

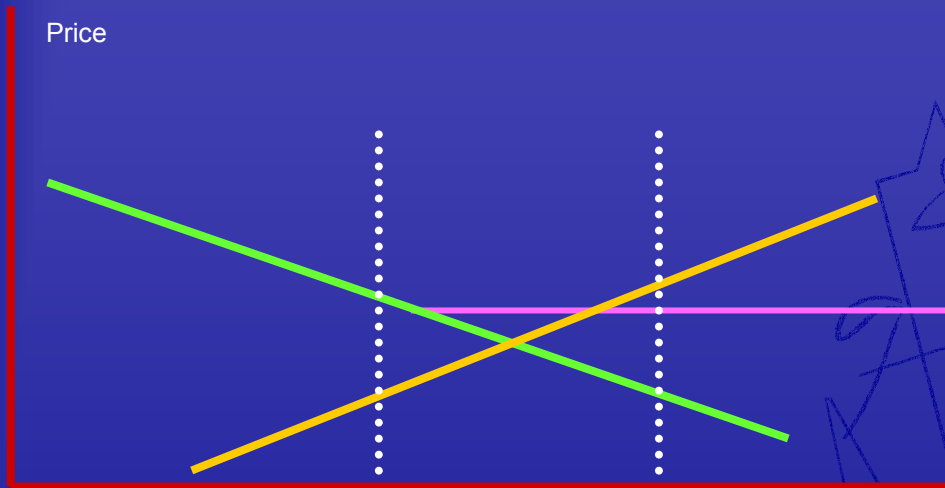
# The High Prices at NordPool in 2004 Market Power or .....

by  
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Statistics Norway

- ❖ The price formation in a combined system
- ❖ The Spot Prices in 2004
- ❖ The Spot prices and water reservoirs
- ❖ The cost of primary energy in thermal plants
- ❖ Conclusions

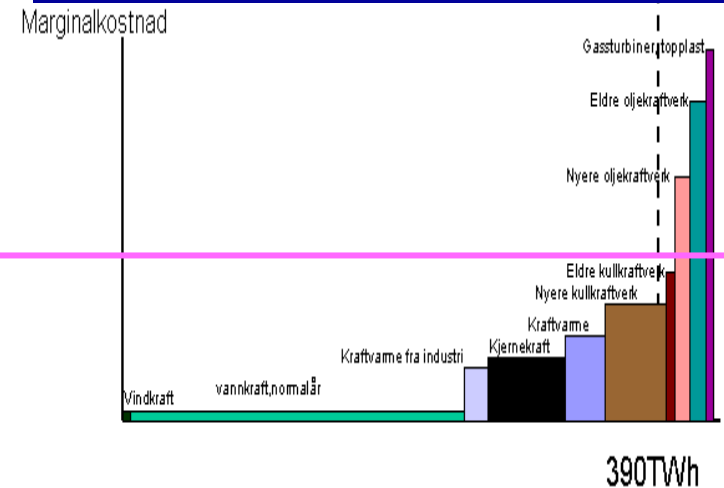


# The producer problem



Variable size of inflow

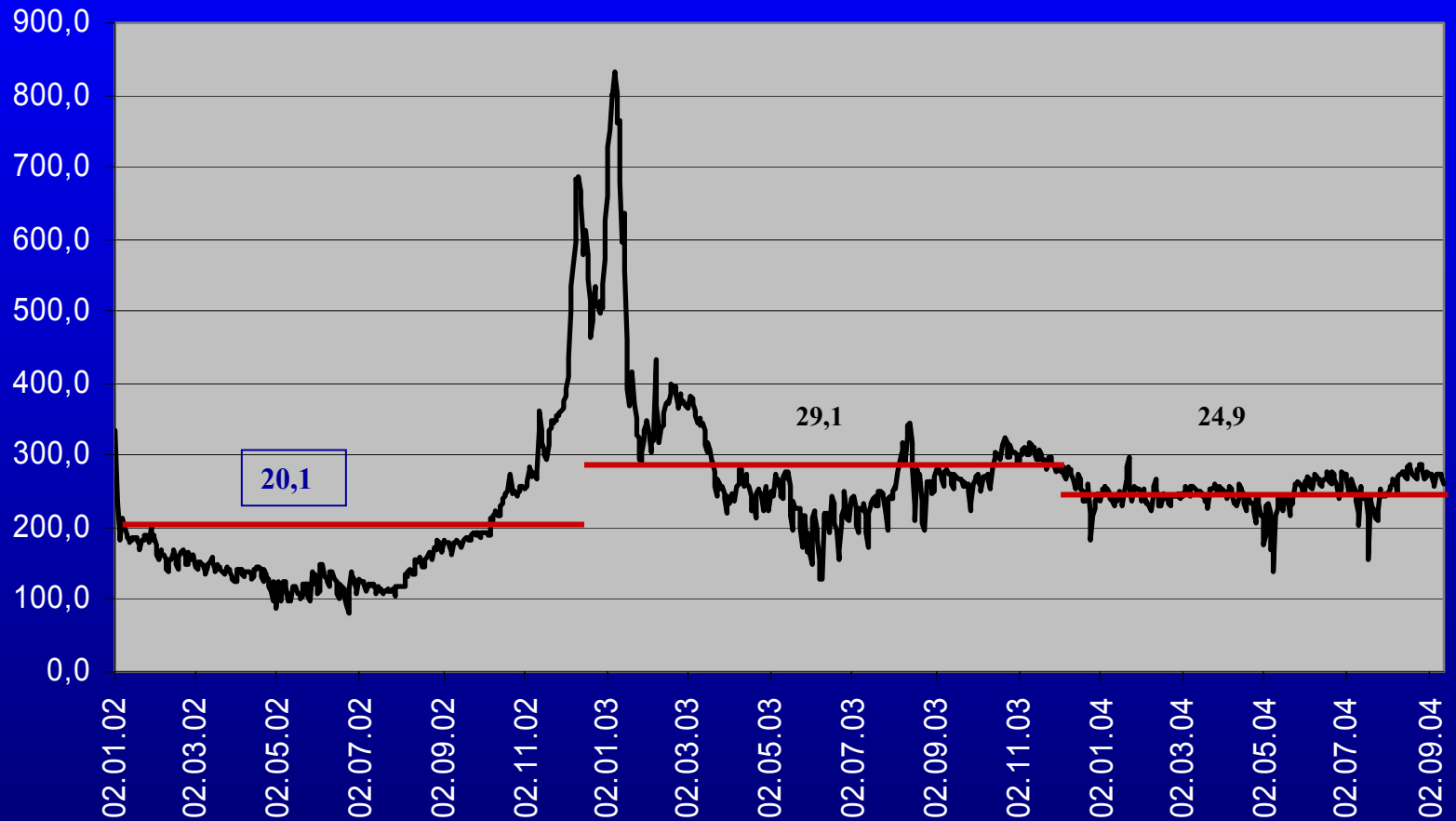
## The Marginal cost of production by technologies in the Nordic market



Kilde: Svensk Energi

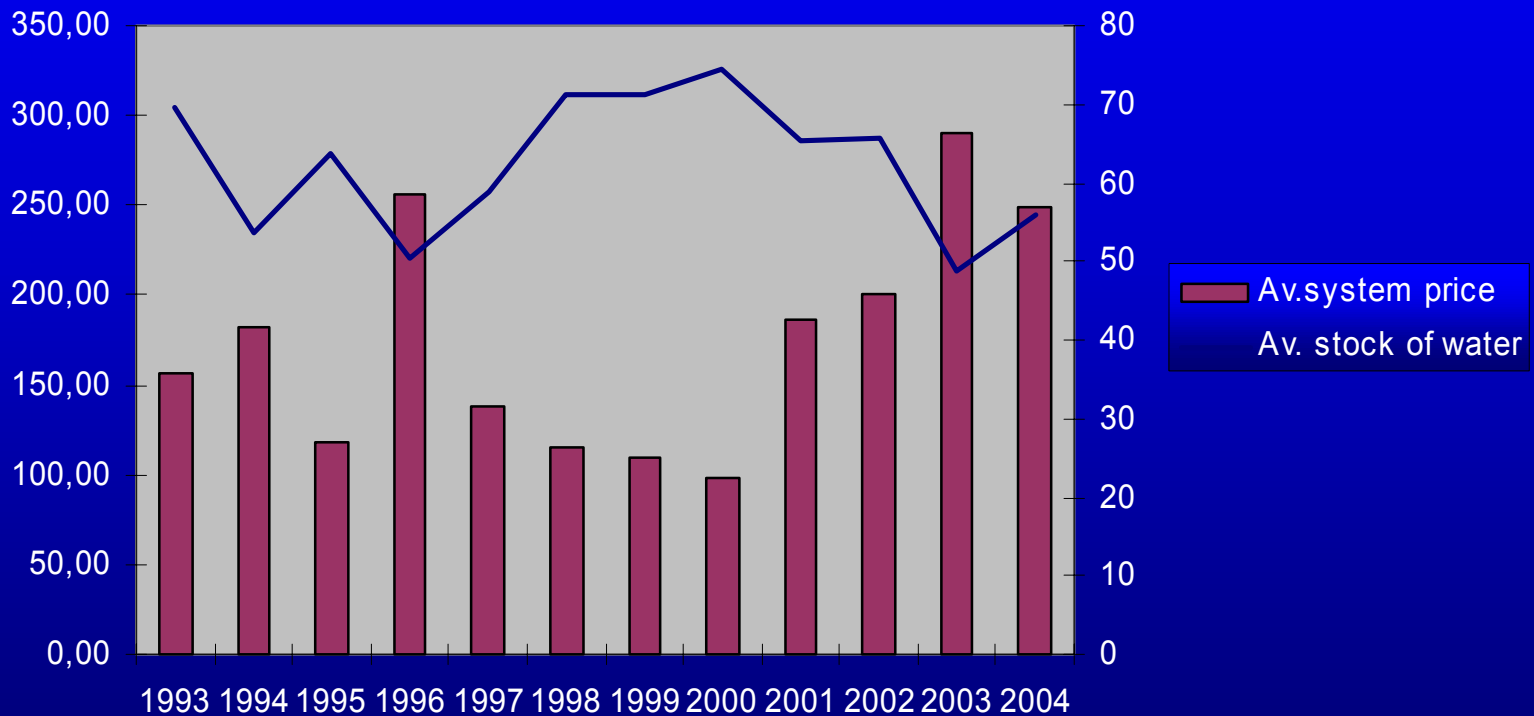
# The System price at NordPool

The System price at NordPool. NOK/MWh.



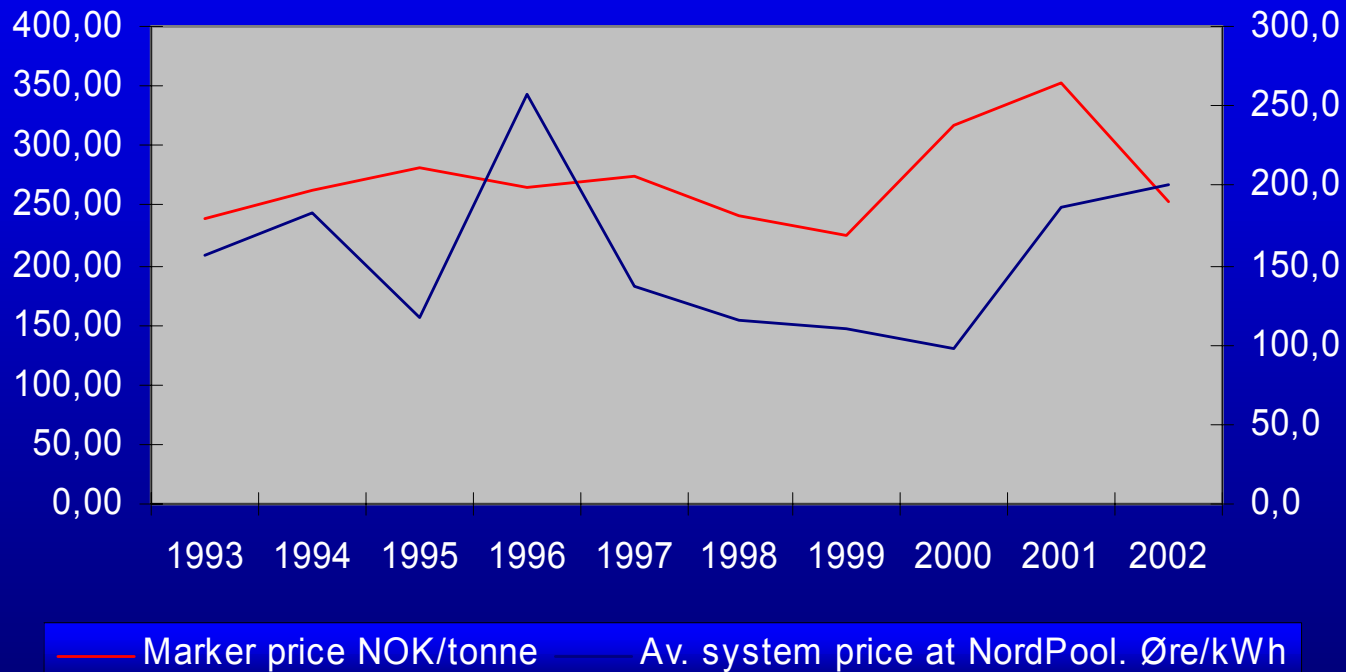
# The system Price and the reservoir level

The average system price and the average stock of water in the Norwegian reservoirs. NOK/MWh and TWh

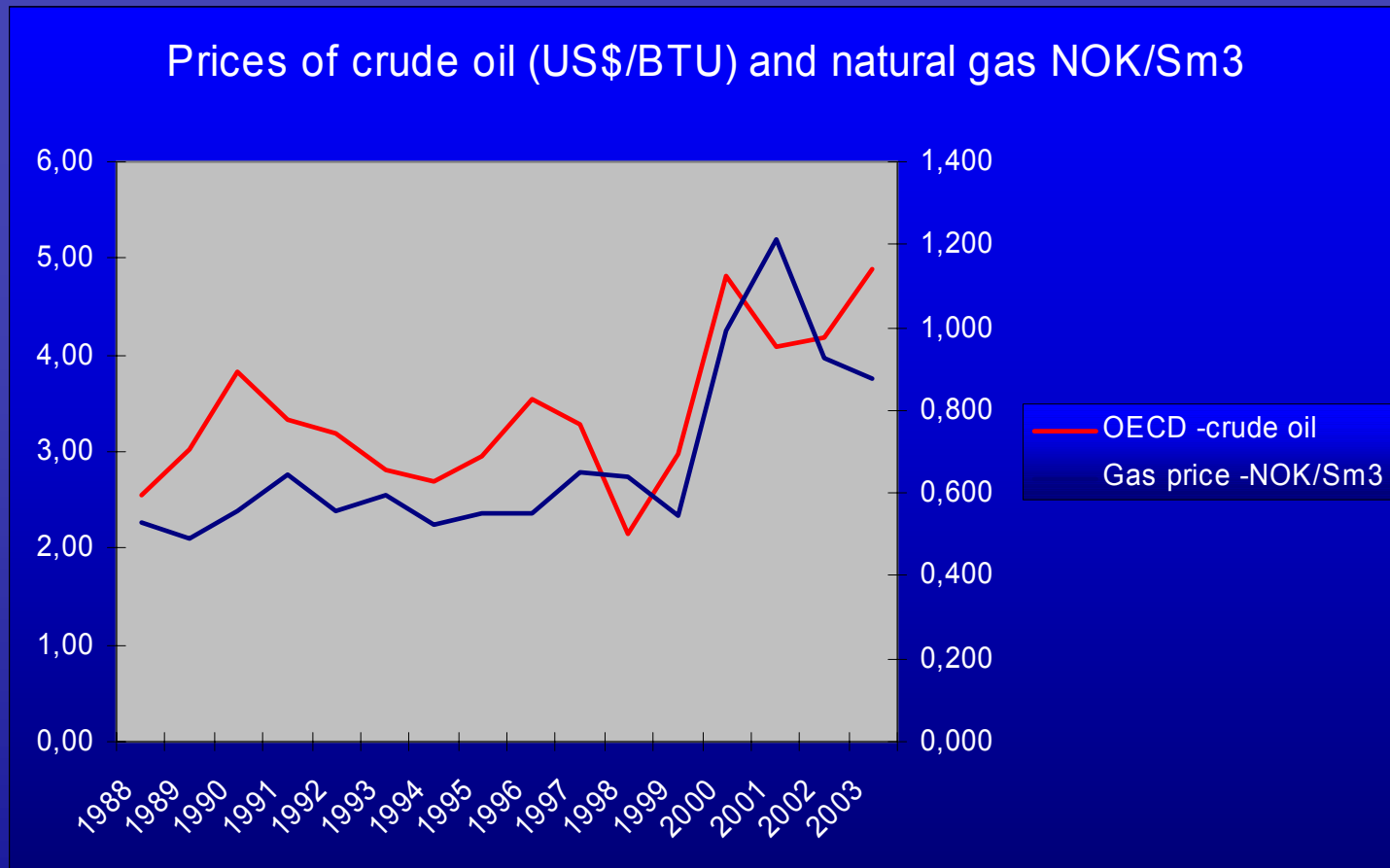


# The cost of coal and the system price

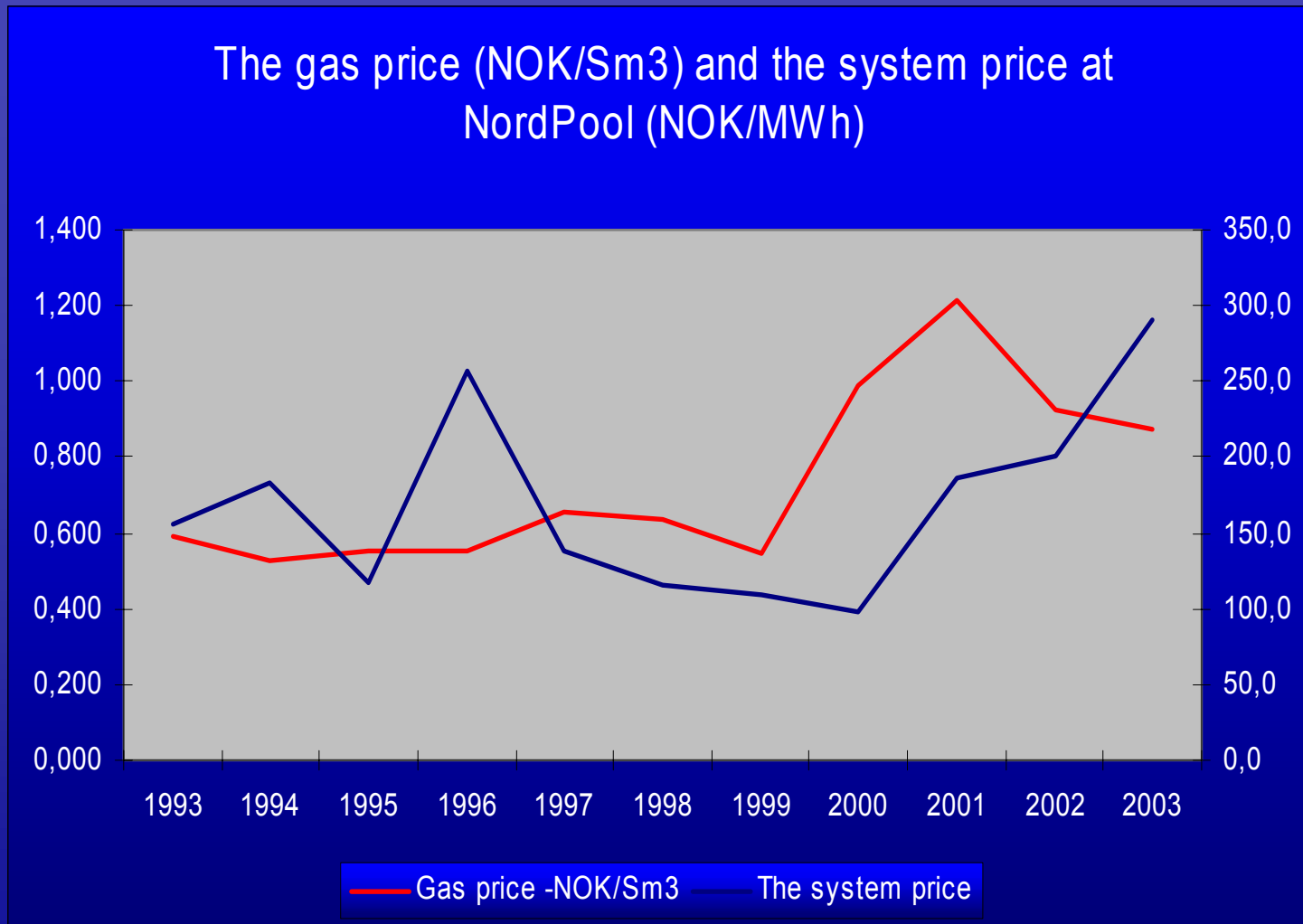
The marker price for coal and the system price at NordPool



# The crude oil and natural gas price

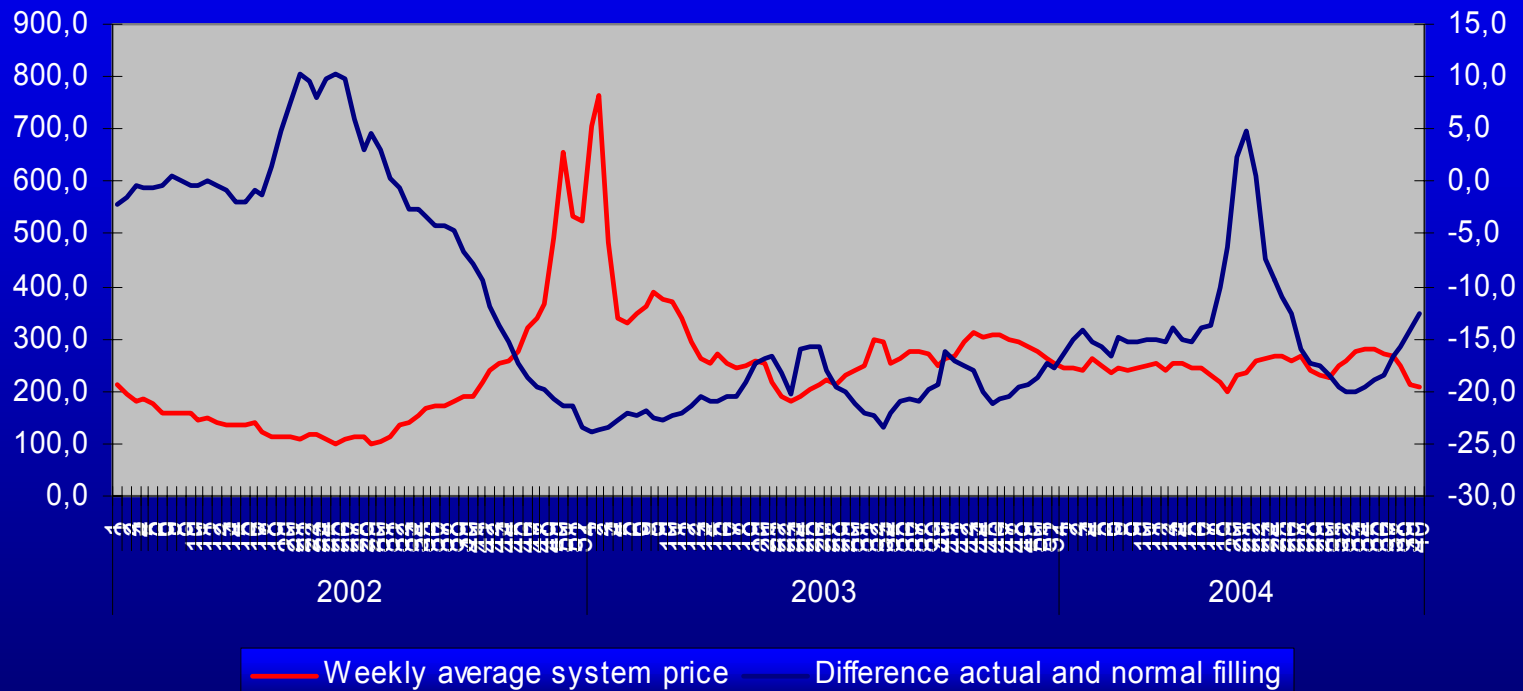


# The price of gas and the system price



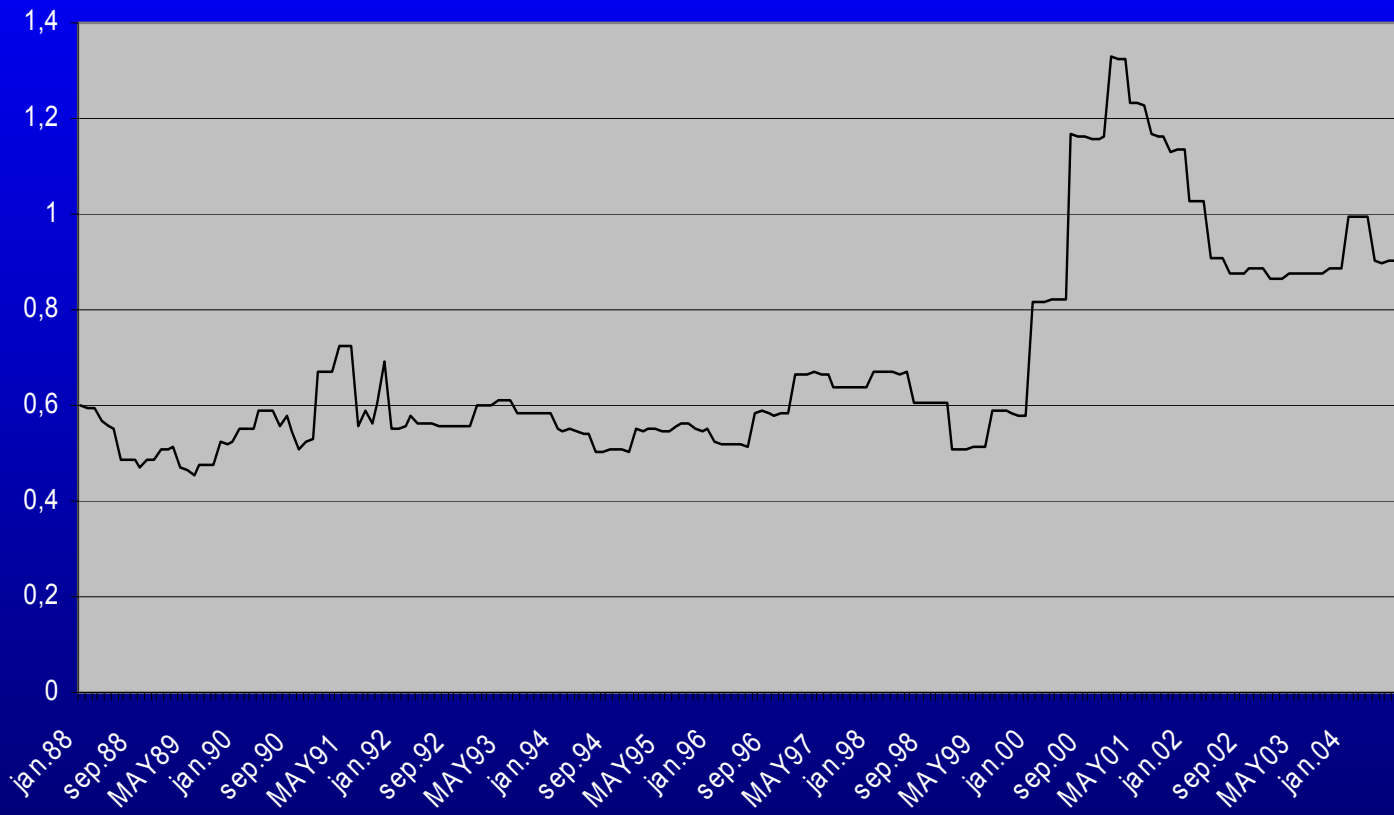
# The system price and the reservoir filling 2003-2004

Weekly average in the system price (NOK/MWh) and the difference between actual and normal filling of the reservoirs (percent)



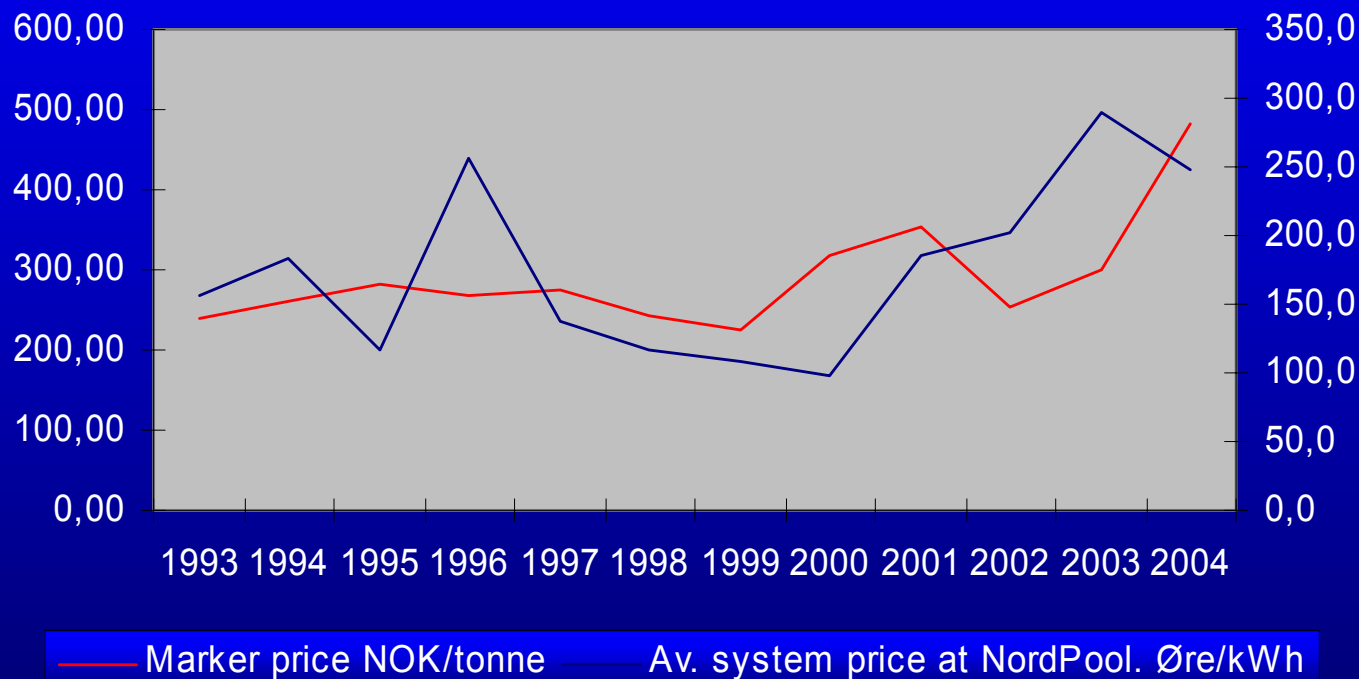
# The gas price in 2004

The gas price. NOK/Sm<sup>3</sup>. May 1988-august 2004

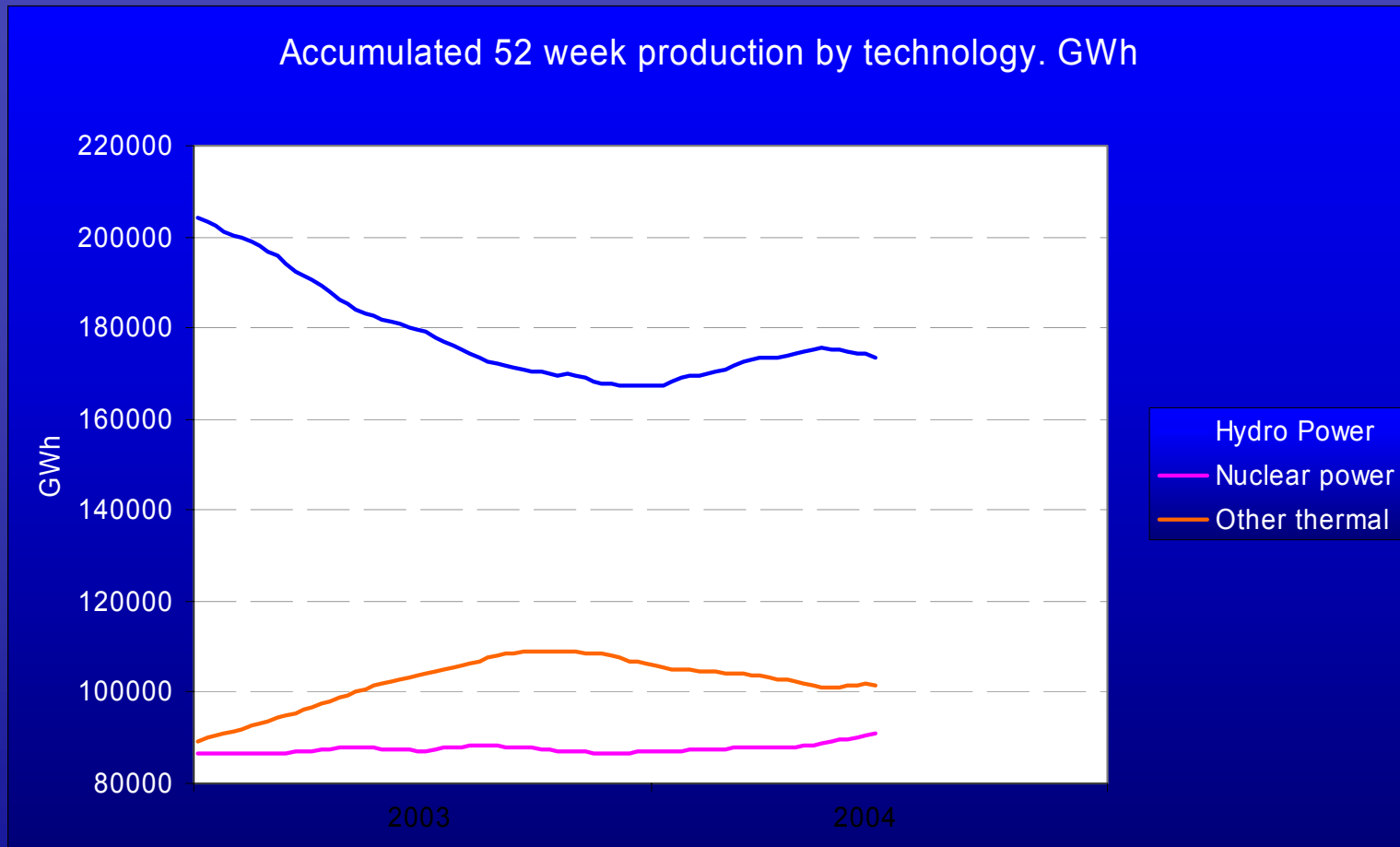


# The coal price in 2004

The marker price for coal and the system price at NordPool



# Power production by technology (Capacity Utilisation)



# Some concluding remarks

- ❖ Isn't the relevant question – why are prices low in the 1990's
  - ◆ Large capacity – short term marginal cost
- ❖ Prices in 2004 are still below long term marginal cost
  - ◆ Sooner or later – capacity constraints – shadow price – long term marginal cost
- ❖ The high average price in 2004
  - ◆ lower than 2003 – better filling in the reservoirs – despite higher primary energy cost in thermal plants
  - ◆ higher than in the 1990's and early 2000
    - still low reservoirs
    - the steep increase in primary energy cost
      - foremost the cost of coal
      - but also the cost of gas (time lag and new contracts?)
- ❖ More detailed data may show elements of MP?
  - ◆ Concentrated thermal capacity –
  - ◆ Concentrated Nuclear capacity
  - ◆ Concentrated Hydro capacity
  - ◆ Bye and Johnsen (2004)