



Congestion management methods in Nordic countries, lessons learned

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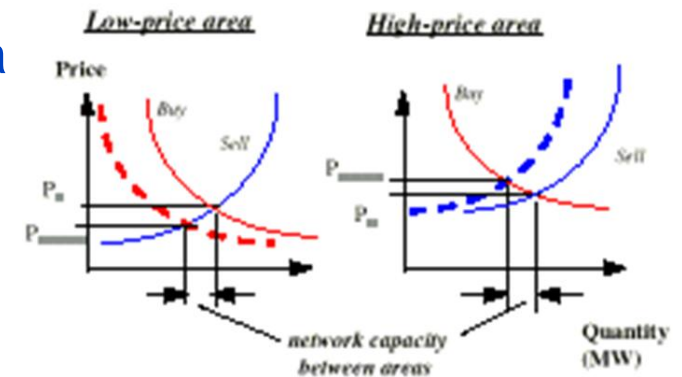
Baltic Electricity Market Mini-Forum, Tallinn

November 8th, 2013

- Key elements of the market based Nordic congestion management
- Lessons learned
- Do BEMIP interconnections remove the congestions between Nordic and Baltic markets?

Key elements of the Nordic congestion management

- No congestion for trade inside a bidding area
 - strong grid, no structural congestions inside a bidding area
 - TSOs take care of the rest with countertrade
 - Implicit auction between bidding areas
 - all trading capacity between the Nordic bidding areas is dedicated to Nord Pool Spot for implicit auction
 - power exchange allocates the capacity
 - TSOs guarantee the agreed trade between areas.
 - No explicit auction or other long-term capacity reservation for physical trade
- => Physical trade from low price area to high price area => implicit auction / market coupling also towards neighbouring areas



- Key elements of the market based Nordic Congestion management
- Lessons learned
- Do BEMIP interconnections remove the congestions between Nordic and Baltic markets?

When using market based methods in congestion management, the political support for the market is of vital importance

- There were no European regulations requiring electricity market integration in mid-1990's
- Louisiana Declaration in 1995. The Nordic energy ministers published the vision for the Nordic electricity market
 - “A borderless Nordic market with efficient trade with the surrounding area.”

=> The BEMIP plan for the Nordics

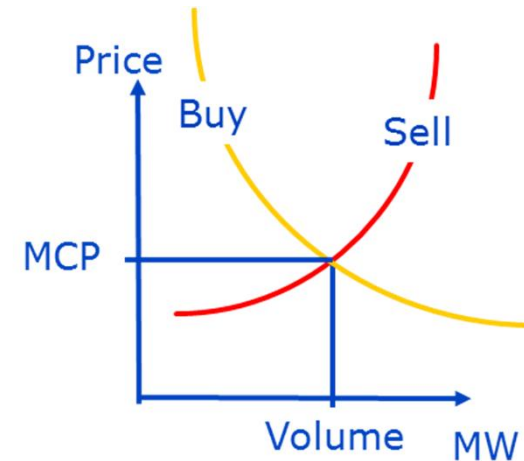


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Nordic Council of Ministers

Implicit auction between bidding areas

- TSOs give the cross border capacity to Nord Pool Spot for allocation in Elspot
 - Efficient capacity allocation requires reliable price signals
 - liquid Elspot market
 - PEX's market share is $\geq 20\%$
- => Good co-operation between the TSOs and Nord Pool Spot




nordpool
spot

Long-term trade in the Nordic market

- Long-term physical trade only inside a bidding area
- Most of the long-term trade and hedging with financial contracts
 - financial market for up to 10 years
 - system price the reference price
 - clearing
 - financial hedging towards system price by Electricity Price Area Differentials (former CfD) for up to 3-4 years
- TSOs do not have a role in the financial market (excl. Energinet.dk)



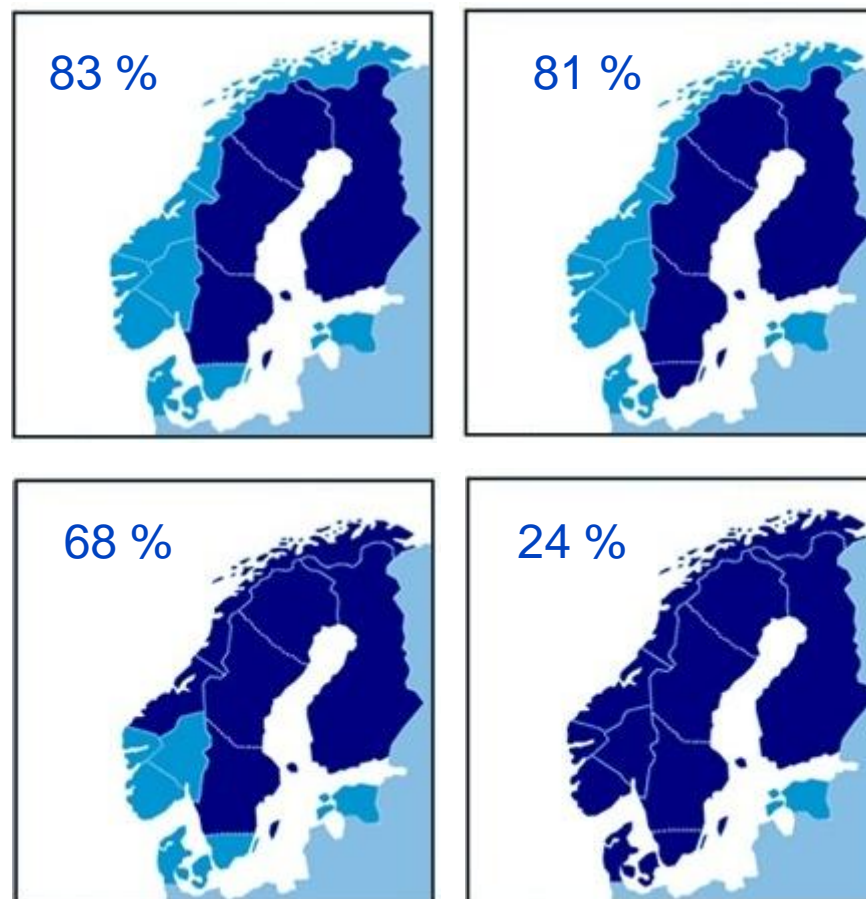
=> Efficient financial trade requires a reliable market price
(Elspot area price)

Interconnections create the backbone of the electricity markets

- In open market one area influences a lot to the neighbouring areas
 - from national to regional (European) grid development
 - market seems to need more interconnection capacity than the former regulated trade
- Price areas need to be sufficiently large in order to secure efficient competition
 - integrity an important parameter to measure integration

=> In Finland the integrity with Sweden

Integrity of Nordic price areas 2013



Fingrid's goal to keep Finland as one bidding area

- In parallel with the Swedish price area study a similar study was done in Finland
- In near future, there is no need to divide Finland into separate bidding areas
- To avoid structural bottlenecks the grid shall be developed proactively in long-term
- In the long run the uncertainty in North–South transfer may increase in connection to
 - production capacity and structure in Finland and in neighbouring areas
 - European market rules and RES targets
 - increased interconnection
- No surprises for to market participants => high level of transparency
North-South cut in Fingrid-web:

<http://www.fingrid.fi/en/electricity-market/cross-border-transmission/Pages/N-S-Cut-Finland.aspx>



Do BEMIP interconnections remove the congestions between Nordic and Baltic markets?

2013



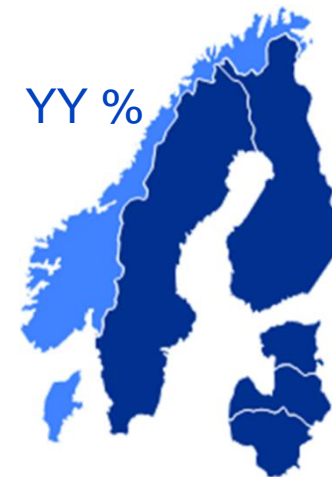
Finnish-Estonian integrity

2014



Market expects the Finnish-Estonian integrity to be at high level in with EstLink2

2016



How about the Swedish-Finnish-Baltic integrity with NordBalt-interconnector?


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for Energy


Conclusions

- Liquid Elspot market



Reliable market price



Efficient congestion management and financial market

- BEMIP action plan makes it possible to integrate the Baltic Sea market

=> Have a vision and keep it

Elspot volumes

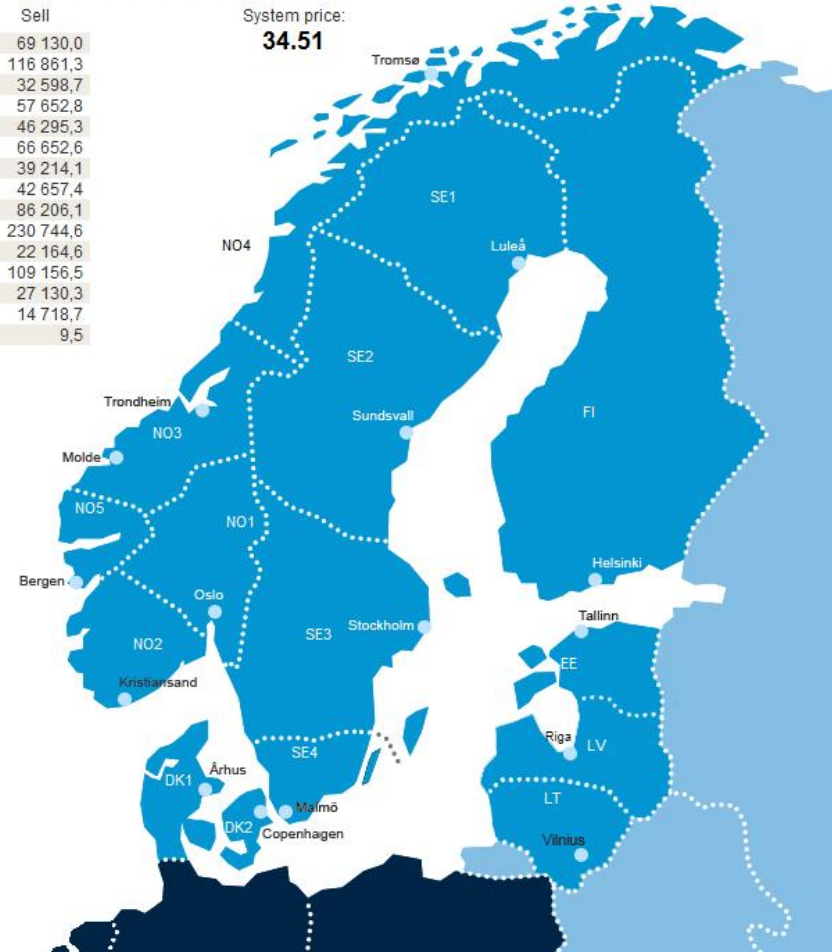
	Buy	Sell
NO1	96 032,7	69 130,0
NO2	87 862,4	116 861,3
NO3	62 127,9	32 598,7
NO4	45 458,1	57 652,8
NO5	44 490,3	46 295,3
DK1	39 117,2	66 652,6
DK2	39 388,3	39 214,1
SE1	27 826,1	42 657,4
SE2	40 151,6	86 206,1
SE3	225 121,7	230 744,6
SE4	65 363,5	22 164,6
FI	139 959,8	109 156,5
EE	18 577,9	27 130,3
LT	22 928,2	14 718,7
LV	6 786,8	9,5

System price:
34.51



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Thank you for your attention!

