

# The Nordic Electricity Pool – Advantages of a Multinational Market

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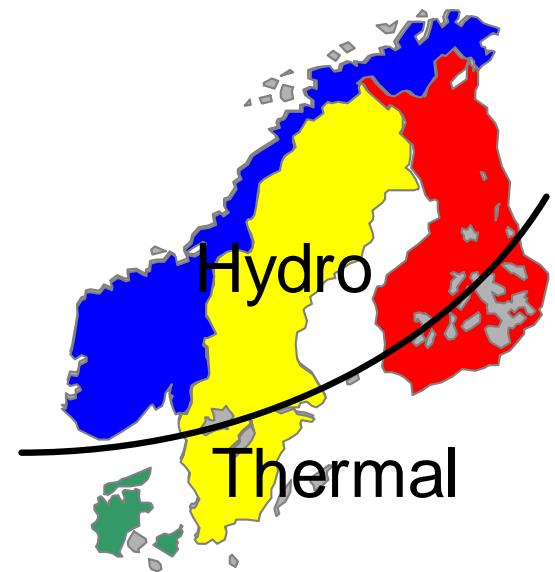
Presentation at the European Competition and Consumer Day, in Slovenia,  
22 May 2008

# The Nordic Electricity Market

- Sweden, Norway, Finland & Denmark
- Installed capacity  $\approx$  92 GW,
- Annual production  $\approx$  390 TWh

Source	Capacity	Production
<i>Hydro</i>	52 %	50 %
<i>Nuclear</i>	13 %	23 %
<i>Wind</i>	4 %	2 %
<i>Other Thermal</i>	31 %	25 %

- Common power exchange  $\rightarrow$  Nord Pool
- 4 countries  $\rightarrow$  1 wholesale market

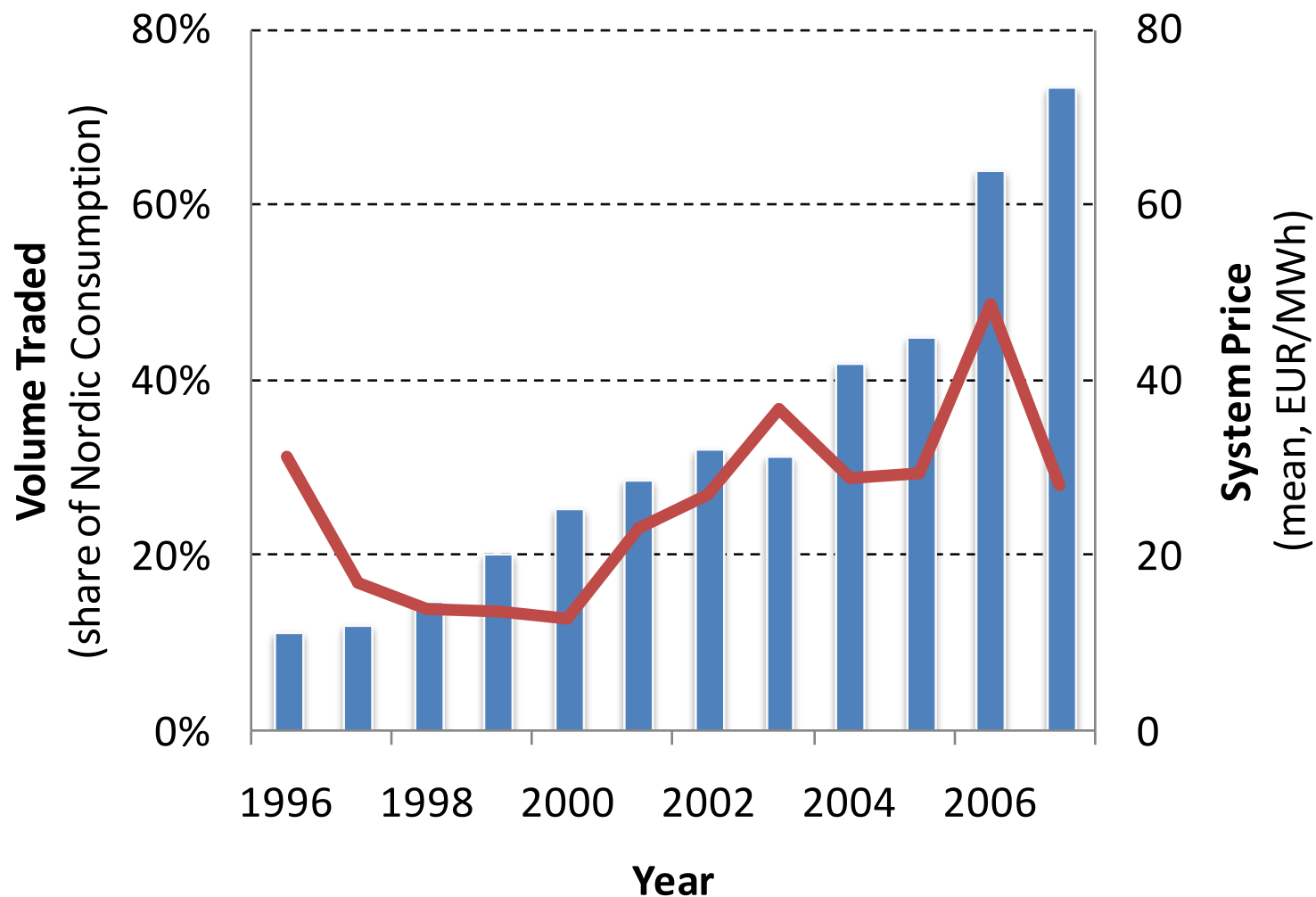


# The Development of the Market (1)

- † 1991 Norwegian liberalisation
- † 1993 Norwegian exchange Statnett Marked opened up for all market actors
- † 1996 Swedish liberalisation  
NO-SE exchange Nord Pool established
- † 1997 Forward contracts & clearing services introduced
- † 1998 Finland fully liberalised & joins Nord Pool
- † 1999 West Denmark joins Nord Pool
- † 2000 East Denmark joins Nord Pool
- † 2002 Danish market fully liberalised
- † 2005 Market coupling KONTEK (Northern Germany)
- † 2008 Market coupling Nord Pool – EEX (postponed)?
- ↓ 2009 Market coupling Nord Pool – TLC area?



# The Development of the Market (2)



# Results of the Liberalisation Process

- Increased operational efficiency
- The Nordic wholesale market is (one of) the most well functioning electricity markets in Europe
- The Nordic wholesale market is, *de facto*, a multinational regional market, and is expanding geographically...
- The spot price reflects the physical situation in the market and, thus, give market players relevant price signals

# Lessons Learned (1)

- The legal basis is crucial – national energy acts establishing competition have been the starting point of the process in each country
- Open access to the transmission system on non-discriminatory conditions.
- Recognition of the fact that the initial liberalized national markets was too concentrated – leading to the insight of the necessity of widening the geographical market.
- Consistent national political support.

# Lessons Learned (2)

- Governmental, regulatory and TSO co-operation
- System operators must be independent and neutral (i.e., unbundled).
- A power exchange that organises a day-ahead physical market
- Financial market makes hedging possible
- A balancing or regulating market, pricing physical differences on the actual operating hour

# A well functioning wholesale market, but still room for improvements...

- Ensuring sufficient production & network capacities
- Handling of bottlenecks in the transmission system
- “The peak load issue”
- Concentration, vertical integration & joint ownership of production facilities
- The crucial question – confidence in the functioning of the “market”?
- Other markets: end-users, financial markets, etc.
- As a consequence of the market integration  
→ need for a regional ISO?



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Thank you for your attention!