



**STRATOS**

**AT THE DEPARTMENT OF TRADE & INDUSTRY,**

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# **Wholesale Power Market Reflections**

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# Ingredients for successful liberalisation (1)

## Privatisation and liberalisation

- Relationship between the government-owner and government as “sponsor” of regulator
- Commitment to developing competition versus financial benefits to government-owner?
- Timing, order?

## Unbundling

- Ownership, management?
- Balancing and other services for competitors ?

# Ingredients for successful liberalisation (2)

## **Liberalisation on the supply-side?**

- Divestiture of generating capacity by dominant incumbent may be necessary for competition to start
- Auctioning of virtual power plants or long term contracts is possible second best

## **Cross border trade is an important source of liquidity**

- Integration of neighbouring markets helps competition
- Non discriminatory access to cross-border capacity is a challenge

## **Avoid hidden cross-subsidies**

- Bad experience with stranded costs and legacy contracts
- Subsidies may be designed to not distort the market

# Ingredients for successful liberalisation (3)

## Regulatory authorities must communicate with market participants

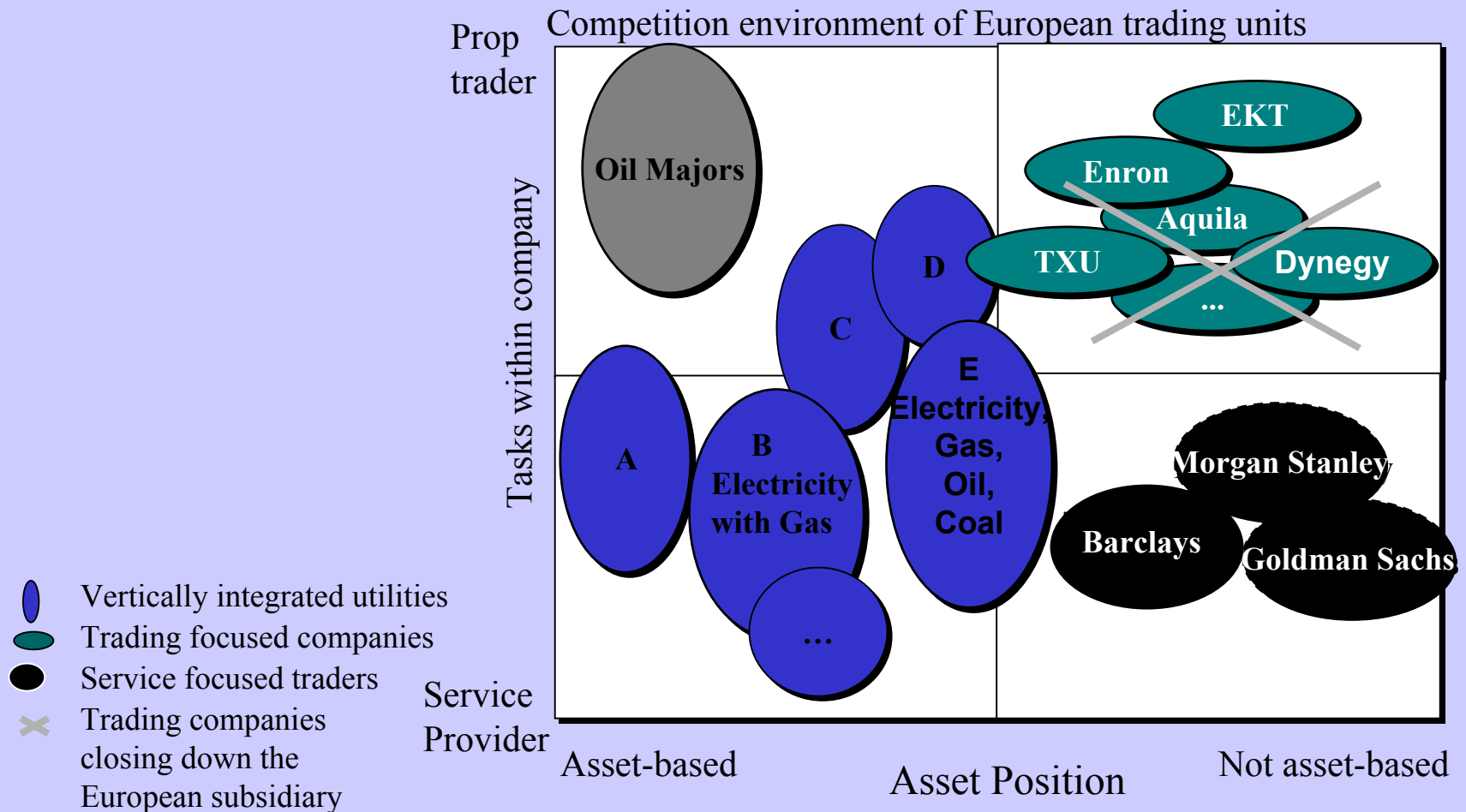
- It is impossible for a regulator to anticipate and understand all effects of its intervention or non-intervention; market participants are creative
- Benefit of experience of regulators in earlier liberalised territories

# Development of cross-border trading

- Cross-border trading existed before liberalisation
- Different starting times of liberalisation in each country
- Development of cross-border trading together with development of national or regional markets
- NTC and ATC measures of cross-border transmission capacity outdated?
- Non-market-based allocation mechanisms persist

# Withdrawal of international competitors

Now the competition environment is mainly composed of asset-based trading units and some financial service providers



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# Commercial and physical power: Chicken and egg!

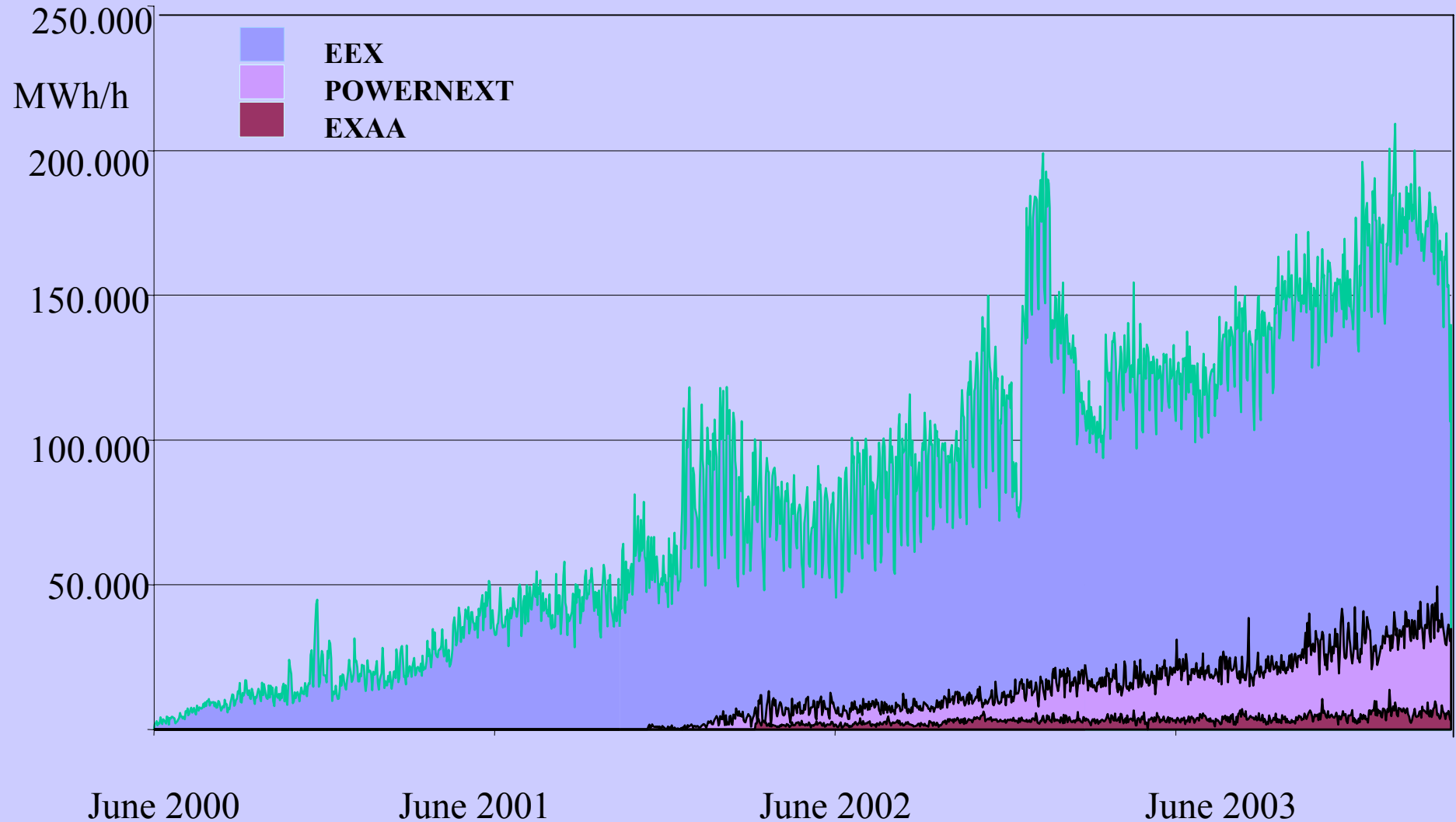
- **Operator's view (the “physical” dimension)**
  - Balancing the system
  - Controlling the flows
  - Maintaining security (guaranteed?)
- **Trader's view (the “commercial” dimension)**
  - System is a market place with trading flexibility
  - Potential restrictions should be transparent
  - Control areas are “hubs”; trading between “hubs” subject to physical constraints only
- **Relationship between flows and commercial contracts**

# Chicken and egg - continued

- “Border flows” do not coincide with “border commercial exchanges”
- Load and generation schedules needed for accurate prediction of commercial trading capacities
- Schedules are fixed after end of all trades (within hubs and between them)
- In order to trade between hubs, traders need to know the commercially available capacities ...

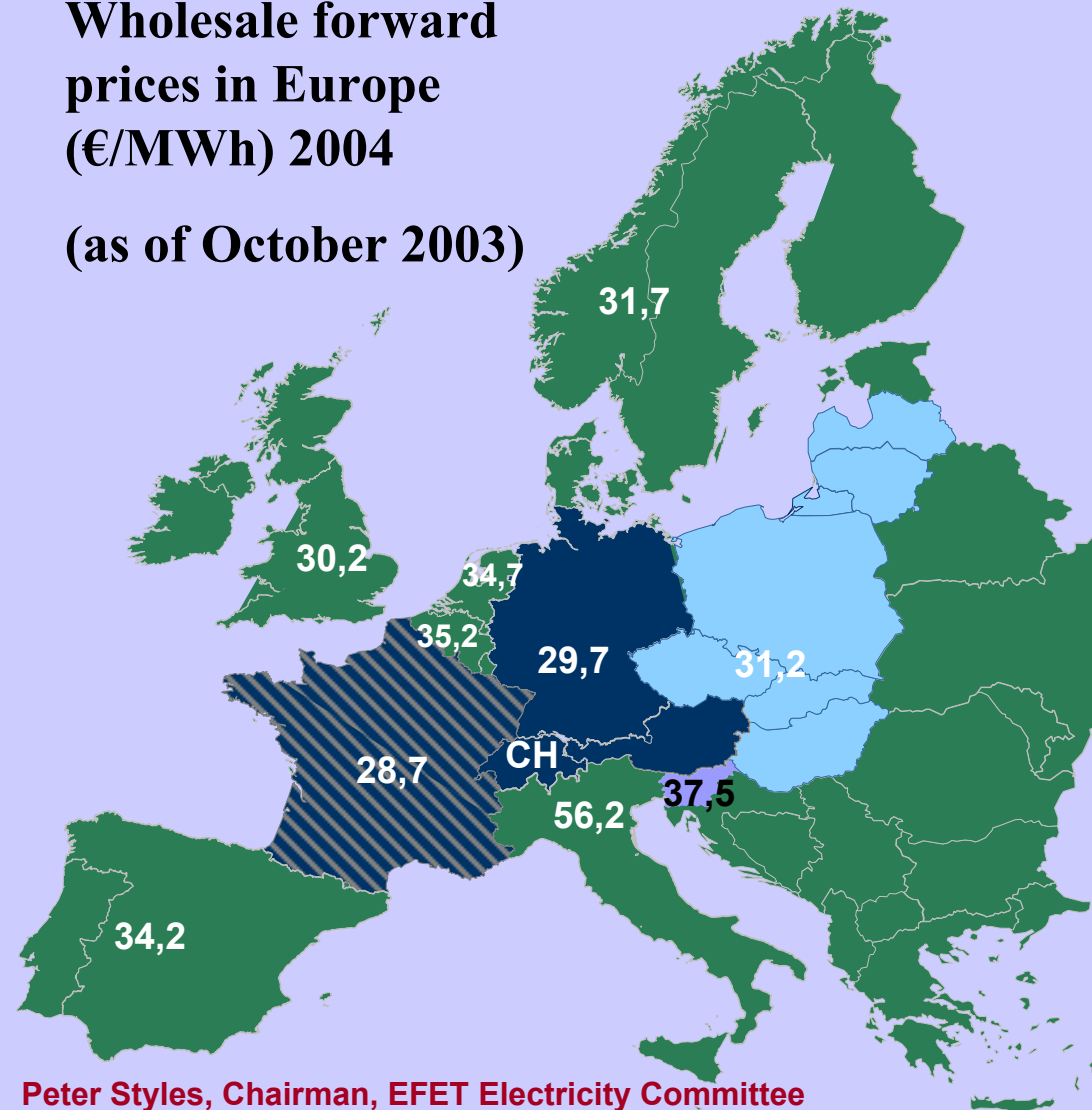


# Traded Volumes at European Power Exchanges June 2000 - March 2004



# Price Zones in Europe

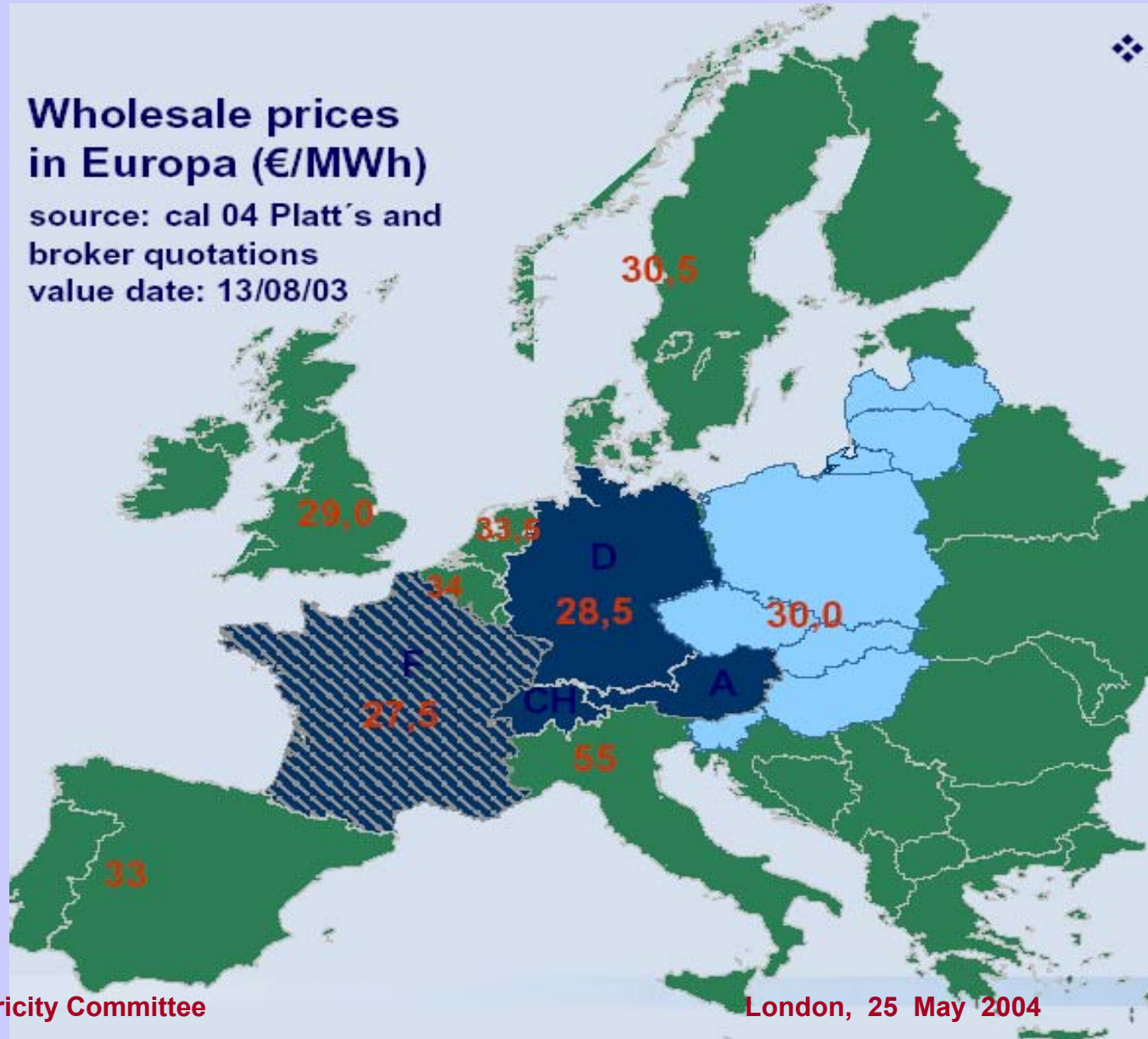
**Wholesale forward  
prices in Europe  
(€/MWh) 2004  
(as of October 2003)**



- Austria, Germany and Switzerland (A/D/CH) are one price zone correlating with the French price
- Price zone A/D/CH has the lowest prices in Europe
- Price level in eastern and south-eastern European countries already shows correlation to A/D/CH price zone

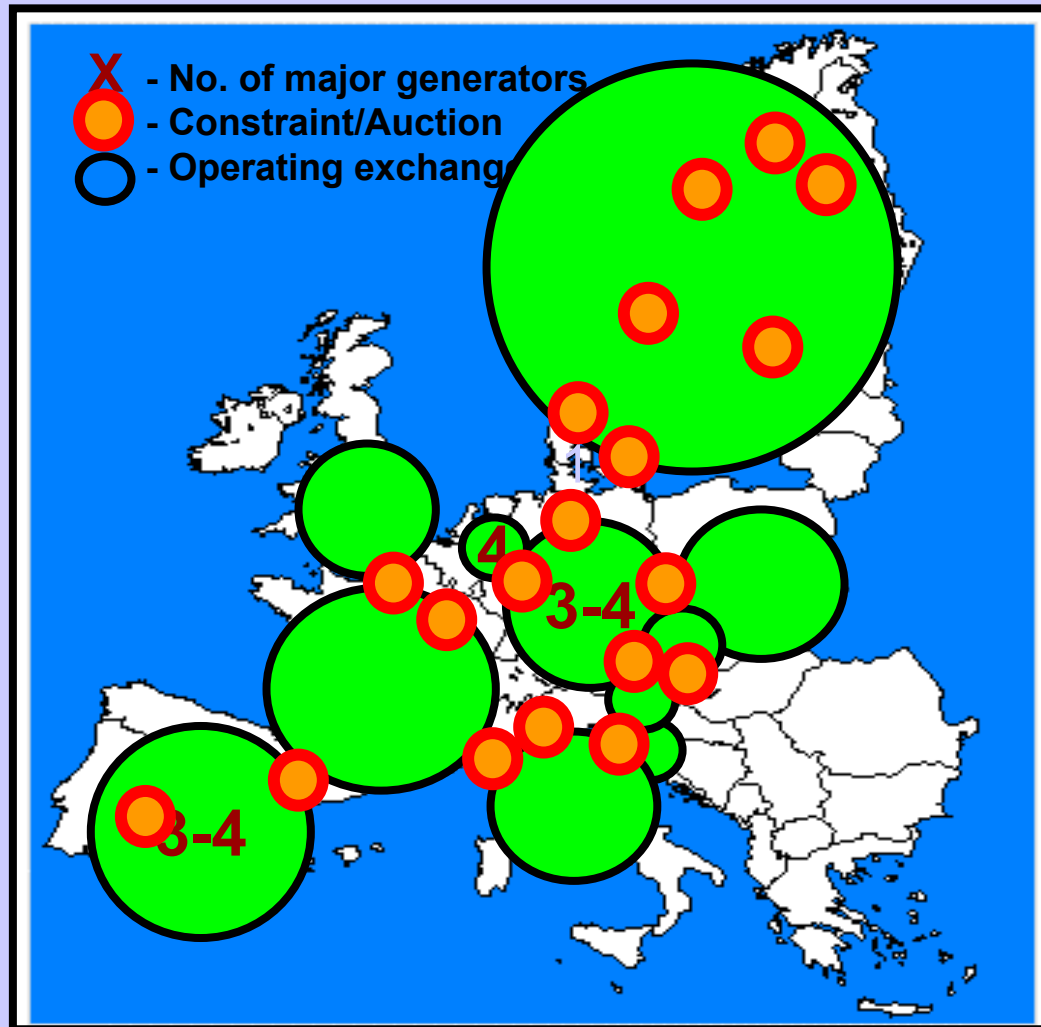
# European Market Prices

Wholesale  
forward prices  
in Europe  
(€/MWh) 2004  
(as of  
December  
2003)



# Cross-border constraints in Western Europe

- Many cross-border constraints
- Small # players per area
- Limited cross-border access arrangements



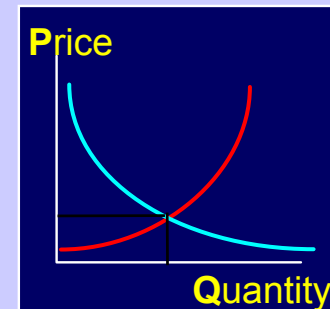
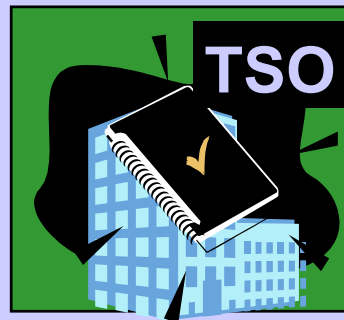
# Explicit auctions

**Transmission  
capacity and  
energy traded  
independently**

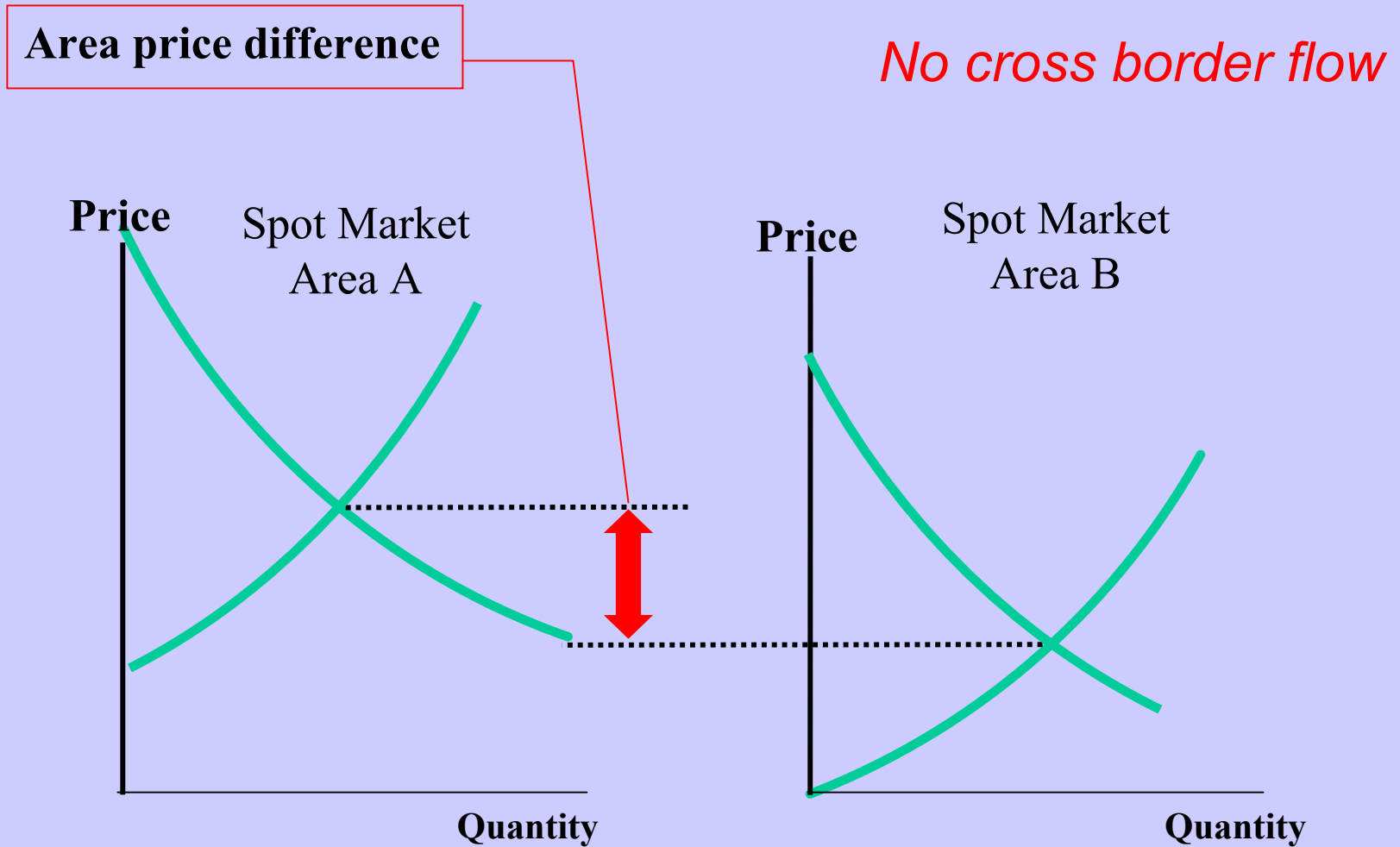


Capacity publishing

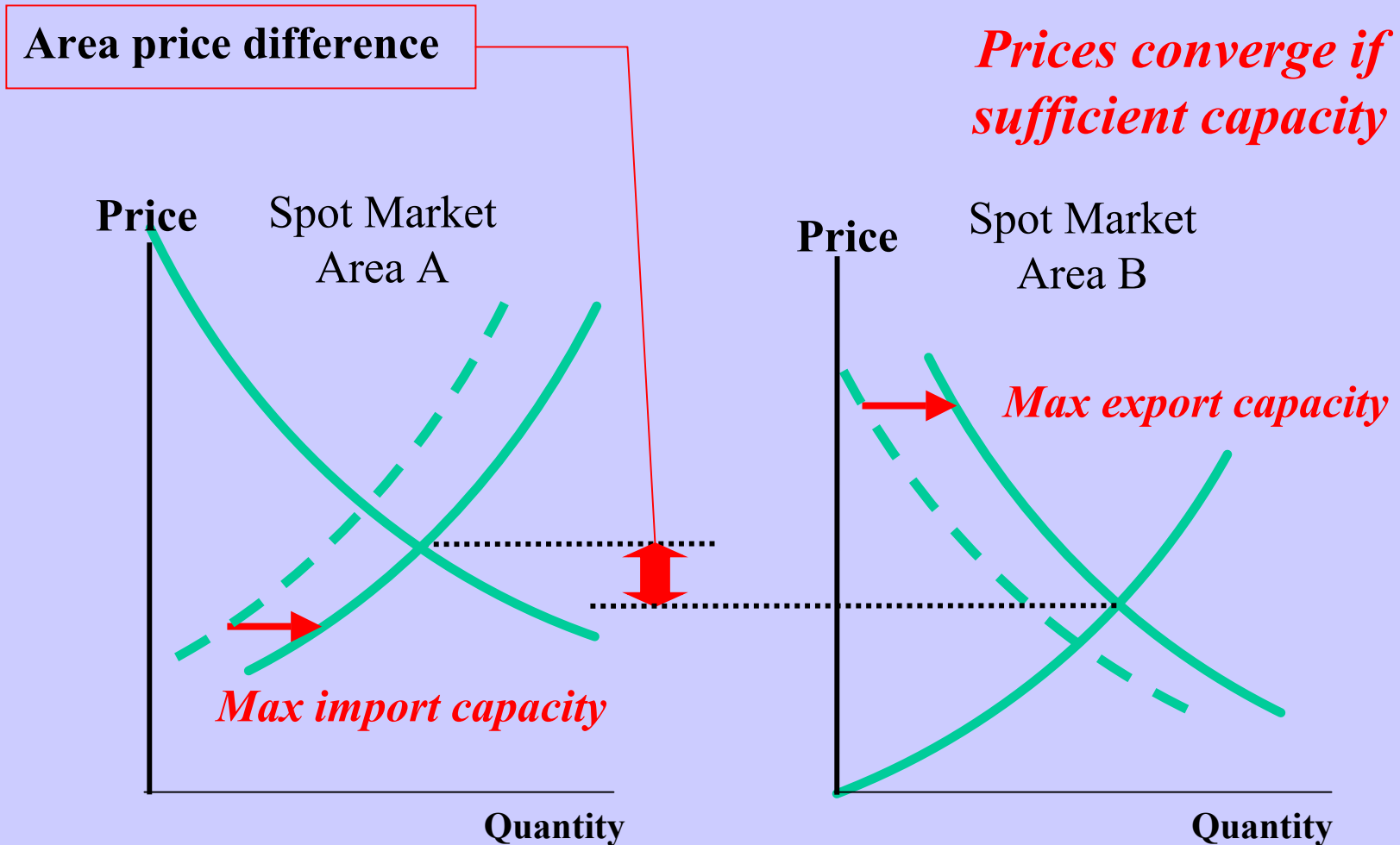
10:30 - 11.00  
Spot Market



# Market coupling (1)



# Market coupling (2)



# Why are power system imbalances important?

- Electricity is a tradable but not tangible commodity and cannot be stored
- Unpredictable weather conditions and load (demand)
- Trading for the day ahead, and not closer to the delivery time, is most liquid market
- Unpredictable failure of a production unit or transmission line

**The solution to maximise efficiency and competition is to establish a balancing market**



# A balancing market ?

- Handles the unpredictable imbalances between production and consumption as alternative to regulated pricing by TSO / incumbent generators
- Provides buy and sell prices for market participants' power imbalances
- Enables real-time trading, one hour in advance of delivery/offtake
- Participants will be producers or traders and consumers, who can quickly respond to unanticipated power imbalances
- Should reduce the TSO's costs of redressing physical imbalances

# Successful operation of a balancing market

- Balancing market prices reflective of the real-time supply-demand situation will underpin a liquid and transparent bilateral contract market
- Good liquidity of standardised products on the day-ahead market is a sign that the balancing market is functioning effectively
- The formation of balancing prices must be described in clear and transparent rules (TSO/ MO / Regulator)