

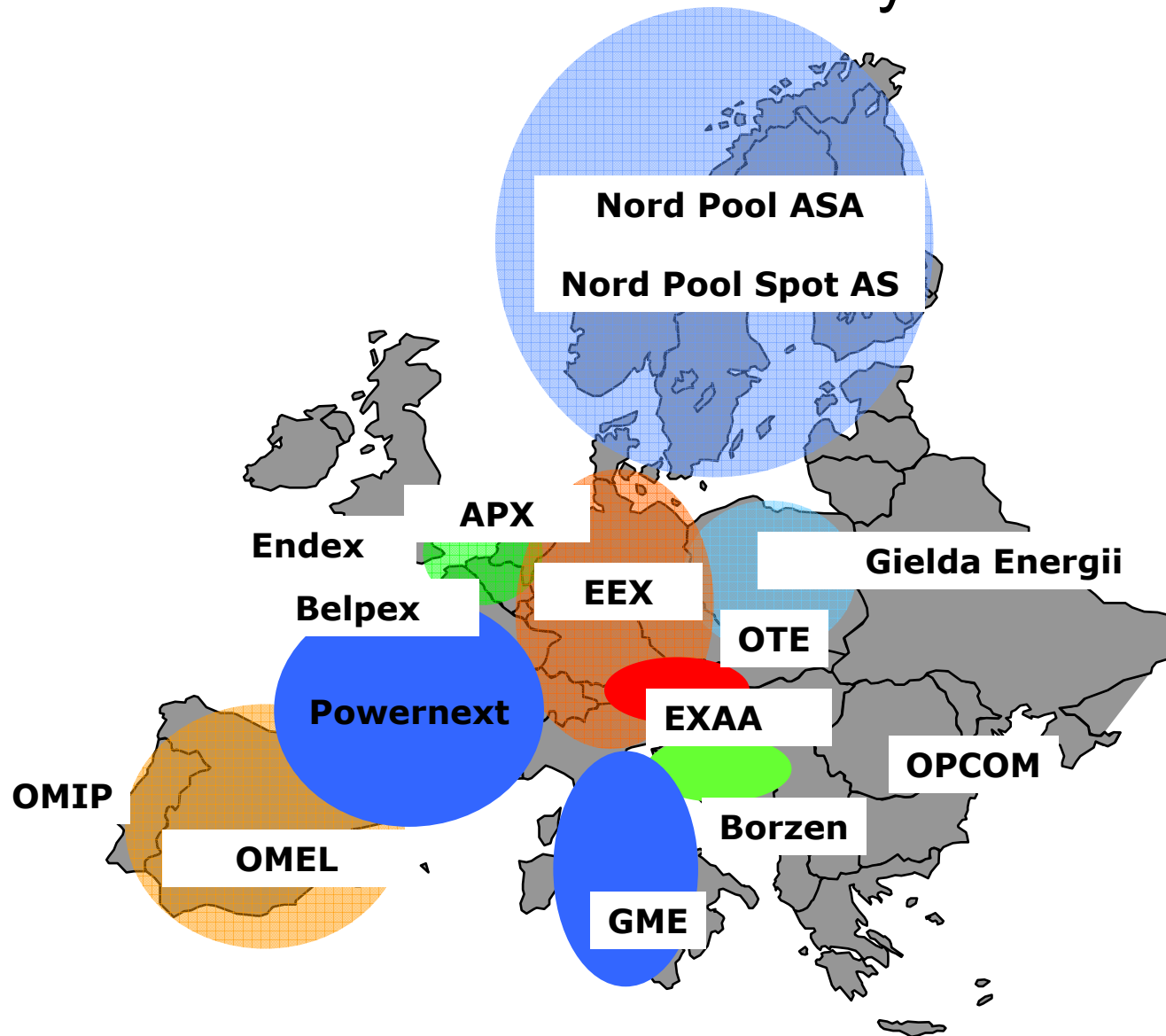
EuroPEX presentation

14th Florence Forum

Florence, 24-25 September 2007

EuroPEX - a growing association

15 active* members today



Note: *In addition, Nord Pool AB, which is not part of Steering Committee, thus a non-active member

- Current status of Cross-Border Congestion Management and Market coupling in Europe
 - Long term view
 - Short term view
- EuroPEX **vision** on congestion management in the Internal Electricity Market
 - Financial instruments for long term stage in the form of Financial Transmission Rights and/or standard derivatives (financial) contracts such as CfDs (plus Futures, Forwards & Options)
 - Implicit auctions for the day-ahead stage
 - Cross border intraday market short-term, before real-time balancing

Implicit auctions for short-term congestion management



- Implicit auctions are the most efficient method for short-term congestion management because they
 - ensure full use of the available capacity when needed based on supply/demand
 - provide consistent price signals
 - automatically net the capacity requirements of energy flows in opposite directions
 - Promote liquidity in the participating (spot) market areas
 - Prevent hoarding of interconnection capacity
- EuroPEX has (2004) together with ETSO presented a vision of a Flow based Market Coupling

Our vision for congestion management

- Financial Transmission Rights and/or electricity-based derivatives to enable market parties hedging of price risks, including cross-border differentials
 - Regulation and market forces in the different hub should determine which of these instruments best suits the local requirements
 - However, during a transitory period, congestion management solutions in some hubs may be characterised by explicit auctions of long-term (even short-term) PTRs, thus a step-by-step method to replace them with financial instruments may then be needed
- Day-ahead market coupling to allocate interconnection capacity and define prices for the different areas
- Cross-border intra-day trading via utilization of remaining capacity after day-ahead stage

Market Coupling solution Netherlands-Belgium-France



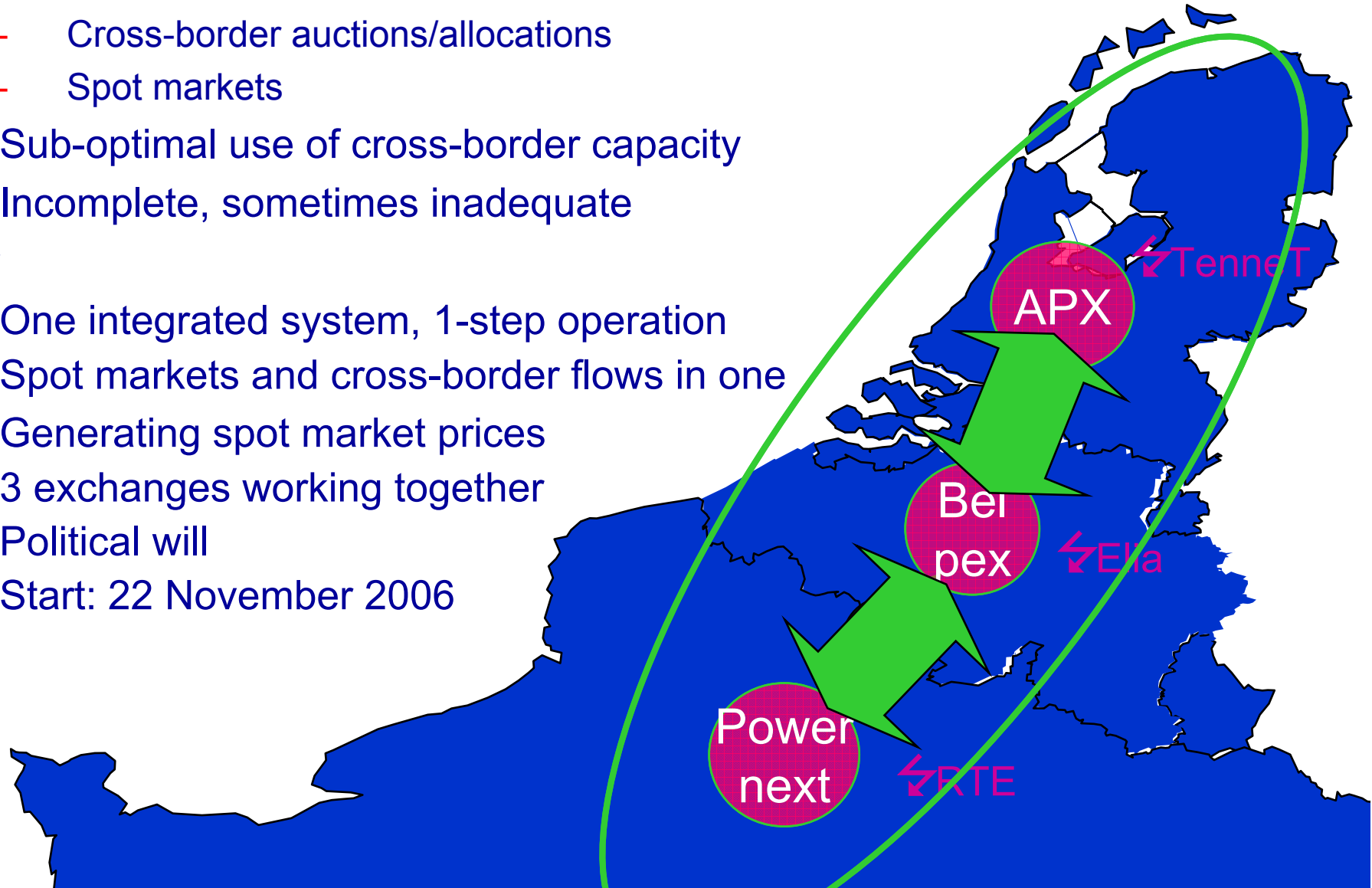
Before: separate operation of:

- Cross-border auctions/allocations
- Spot markets

- Sub-optimal use of cross-border capacity
- Incomplete, sometimes inadequate

After

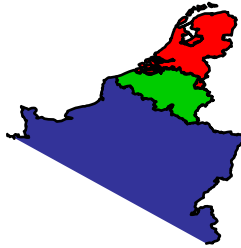
- One integrated system, 1-step operation
- Spot markets and cross-border flows in one
- Generating spot market prices
- 3 exchanges working together
- Political will
- Start: 22 November 2006



Better flows and price convergence TLC example

Possible outcomes of TLC

1. BE-NL and FR-BE borders congested: 3 price areas



1.9%

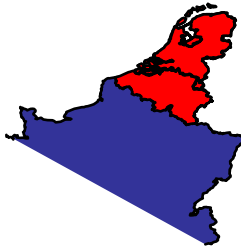
With the explicit auction :
only outcome 1, even if
there was enough
transmission capacity to
bring the prices together

2. BE-NL border congested: 2 price areas



30.3%

3. FR-BE border congested: 2 price areas



9.2%

Today, either prices will
converge fully,
or transmission capacity
will be fully utilised

4. No congestion: 1 single market

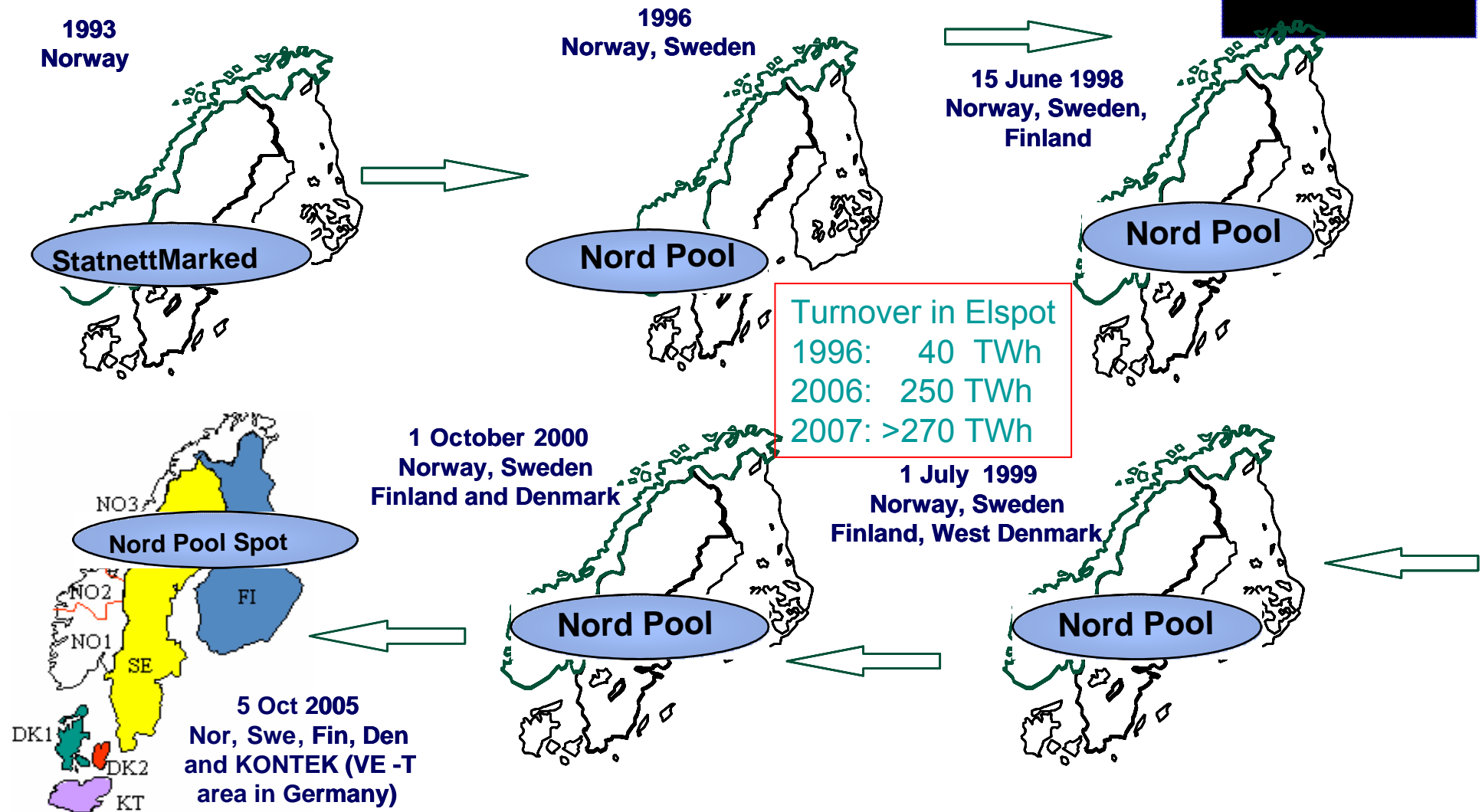


58.6%

Results in
TLC so far
In % share

Development of the Exchange Area for Elspot

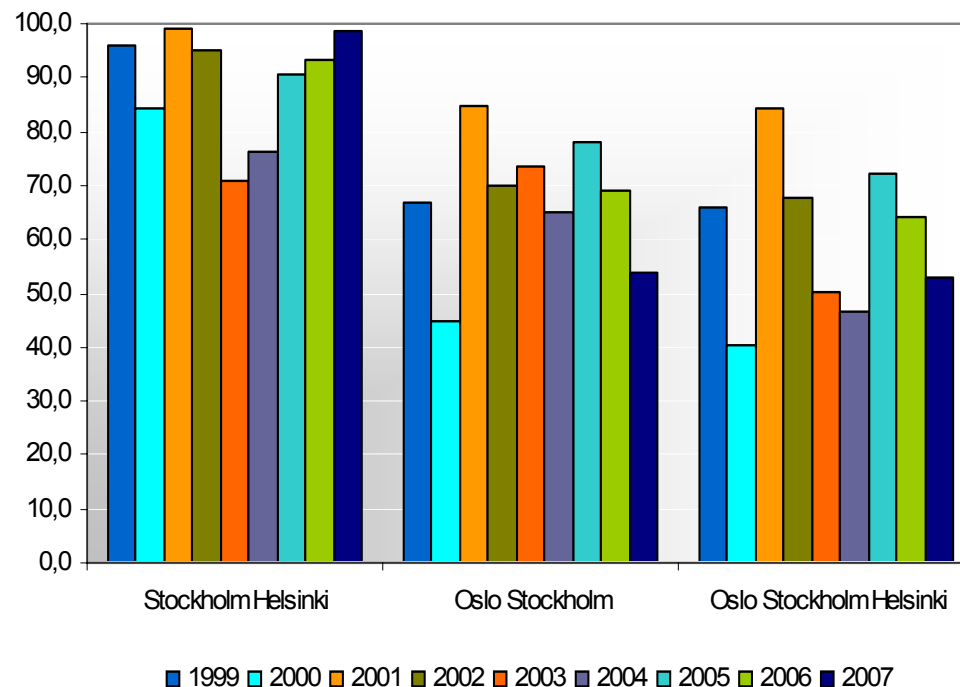
EuroPEX
Association of European
Power Exchanges



Now all the Nordic countries are part of Elspot, thus apply day-ahead Implicit Auction (Market Splitting), and hourly border trade towards the continent works more efficient than before!

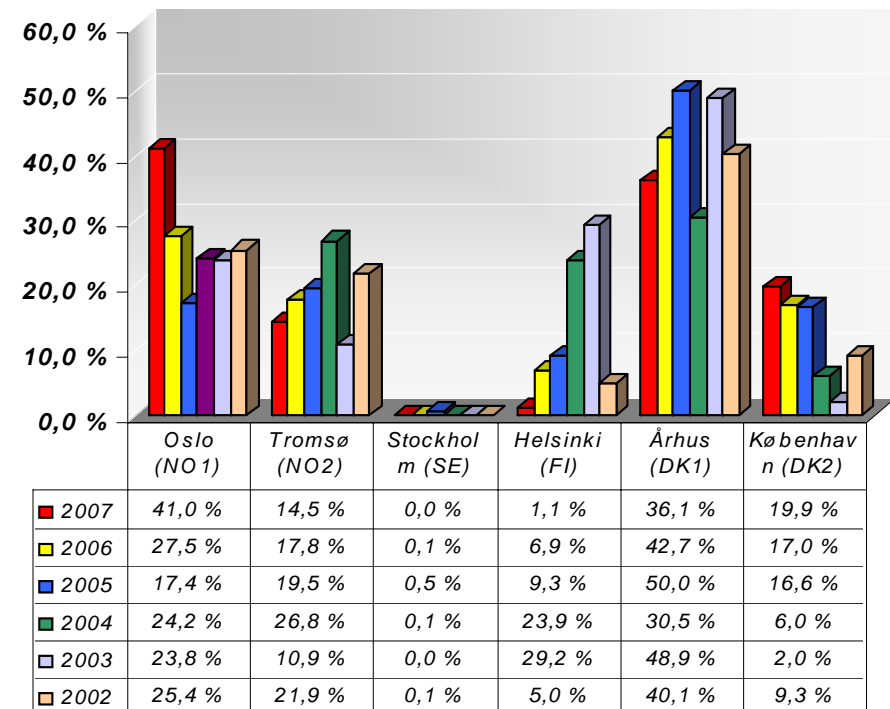
Elspot -common price

in % through week 37-2007



Elspot - Price Areas

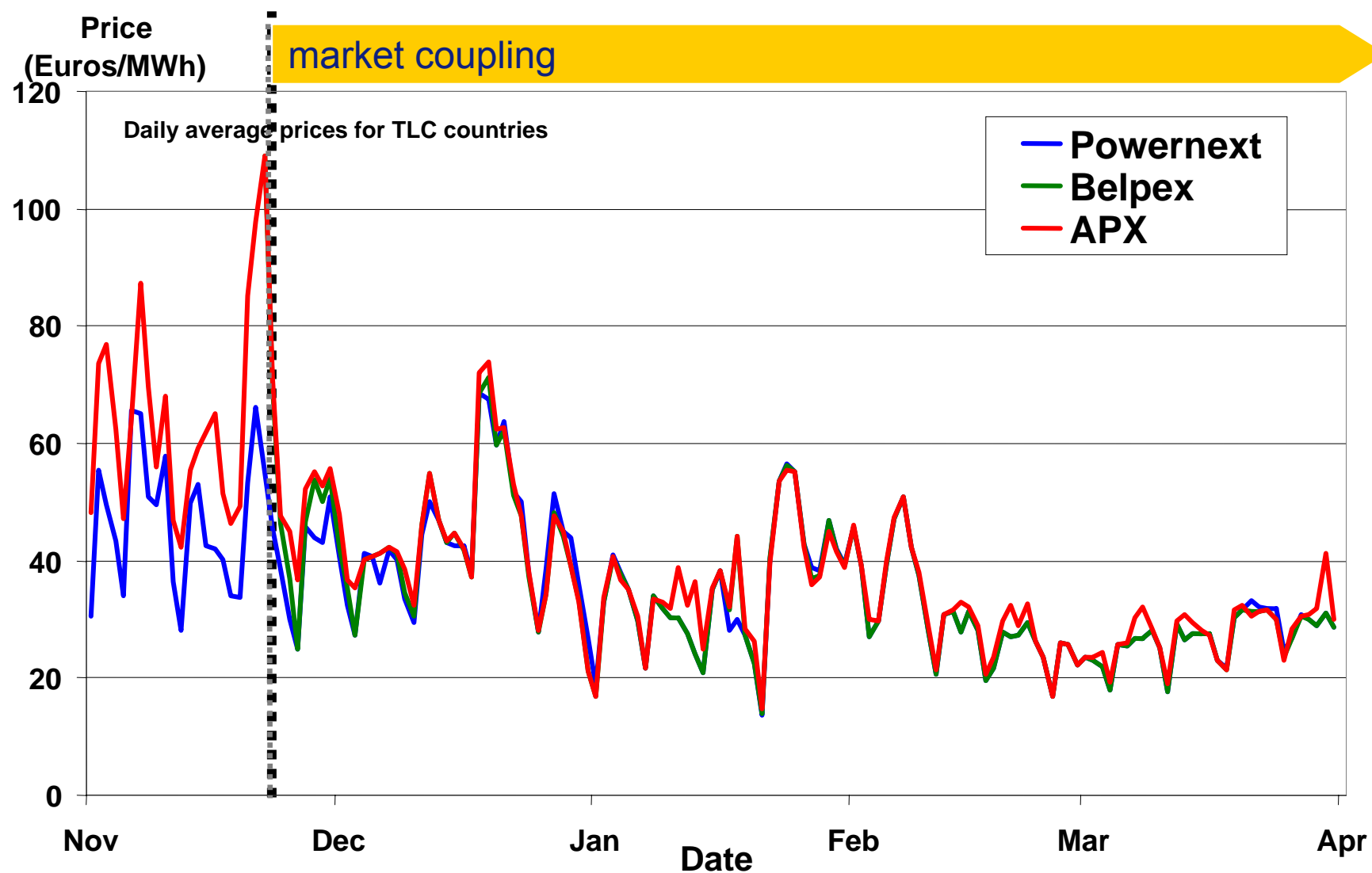
No. of hours (%) when one bidding area is isolated from all other areas - through 37-07



Conclusion: Implicit Auctions integrate or rather "enlargens" national markets and thus enhances (price/volume) competition cross-borders in a way that explicit methods can not achieve

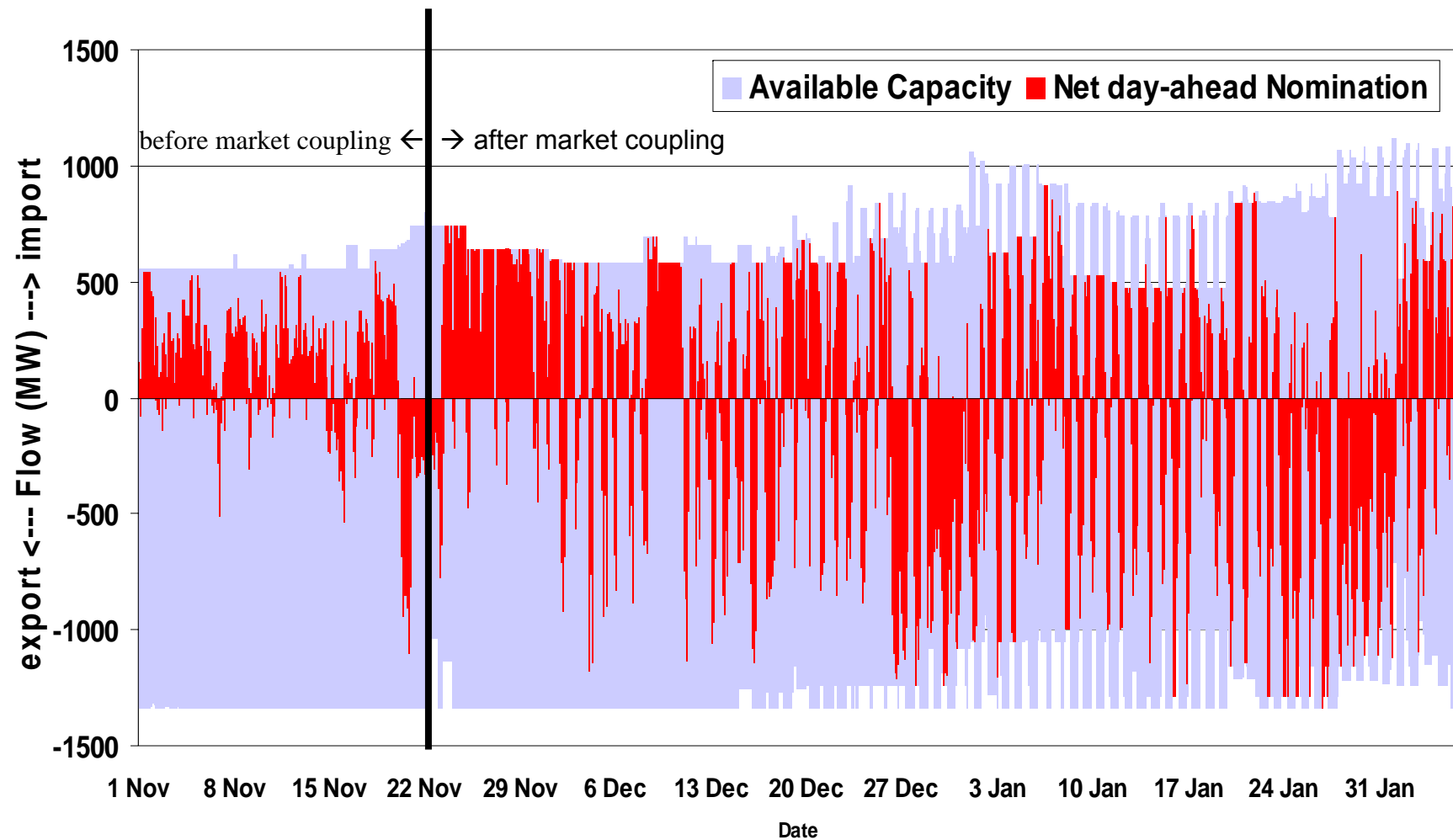
Market Coupling results

- Price convergence

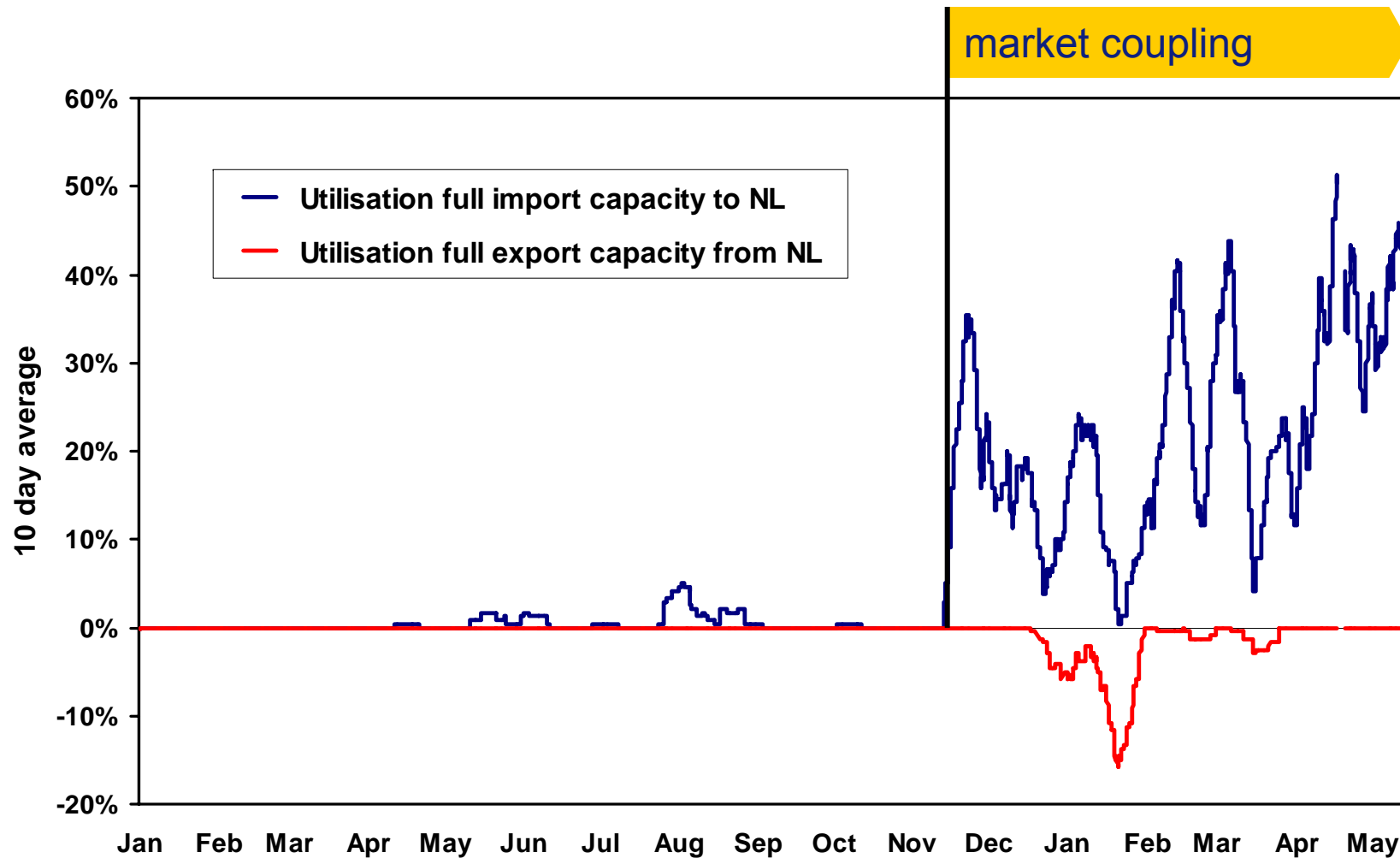


Import/export utilization before and after

Utilisation of day-ahead capacity on the Belgian - Dutch border



Better utilized transmission capacity: Dutch-Belgian border January 06 – May 07



Congestion Management and Import and Export: Suitable for co-operation between exchanges and grid companies

