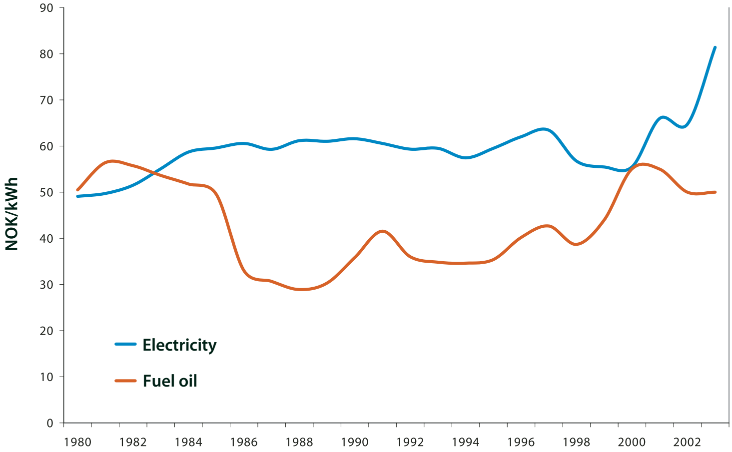


Figure 3.4 Price of utilised energy for households, including taxes. Fixed 2003 NOK

Sources: Statistics Norway and Ministry of Petroleum and Energy

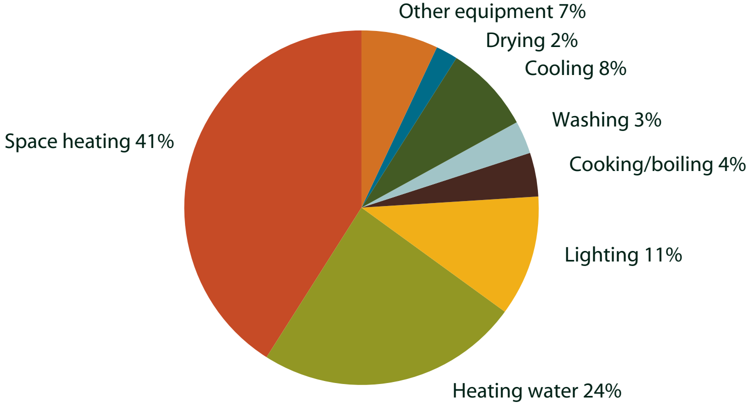


Figure 3.5 Electricity consumption in households by purpose

Source: Statistics Norway

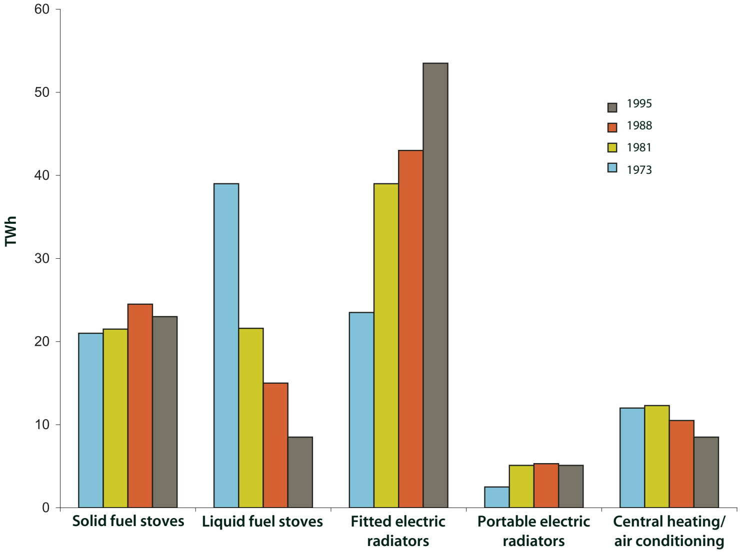


Figure 3.6 Residential heating methods in Norway

Source: Statistics Norway

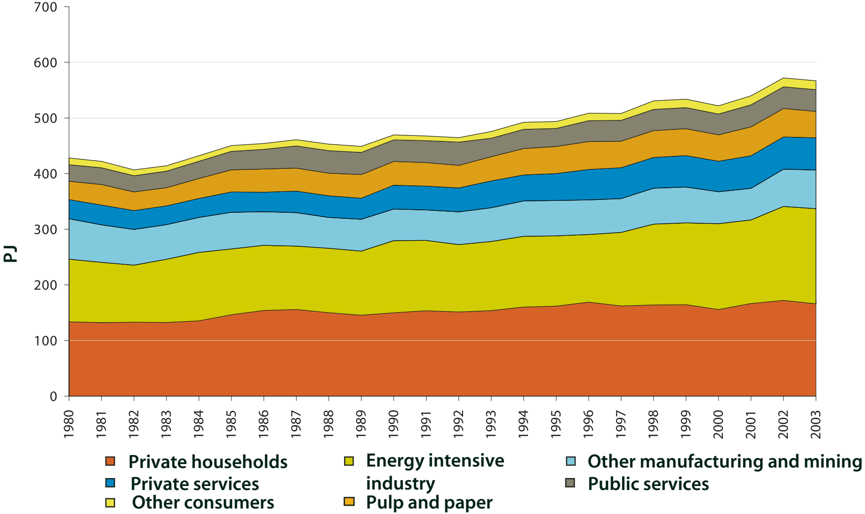


Figure 3.7 Stationary energy use by sector

Source: Energy accounts, Statistics Norway

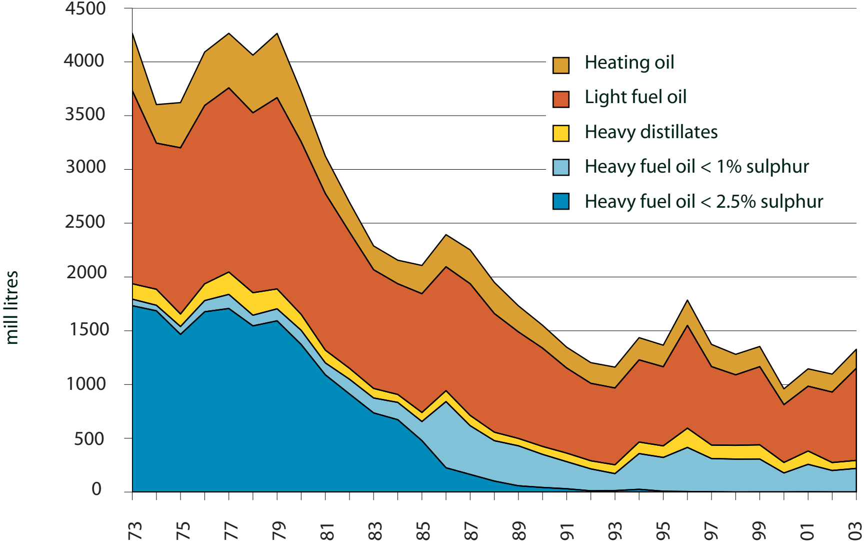


Figure 3.8 Consumption of oil for stationary combustion by product

Source: Norwegian Petroleum Institute

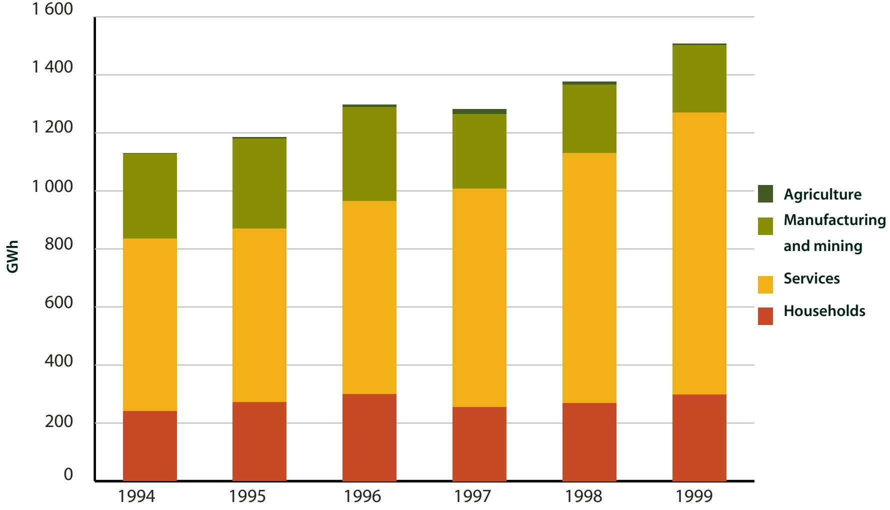


Figure 3.9 Consumption of district heating by various consumer groups

Source: Statistics Norway

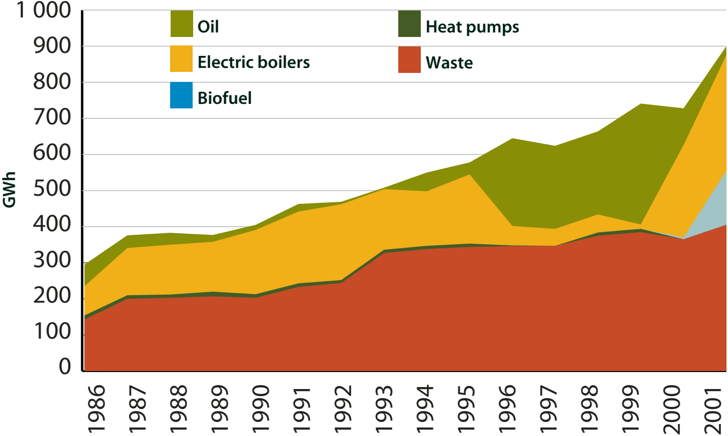


Figure 3.10 District heating in Oslo 1986–2001

Source: KanEnergi

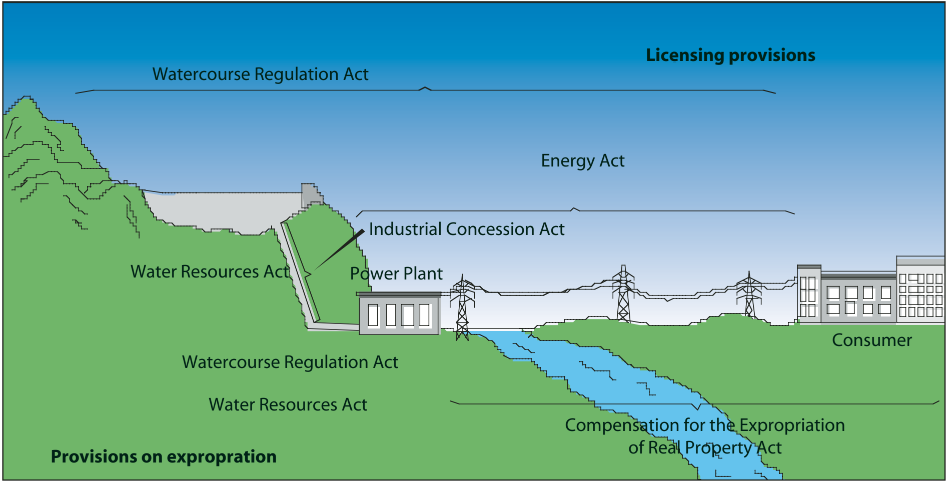
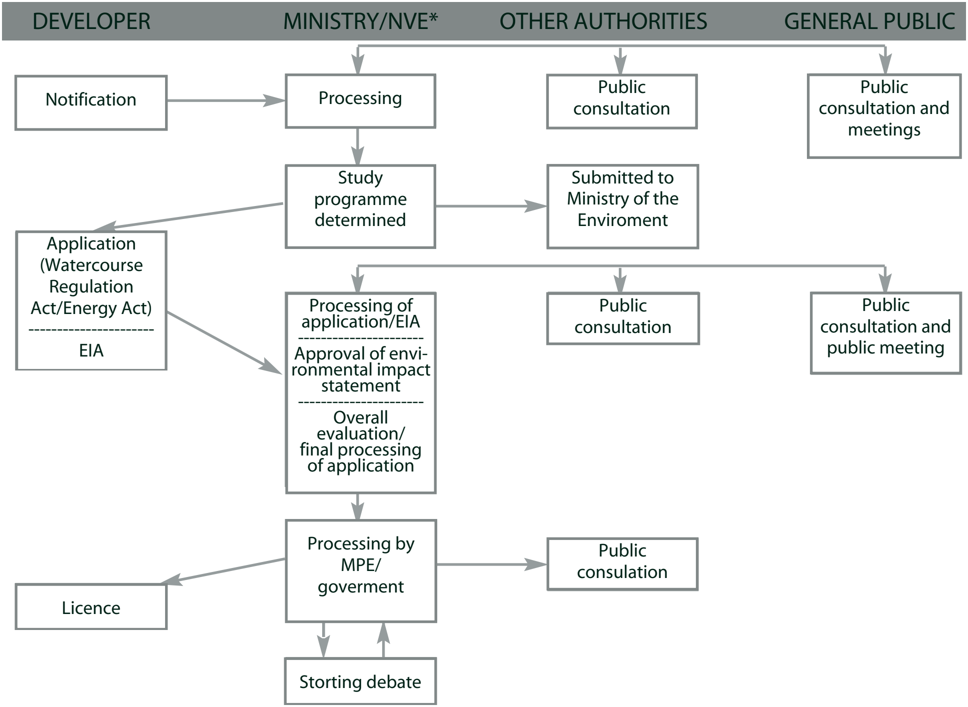
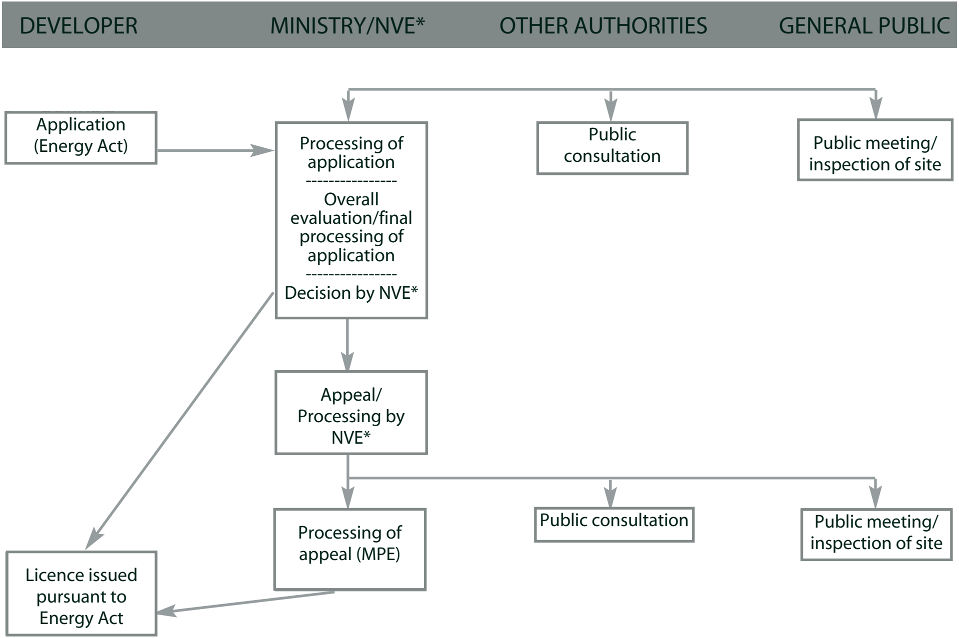


Figure 4.1 Legislation governing licensing in the hydropower sector



For major projects and projects which satisfy specific criteria, the first stage is always notification and an EIA pursuant to the Planning and Building Act. Projects which do not require an EIA pursuant to the Planning and Building Act begin with a application pursuant to the Watercourse Regulation Act and an application pursuant to the Energy Act for licences for electrical installations in connection with the power station, including power lines for connection to the existing grid. If the project must be licensed pursuant to the Watercourse Regulation Act, an EIA pursuant to this Act is required. Administrative procedures for electrical installations are shown in Figure 4.3.

Figure 4.2 Administrative procedures involved in licensing hydropower developments (more than 40 GWh/year) which require an EIA pursuant to the Planning and Building Act



This figure shows administrative procedures for licensing projects which come under the Energy Act, and the most important differences from the procedures pursuant to the water resources legislation, see figure 4.2.

Figure 4.3 Administrative procedures for licensing electrical installations pursuant to the Energy Act (power lines, gas-fired power stations, wind farms, etc)

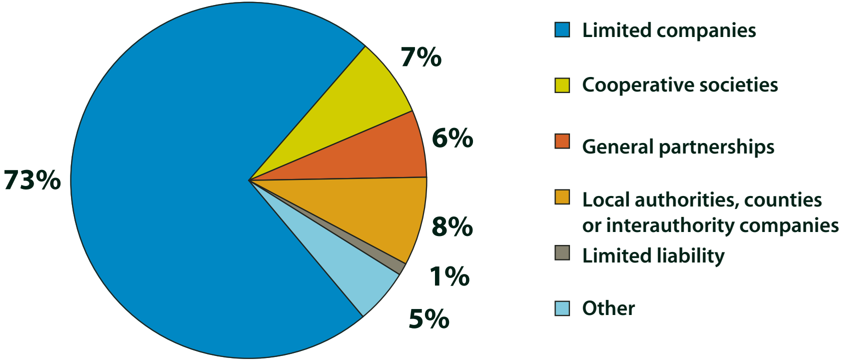


Figure 5.1 Forms of company organisation

Source: Norwegian Water Resources and Energy Directorate

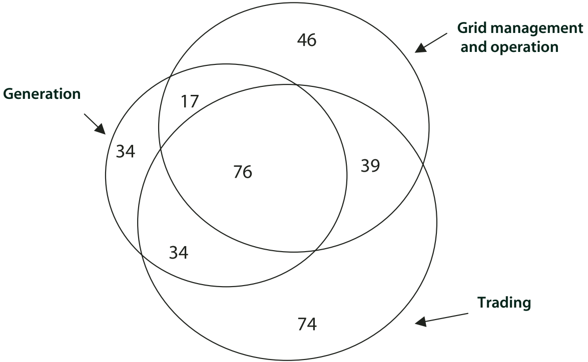


Figure 5.2 Companies holding trading licences by activity

Source: Norwegian Water Resources and Energy Directorate

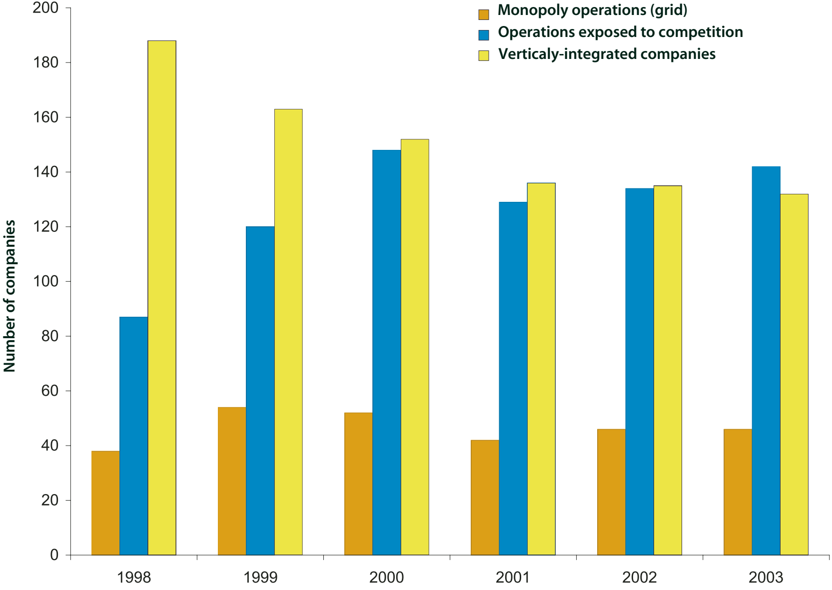


Figure 5.3 Trends in the various operation categories 1998–2003

Source: Norwegian Water Resources and Energy Directorate

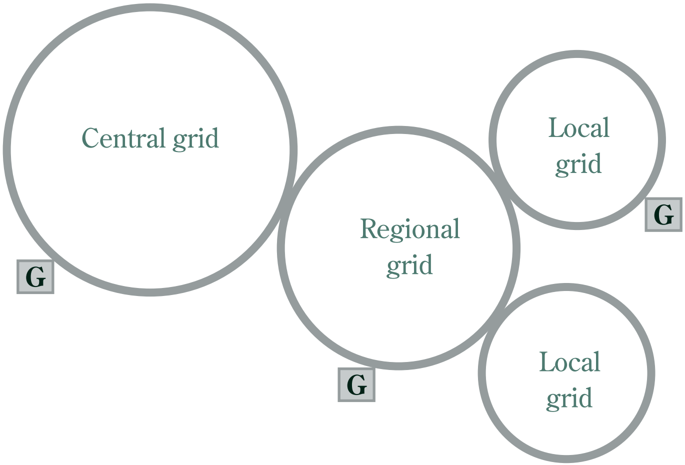


Figure 6.1. The power supply system

The grids are drawn as circles to indicate that they form a meshed network. This means that if one line is inoperative, power can be supplied to customers using other parts of the grids. G stands for generation.

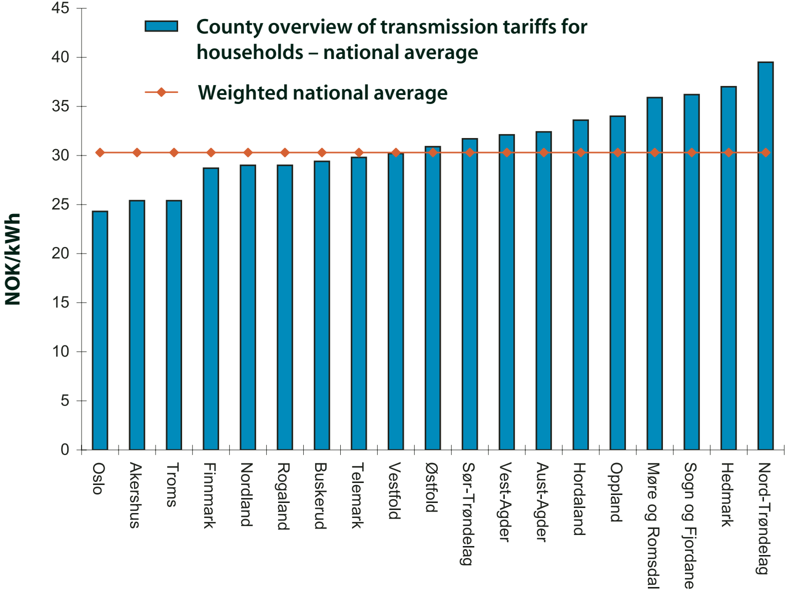


Figure 6.2 Transmission tariffs for private households at 1 June 2004, converted to a consumption of 20 000 kWh per year and shown in NOK per kWh.

Source: Norwegian Water Resources and Energy Directorate

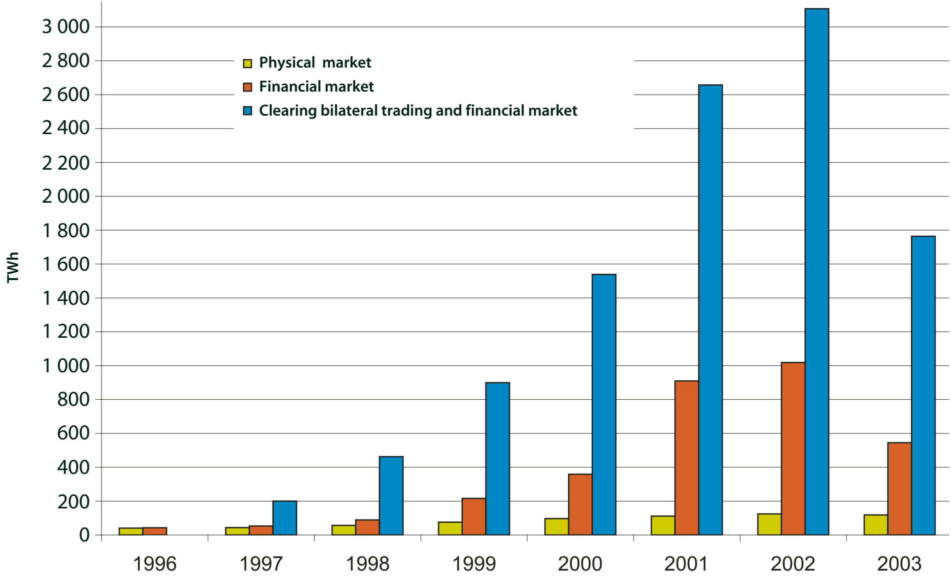


Figure 7.1 Developments in the physical and financial markets and in clearing since 1996.

Source: Nord Pool

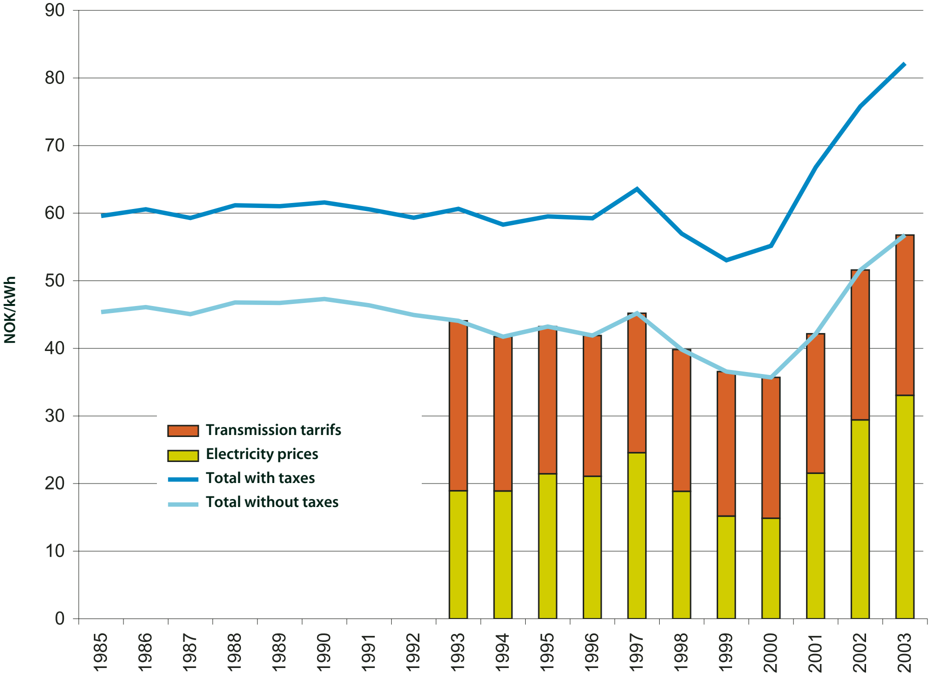


Figure 7.2 Electricity prices for households 1985–2003. NOK per kWh in fixed 2003 NOK

Source: Norwegian Water Resources and Energy Directorate

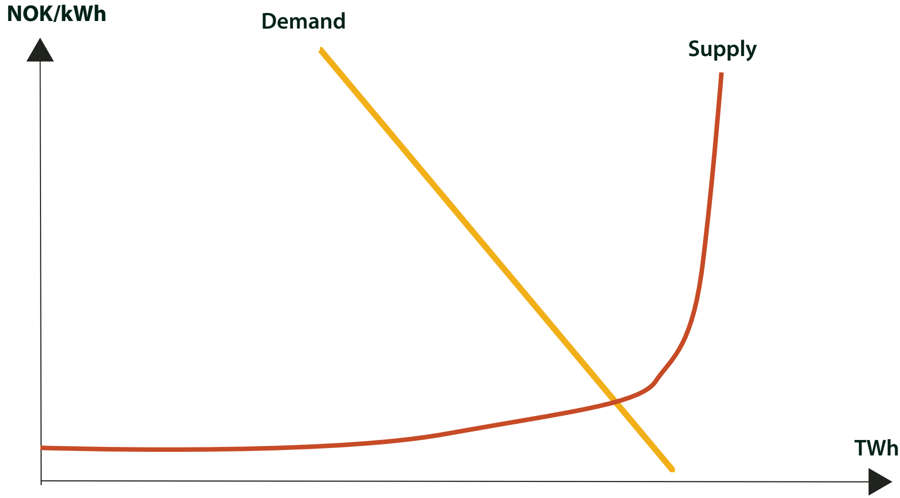


Figure 7.3 Principles for short-term variable costs of power generation in the Nordic region

Source: Ministry of Petroleum and Energy

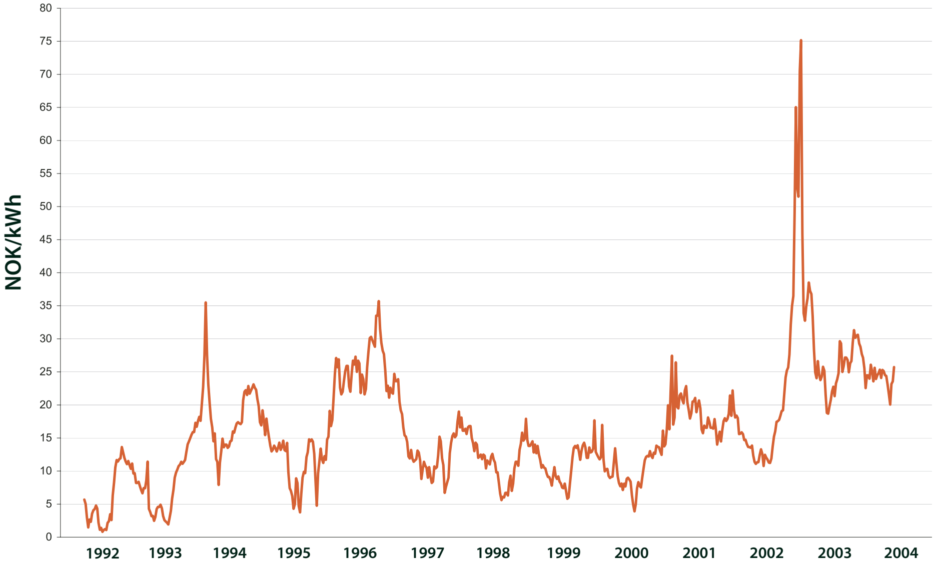


Figure 7.4 Prices in Nord Pool's spot market 1992–2004

Source: Nord Pool

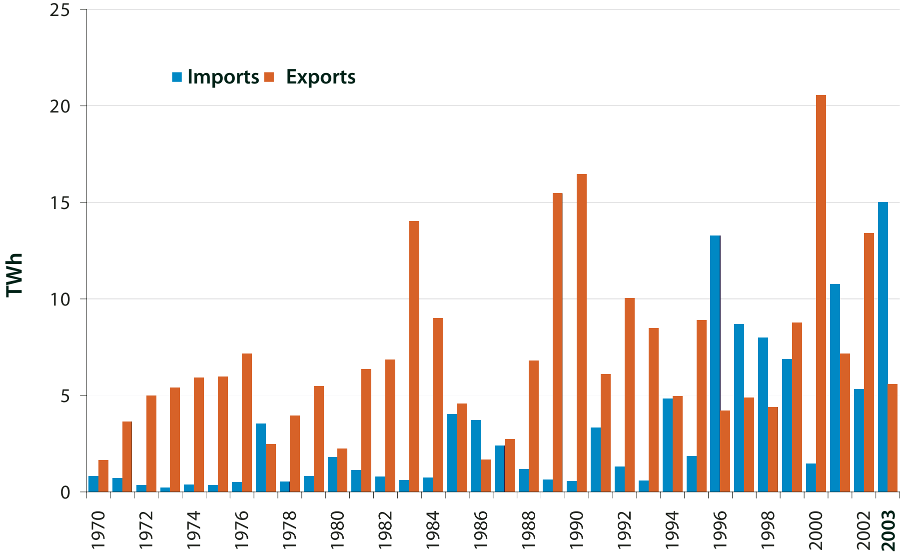


Figure 7.5 Norway's imports and exports of power in 1970–2003

Source: Ministry of Petroleum and Energy

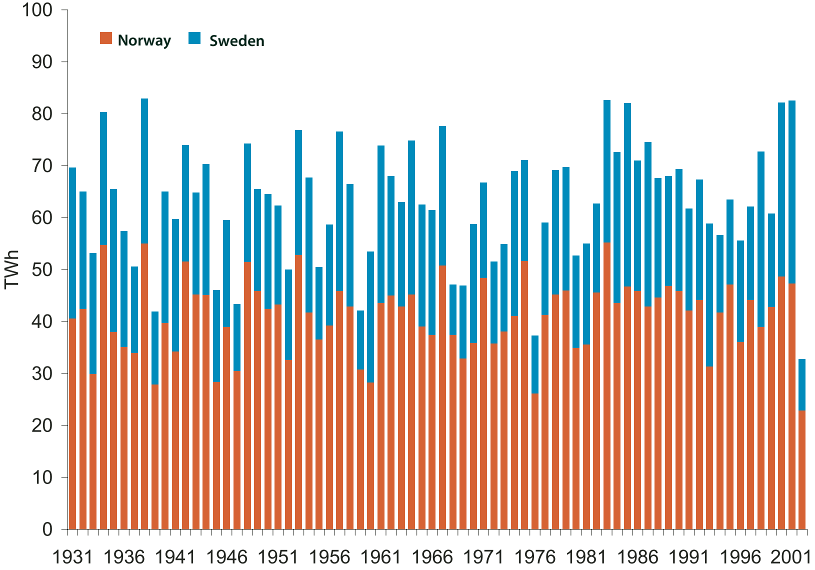


Figure 1 Inflow August–December 1931–2002

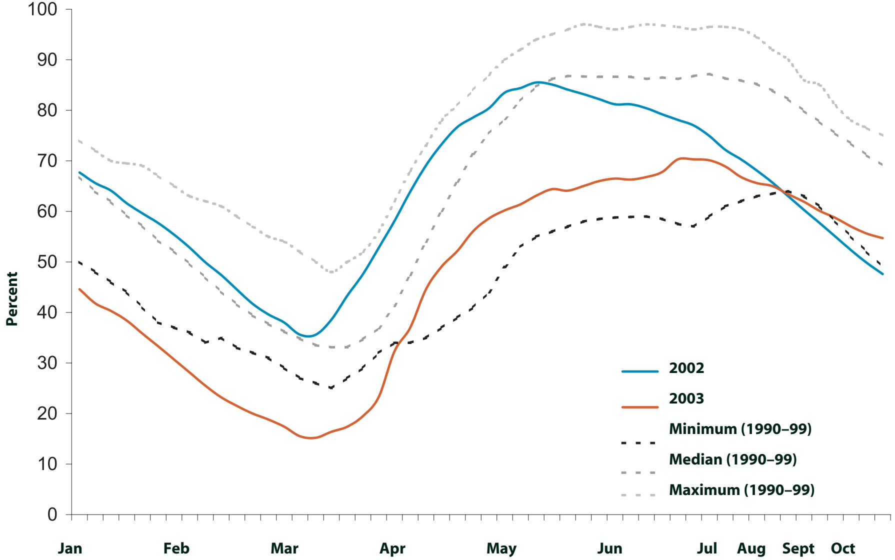


Figure 2 Reservoir levels, Nordic region

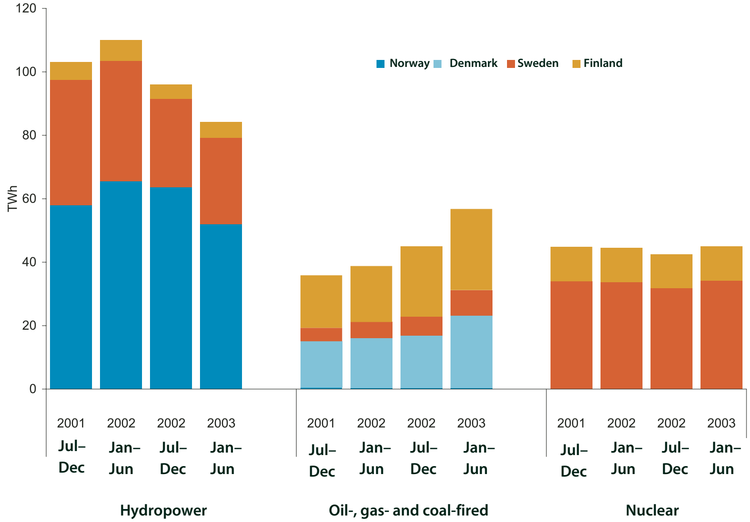


Figure 3 Composition of Nordic power generation, July 2001–June 2003

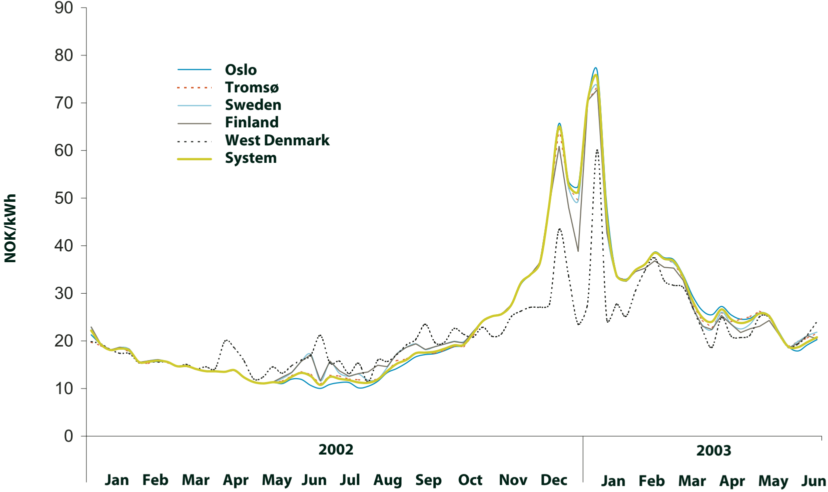


Figure 4 Spot prices for electricity, Nord Pool

Transmission capacity in the Nordic region (MW)