
Et felles marked med handel på tvers

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Bergen Energi AS

Agenda

Bergen Energi in brief

The importance of well functioning markets

Conclusion



Our Business

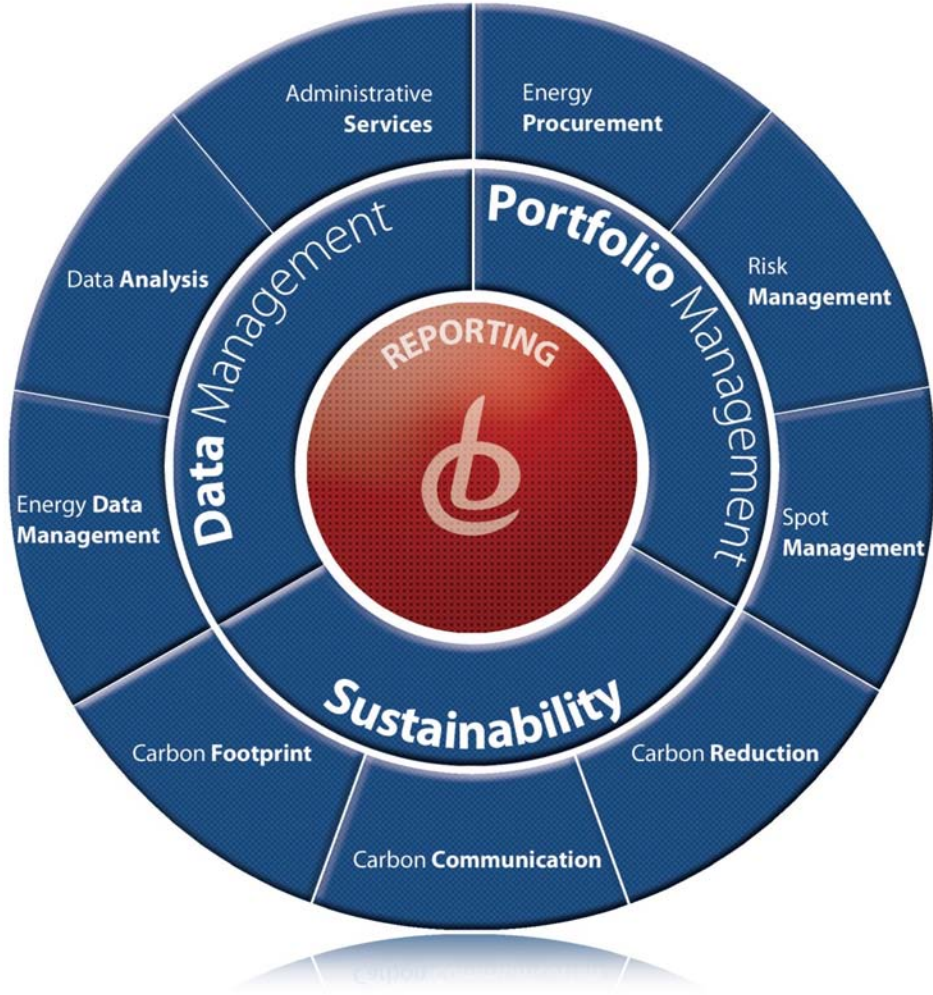
Pan European Services

MiFID Licensed

Neutral player



Our Services



International – Independent - Innovative

The importance of well functioning markets

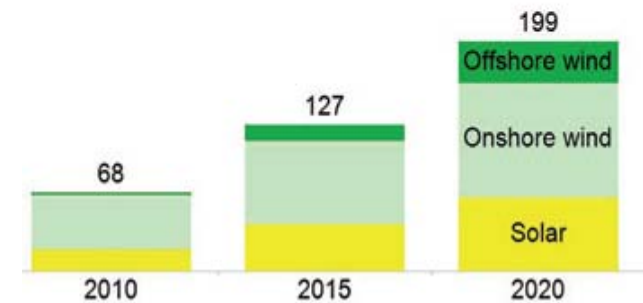


Planned renewables

199 GW in 2020 from renewables

High increase in on- and off- shore wind

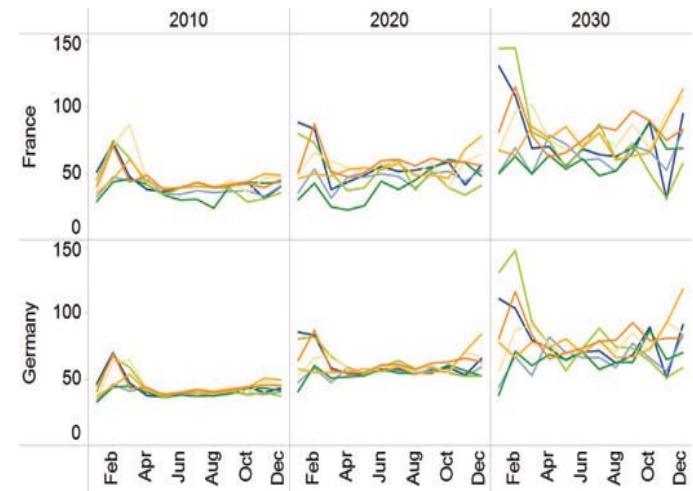
20% of European consumption to be Covered by renewables in 2020



Source Pöyry

Impact of renewables on the power markets

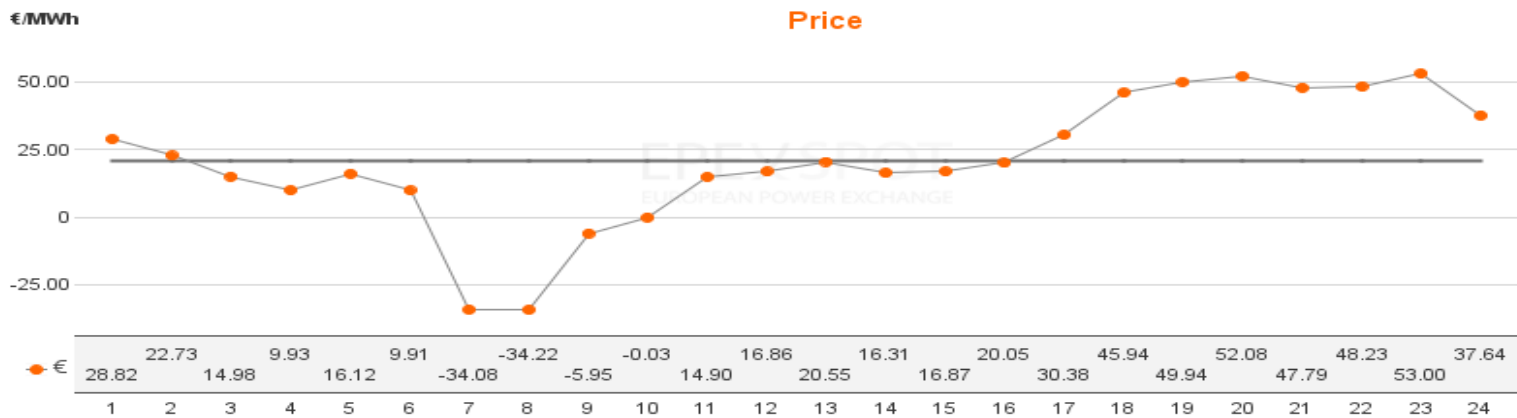
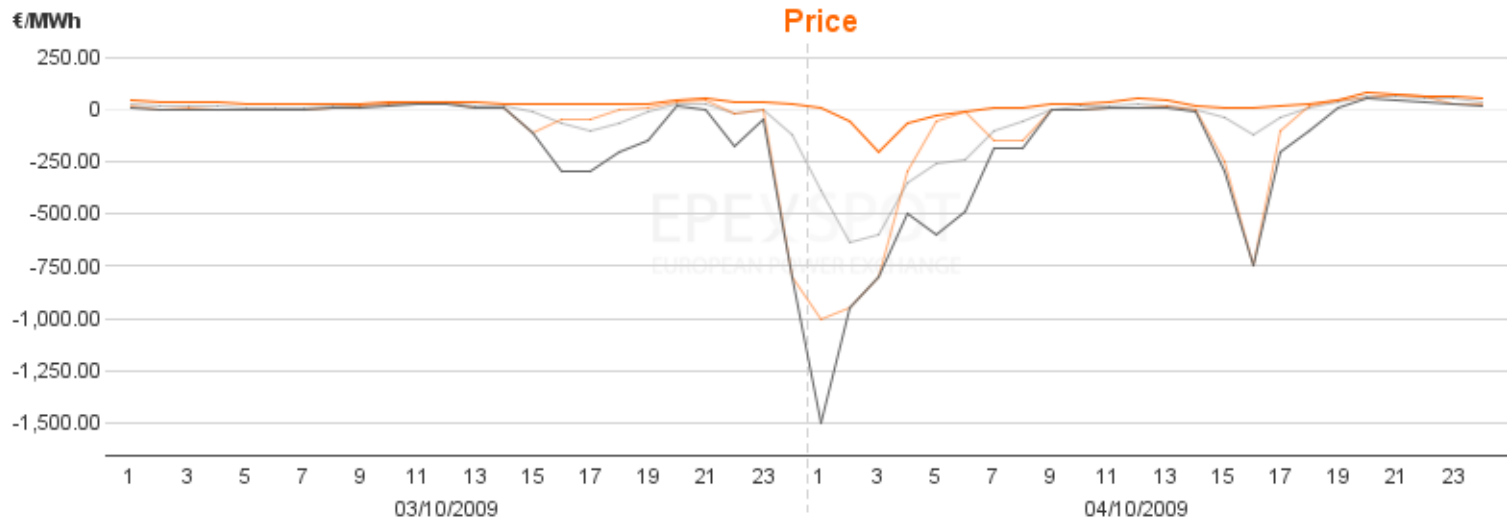
- Prices increasingly driven by the weather
 - Increased market price volatility
 - High but unpredictable wind in winter
 - Different weather patterns produce highly different market prices
- Highly variable output through wind
- Increased need for adjustments closer to delivery hour!



Weather years
2003 2004 2005 2006 2007 2008 2009

Source Pöyry

Increasing trend: negative prices

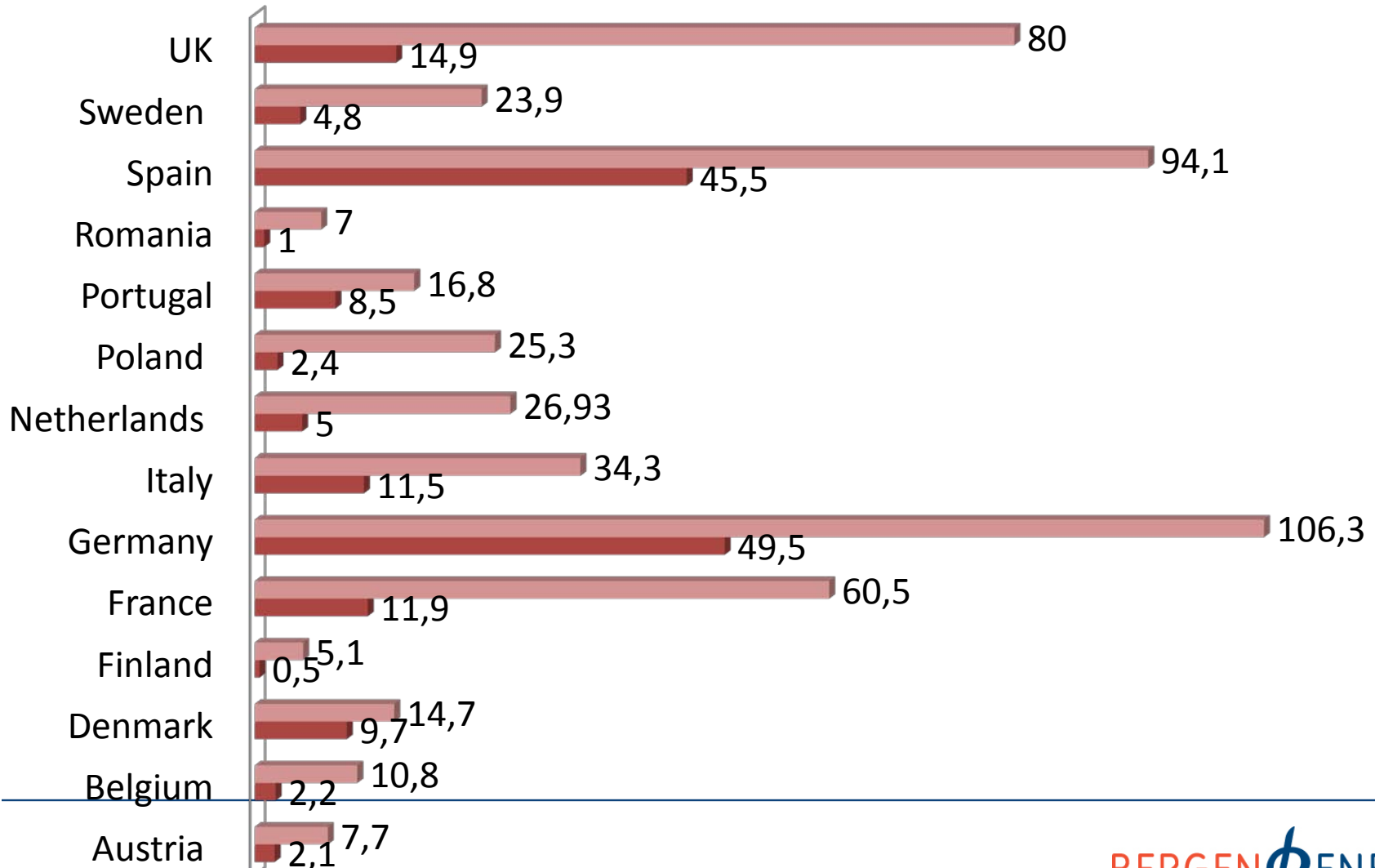


Producers nightmare?

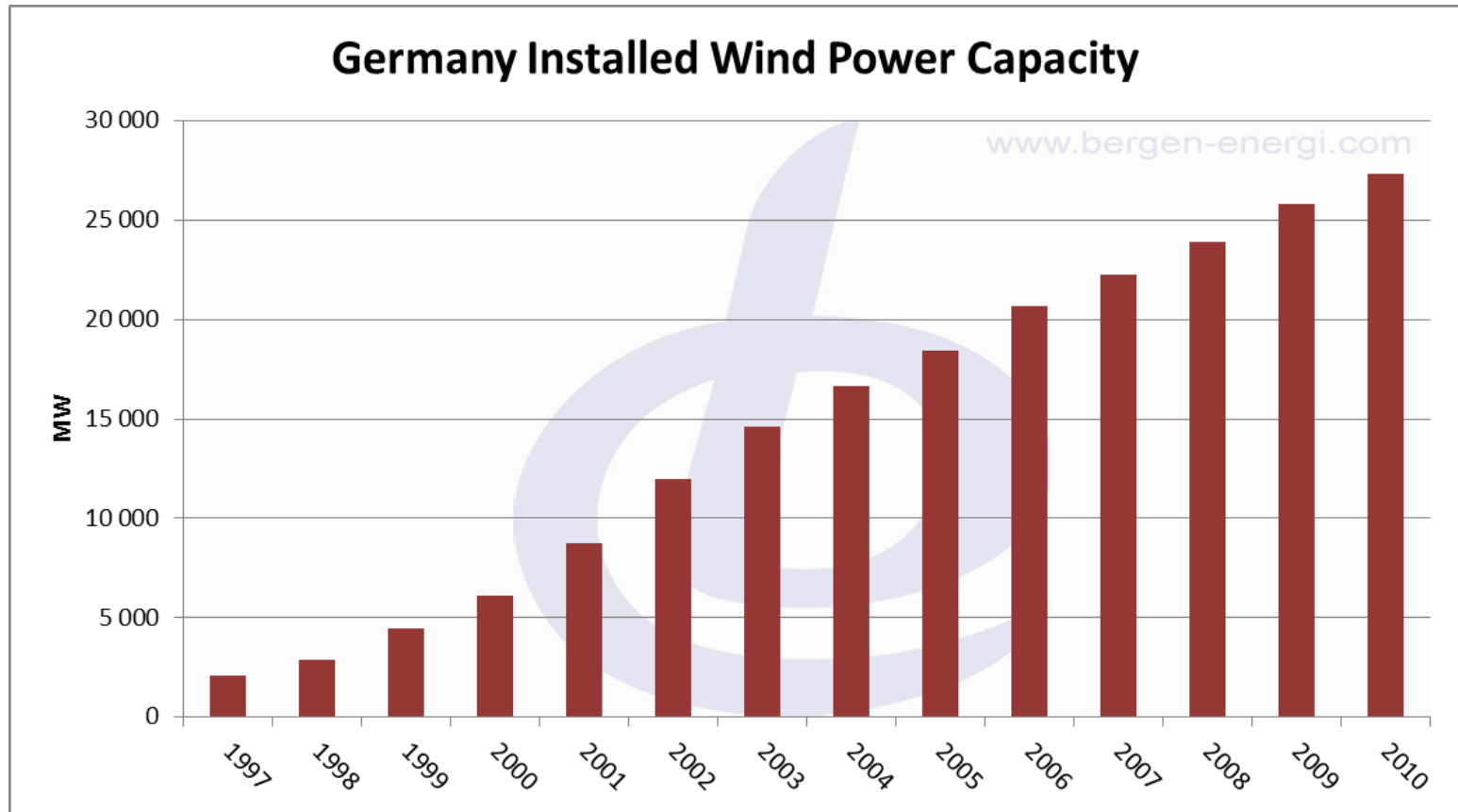
Long periods of zero or negative prices, in 2020

Electricity production of wind in TWh

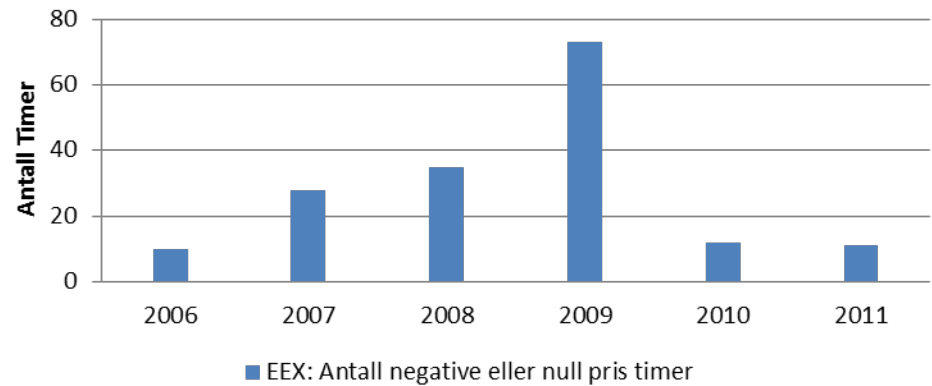
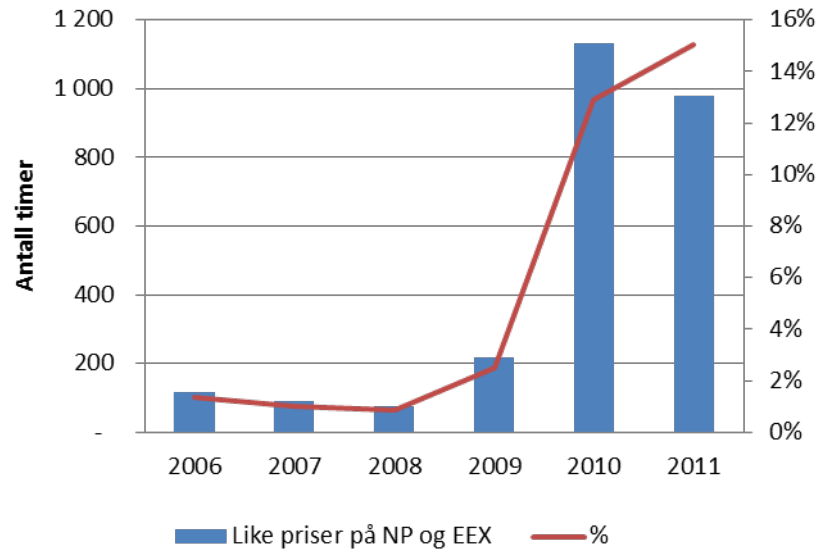
■ 2020 ■ 2010



How does Germany balance their wind?

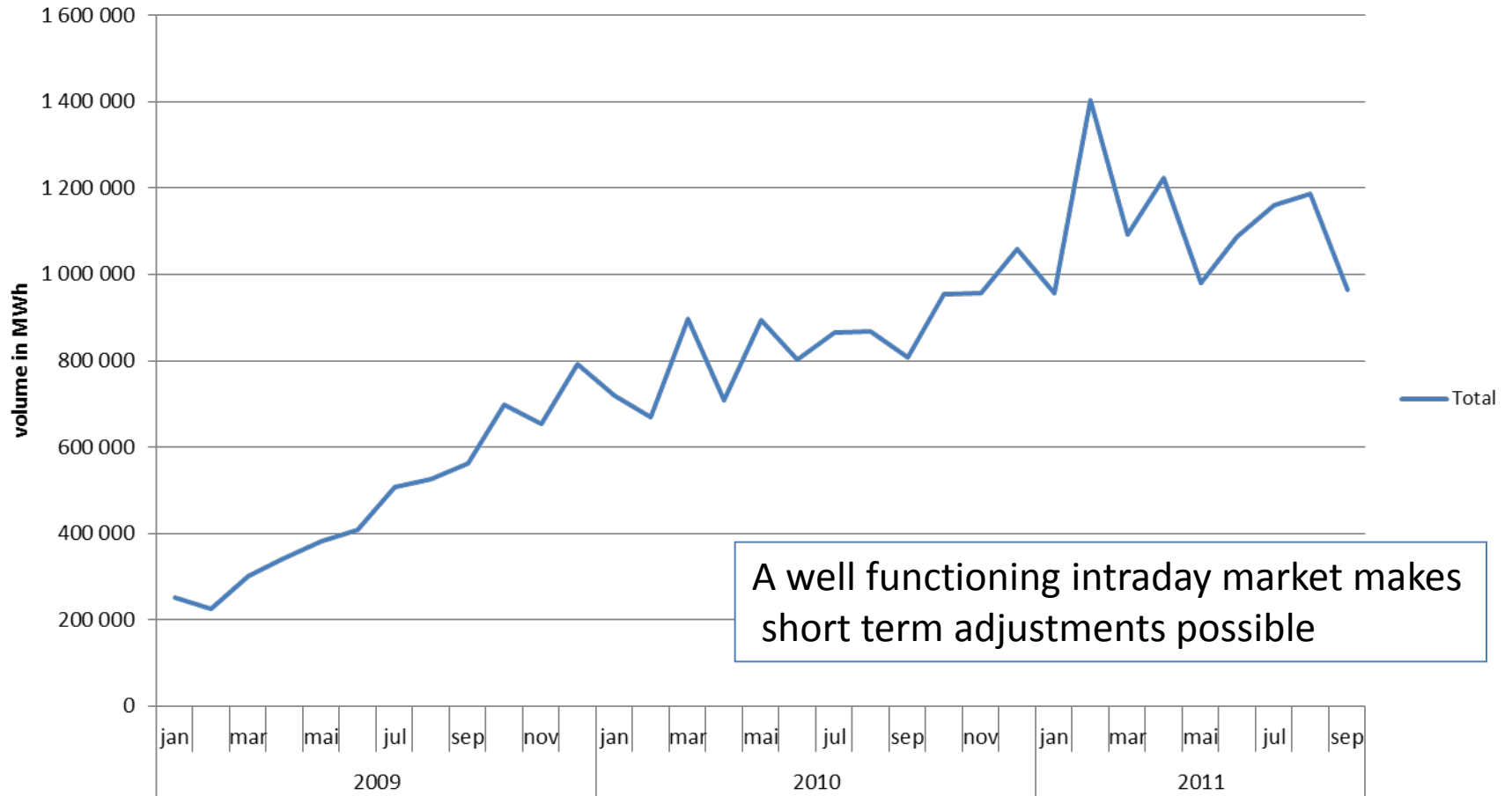


Markeds coupling in DAM



Yearly volume increase of 32 % intraday

monthly intraday volume



Characteristics German intraday market:

Very good liquidity

- Yearly increase of 32% (by law)
- *Ausgleichsmechanismus Verordnung*: TSOs sell renewables spot or intraday.
- Gives trustworthy prices

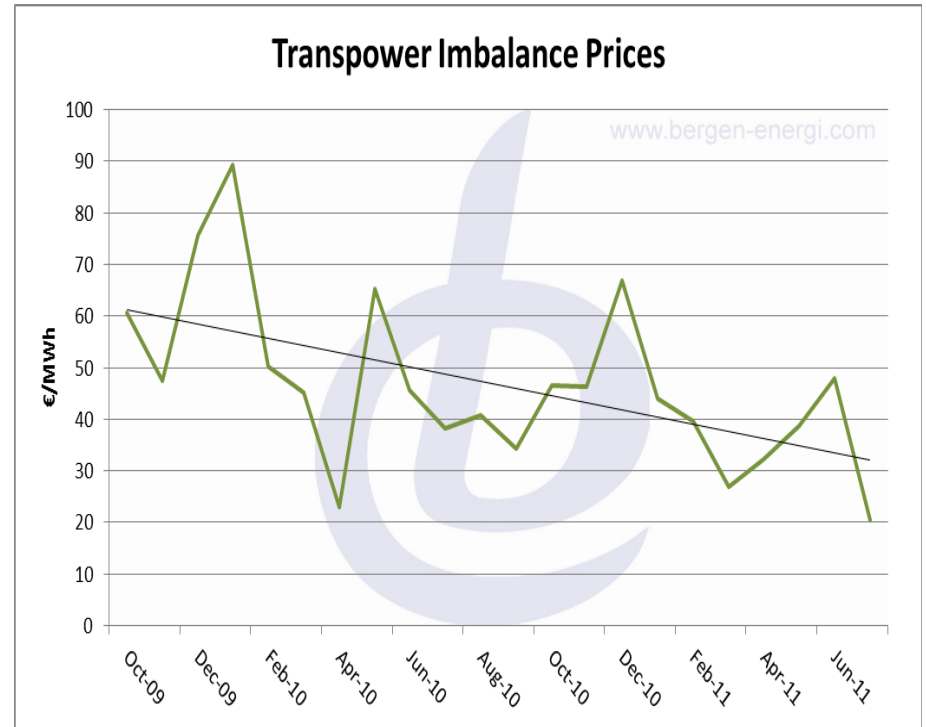
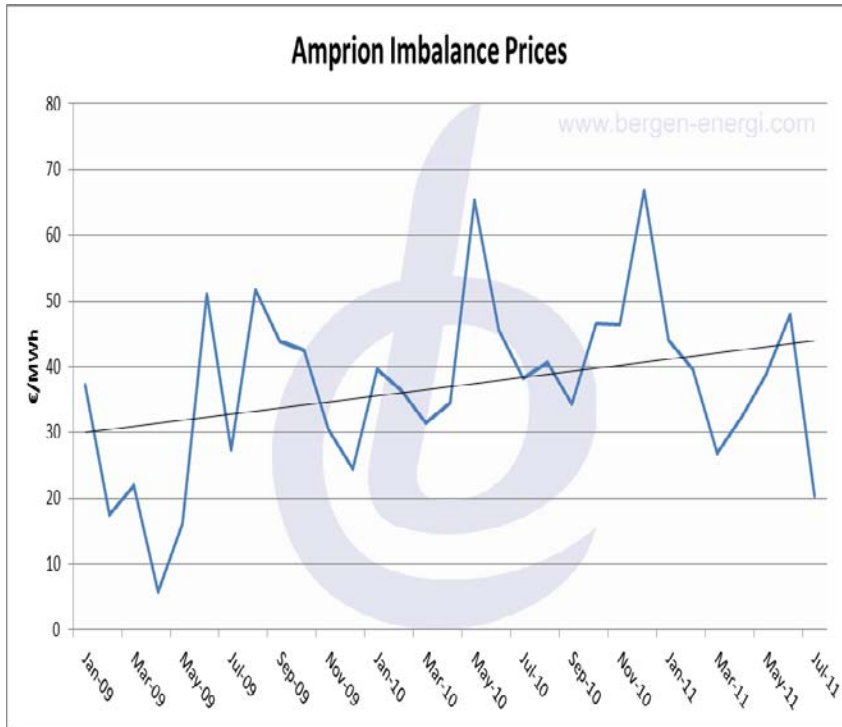
Adjustments possible 15 minutes before delivery

Introducing trading of 15 minute products year end

- to integrate renewables

Germany has created a well functioning adjustment market for producers and consumers to adapt to increasing wind power

Imbalance price development (2009-2011):



No clear impact of renewable energy integration in Germany

The perfect combination?



A unique opportunity

The intraday market - Elbas

European Cross Border Intraday Market Elbas

Can balance out Norwegian hydro and European wind

Ideal for Nordic hydro producers to sell to German industry

- Optimize production revenue – access to high price buy orders
- Use flexibility

...and Nordic industry to adjust with European wind producers

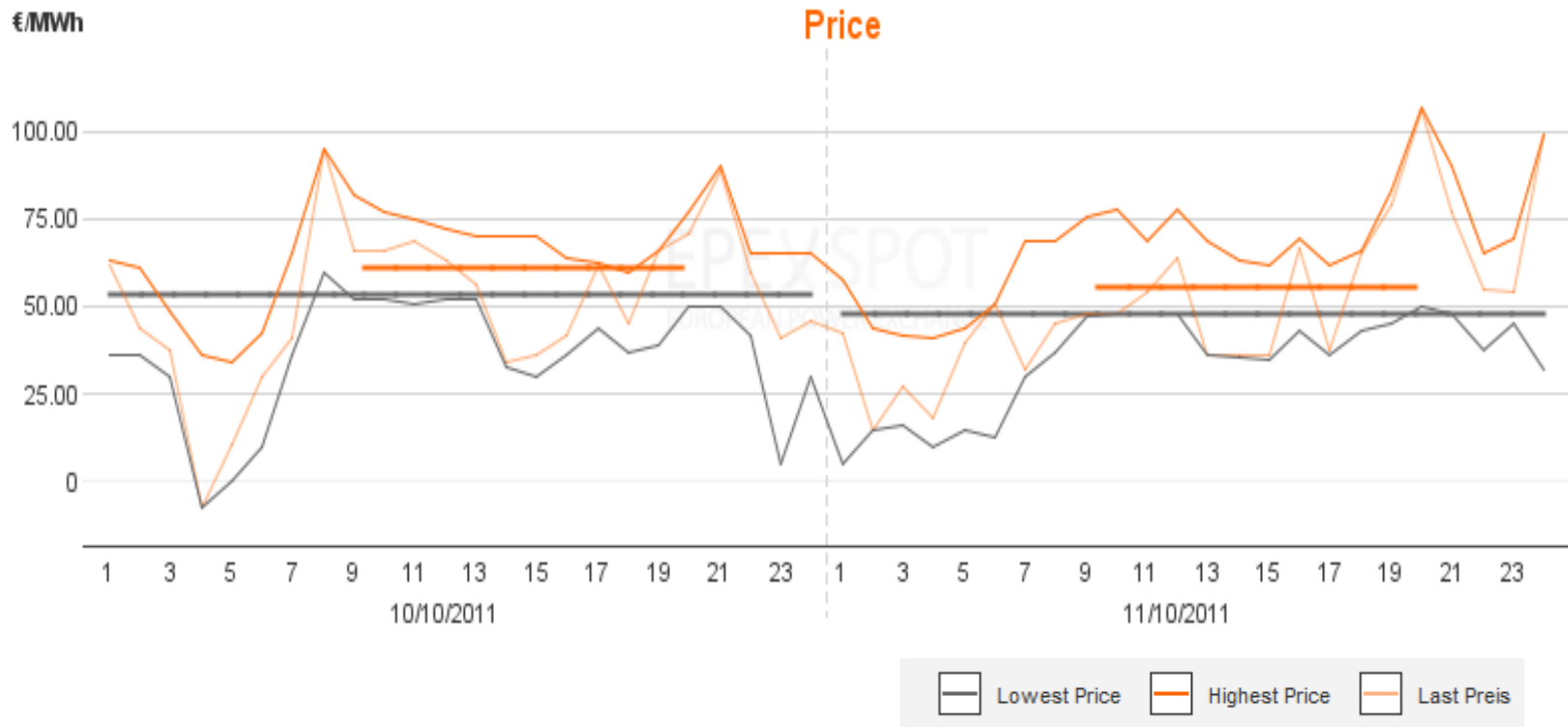
- Reduce imbalance risk/costs- access to sales orders below RK and DAM

And help the TSO to reduce imbalance volume

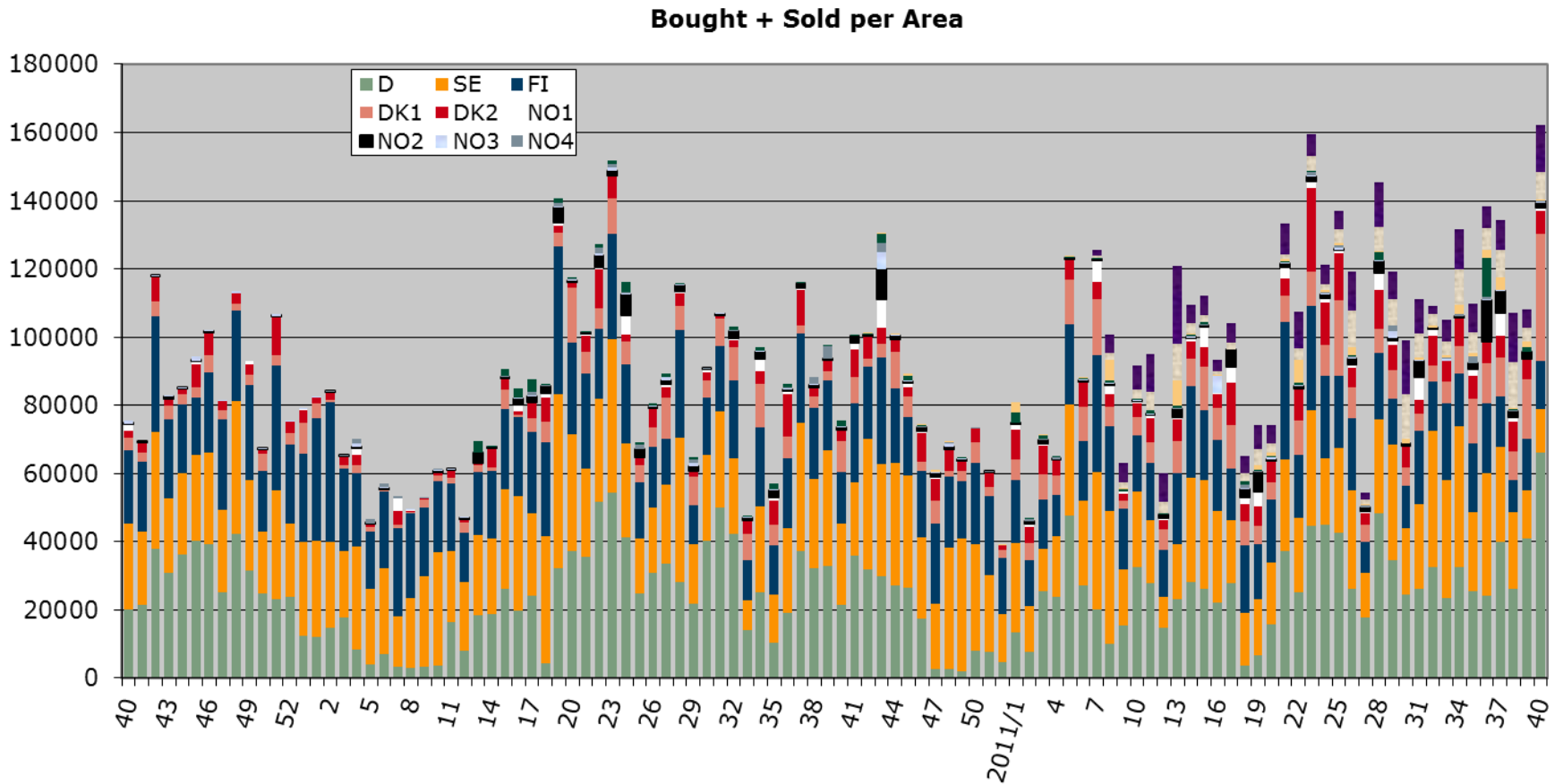
Win –win situation for all

Example pricing

Hour 20 was traded at 150 € Intraday Germany
Hour 20 Elbas NO1 was traded at €14,80
KT was traded at 80 €



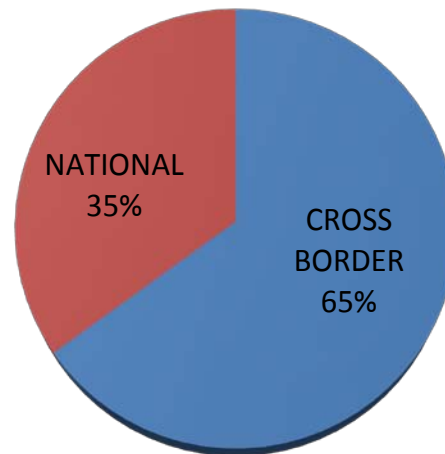
So why is Norway not taking part?



Split National Trades and Cross Border Trades

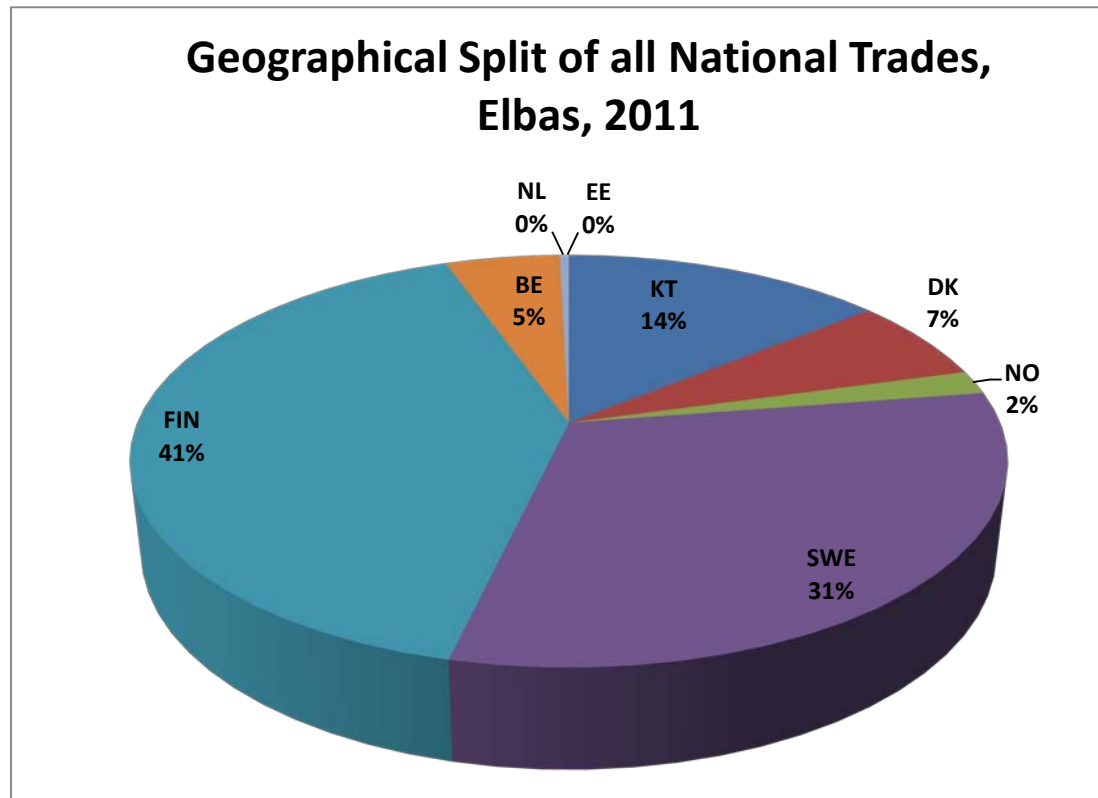
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Cross Border Trades vs. National Trades, Elbas, 2011



Cross border trades account for two thirds of the trades on Elbas.

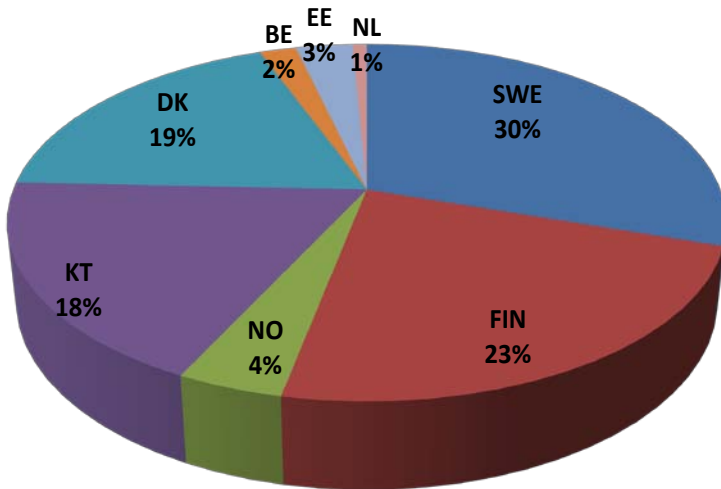
National Trades



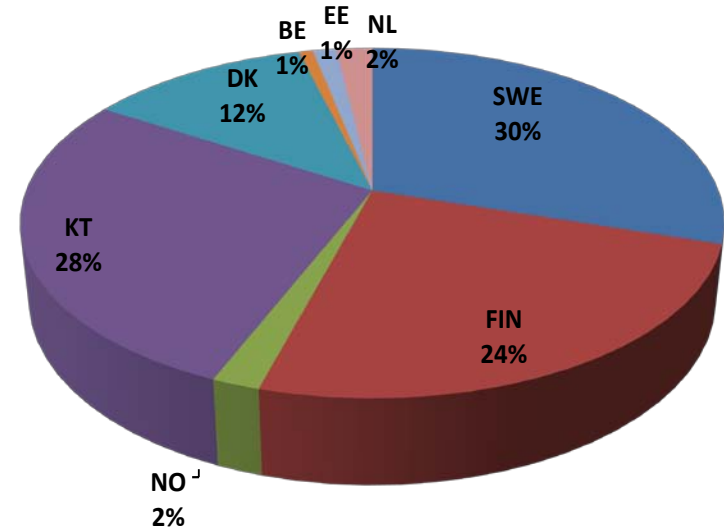
When considering only trades within national borders, Norway accounts for only 2% of all trades.

Cross Border Trades

Geographical Split of Sell Areas within Cross Border Trades in Elbas, 2011



Geographical Split of Buy Areas within Cross Border Trades in Elbas, 2011

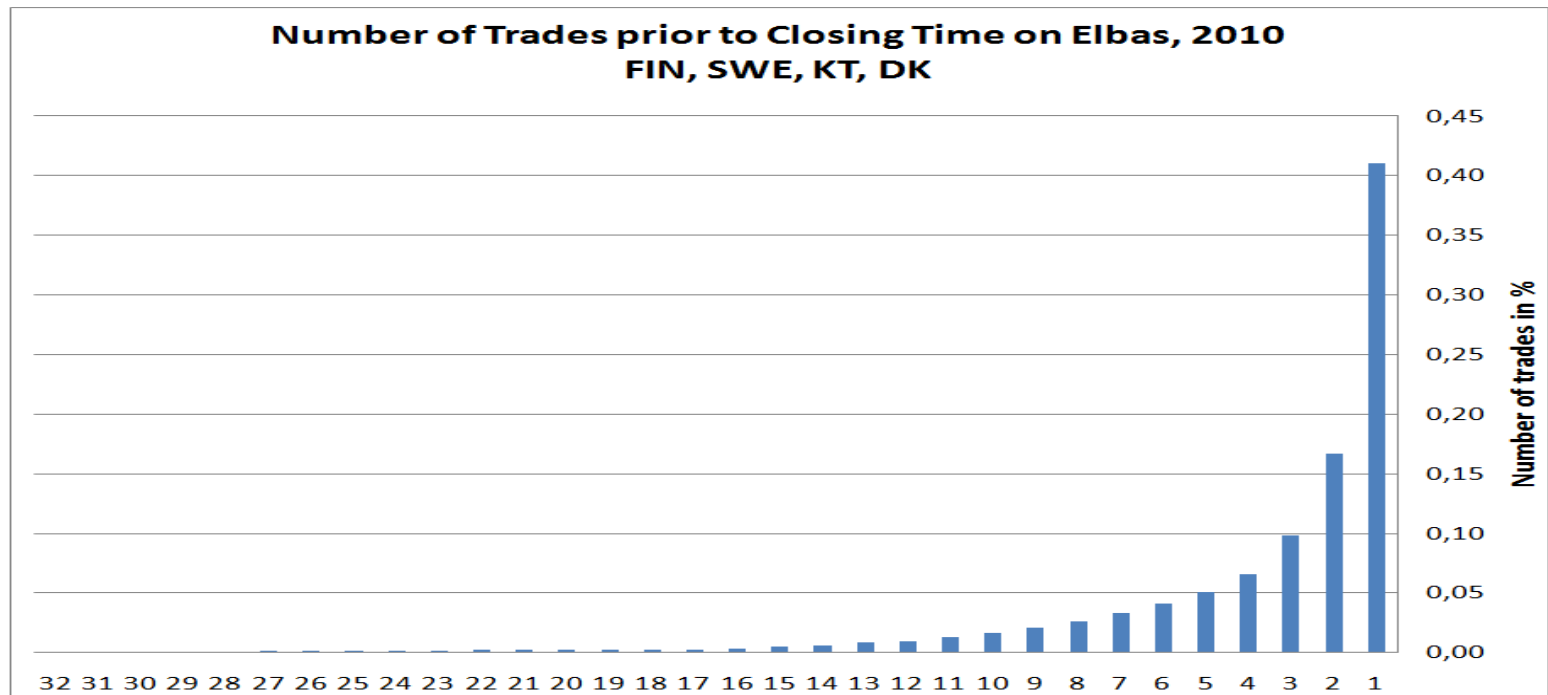


- Of all cross border sell orders, only 4% are in Norway.
- Of all cross border buy orders, only 2% are in Norway.

Number of Trades per Hour prior to Closing Time

40 % of all trades on Elbas take place within 1 hour before delivery.

Norway is missing out on this volume!



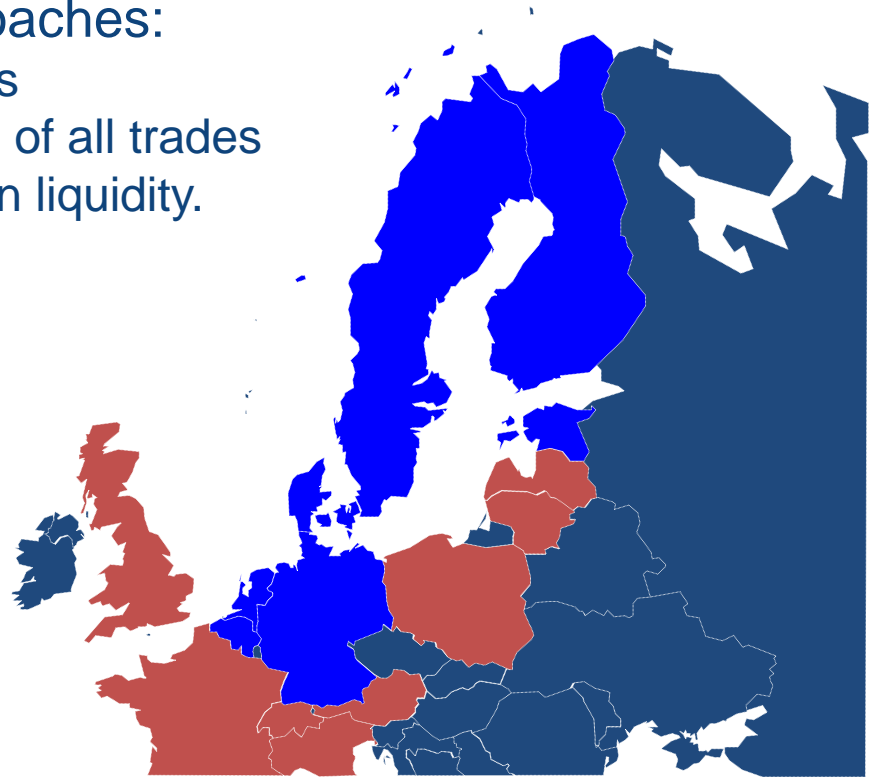
ELBAS:

We are isolated from the rest of the Elbas market due to gate closure

As the closing time for trades approaches:

- The quantity of trades increases
- The last hour accounts for 40% of all trades
- There is a significant increase in liquidity.

Noway is not part of this!



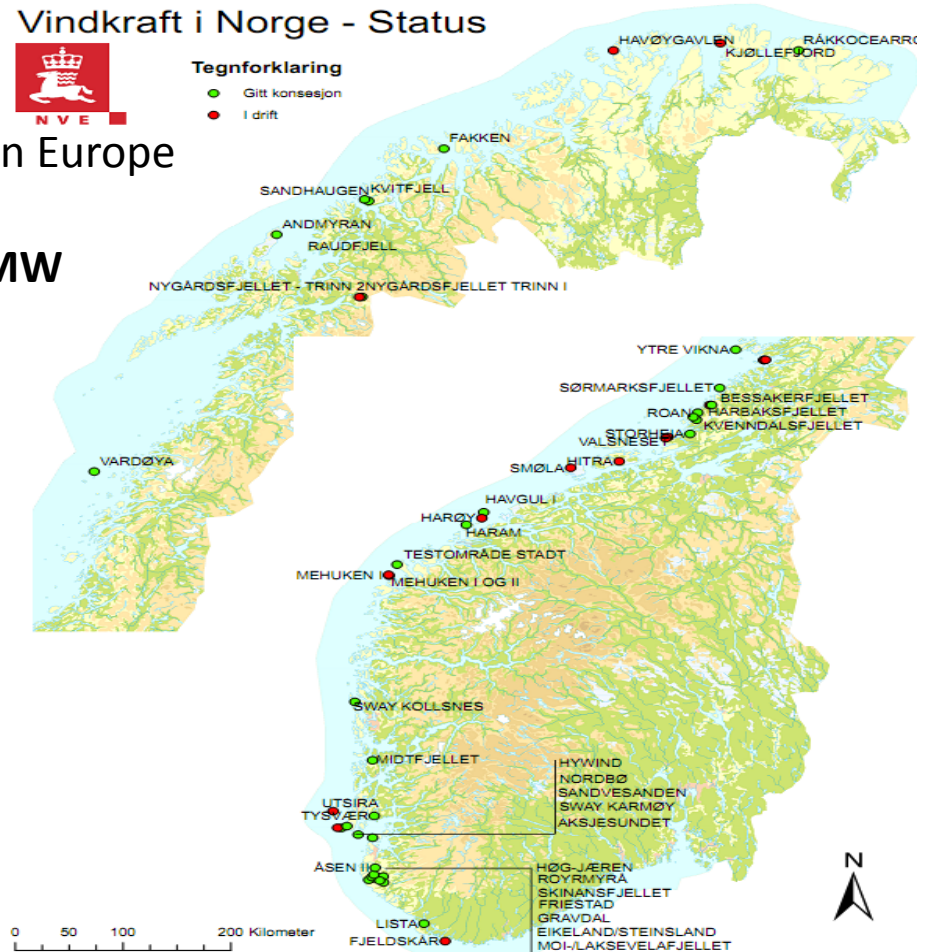
Planned wind in Norway

Vindkraft i Norge - Status



Tegnforklaring

- Gitt konsesjon
- I drift



The wind conditions are among the best in Europe

Expected inst capacity 2020: **3000-3500 MW**

Expected production 2020: **7-8 TWh**

Are we ready for this?

How shall it be balanced out?

Towards Europe?

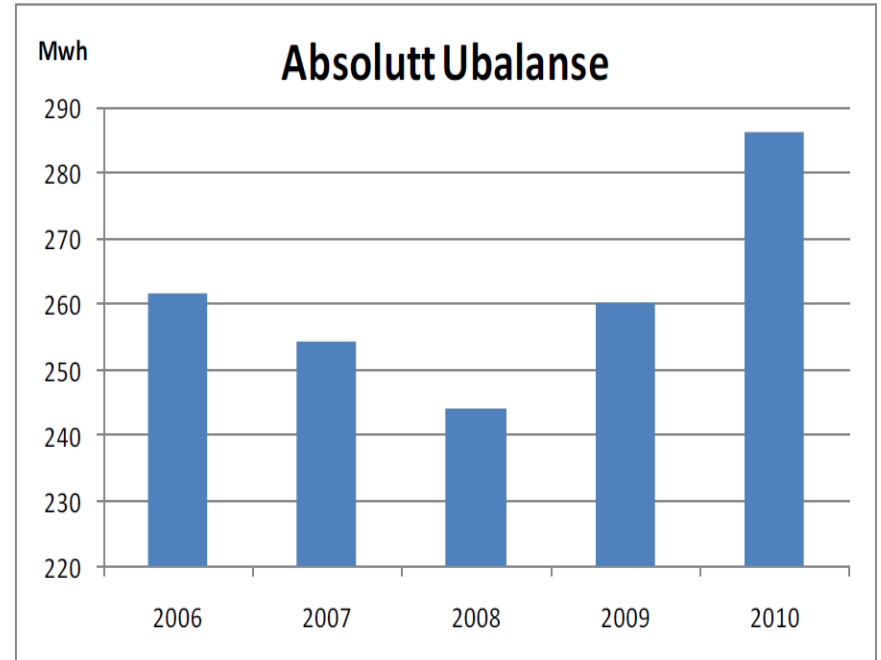
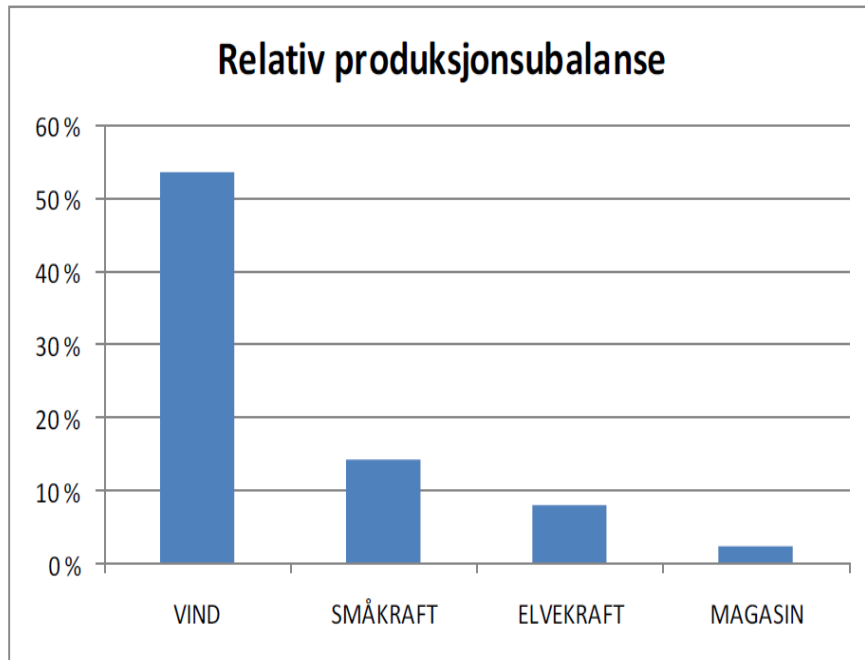
In Norway?

Increase in imbalance volume

Trend of increasing imbalance volume in the Nordics

How will the increase in renewables impact the price?

More volatility?



Source Statnett 2010

Conclusions

Increasing renewable production

- Markets must act increasingly flexible
- Increased need to balance short term
- Closing time on ELBAS needs to be closer to delivery

The importance of cross border trading is increasing!

- Wind and hydro creates excellent opportunities for producers and consumers
- Closing time on ELBAS needs to be harmonised for Norway to take part
- Need for increased capacities
 - More interconnectors
 - Reserved capacities for ELBAS....10%?

Norway needs a well functioning intraday market !

...Where are the market makers?

Thank you for your attention

Any questions?

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