

# Flow-based Market Coupling (FMC)

A Joint ETSO-EuroPEX Proposal  
for Cross-Border Congestion Management  
and Integration of Electricity Markets in Europe

*11<sup>th</sup> meeting of the Florence Regulatory Forum  
September 2004*

# Origins of FMC

Flow-based market coupling



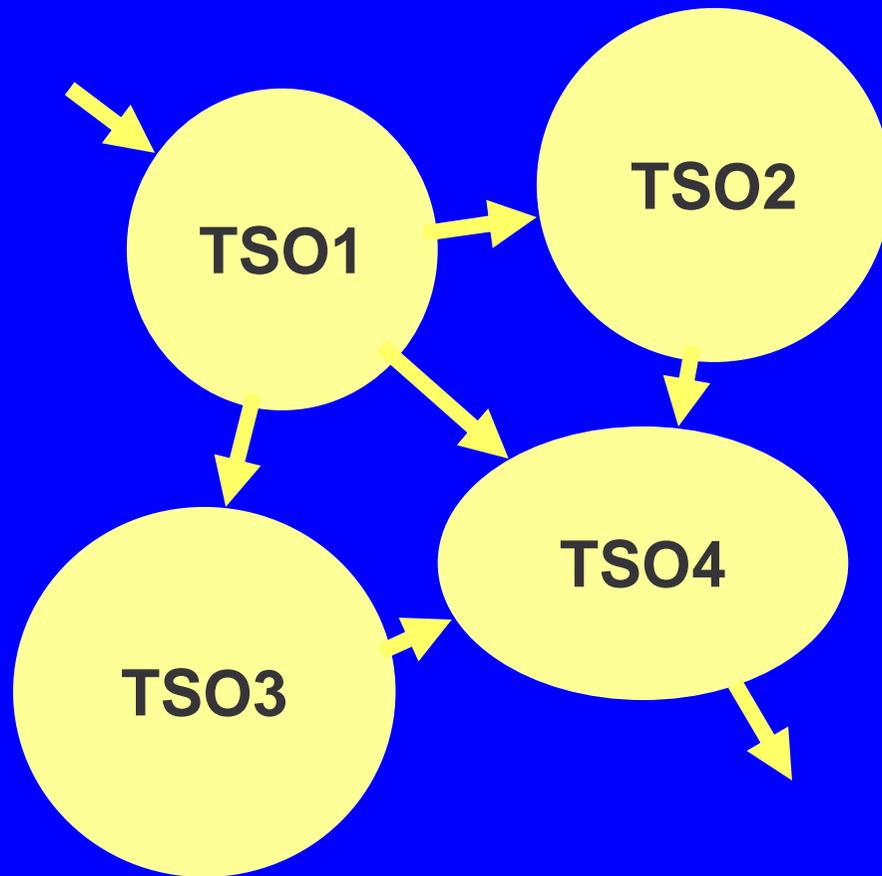
Flow-based modelling



Market coupling

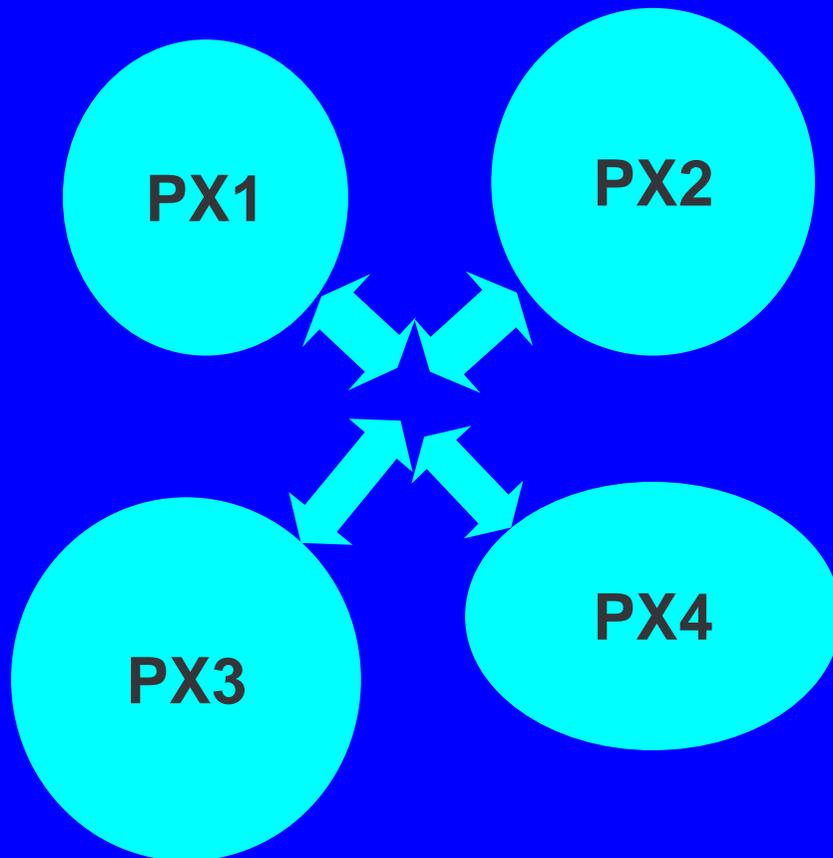


# Flow-based modelling



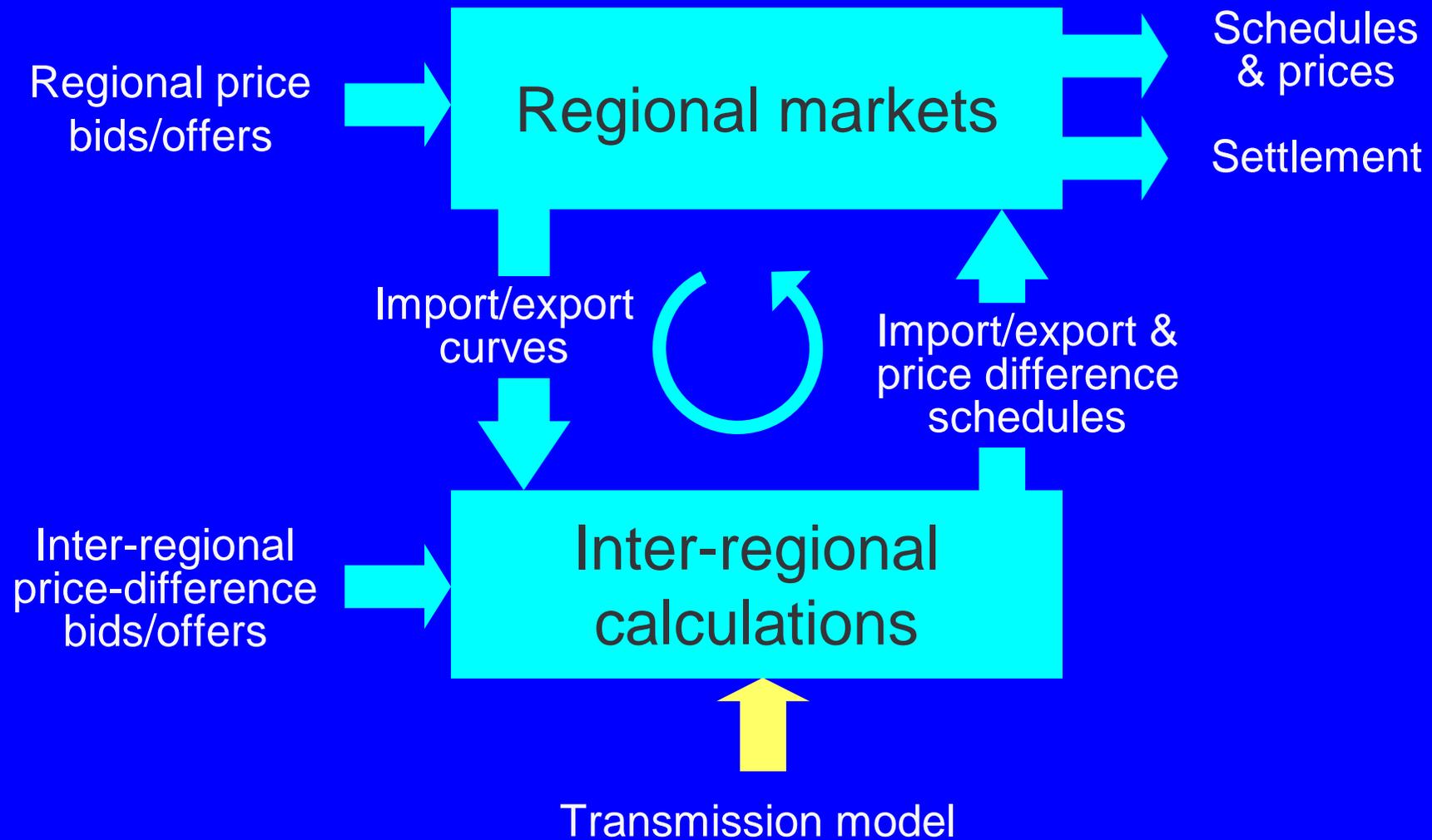
- All modelled electrical flow paths taken into account, not just 'contract path'
- Maximises use of inter-regional transmission capacity

# Market coupling



- Efficient trading between regional markets via power exchanges
- Maximises inter-regional market efficiency

# FMC day-ahead market



# Forward markets

- FMC is compatible with
  - forward transmission rights
  - financial hedging instruments
  - options (UIOLI or UIOSI)
- So transmission capacity auctions and/or financial instruments can be used if required

# Benefits of FMC

## Congestion management

- Flow-based approach and netting of schedules maximises use of inter-regional transmission network

## Market efficiency

- Integrating transmission access and energy trading eliminates unnecessary pricing risk and concentrates liquidity
- Inherent cross-border access for all market participants
- Variety of trading options: bilateral/exchange, blocks

## Feasibility

- Builds on existing trading infrastructure and liquidity
- Can evolve over time

# Regulatory/contractual arrangements

- Power exchanges' 'institutional' role needs to be designated and held accountable to Regulator or TSO (some already are)
- Harmonisation is needed for inter-regional transmission modelling, data transfer, publishing formats, etc.
- General structure and content of regulatory/contractual arrangements has been identified

# Outstanding issues

- Technical development
  - transmission model
  - market coupling mechanism
- Evolutionary paths (Member State dependent)
- Regulatory and contractual matters, including the designated status of power exchanges
- Input for consideration by EU Comitology
- Advice for local projects

# Conclusions

- FMC enables a suitable balance between effective congestion management and efficient energy trading
- The key is to introduce an administered FMC scheme at the day-ahead stage, allowing flexibility in forward market, intraday market and balancing arrangements
- Further investigation of technical, regulatory and contractual matters is necessary