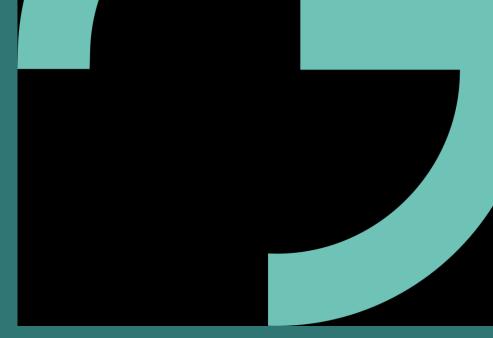
NORDREG – WELL FUNCTIONING MARKETS ASTRID BUHR BROGE

Electricity trading







- **1. The value creation of electricity trading**
- 2. Obstacles for electricity trading
- 2.1 Ambiguous regulatory guidance
- 2.2 Limitations on cross border capacity



Astrid Buhr Broge Chief Advisor at Green Power Denmark 2.3 Low liquidity in the Nordic forward

market



The value creation of electricity trading



Danish balance responsible parties' (BRPs) TAX contribution

Corporation tax payments from Danish BRPs compared with Novo Nordisk A/S in 2022 (billion euro.)



Danish BRPs

Novo Nordisk A/S

Note: Green Power Denmark har opgjort elhandlernes samlede skattebetalinger ved at gennemgå samtlige tilgængelige årsrapporter for regnskabsåret 2022. På den baggrund har vi opgjort danske elhandlere skattebetalinger for 11 mia. kr. i Danmark for året 2022. Til sammenligning var det samlede skatteprovenu i 2022 fra selskabsskatten var på 86,7 mia. kr. Dermed svarer elhandlernes andel af de samlede selskabsskattebetalinger til 12 %. Den samlede skattepogørelse for danske elhandlere består af positive skattebetaling (11 mia. kr.) og negative skattebetalinger (0,3 mia. kr.).

Her har vi gennemgået samtlige danske virksomheder, som er opgjort i Erhvervsstyrelsens virksomhedsregister (datacvr.virk.dk) under DB07-branchekoden, 351400 – Handel med elektricitet. Dermed baserer opgørelsen sig på regnskaber fra 69 registrerede selskaber. For de selskaber som afrapporterer efter regnskabsstandarden IFRS (n=8) medtager vi skattebetalinger fra posten

"IncomeTaxExpenseContinuingOperations". For selskaber som afrapporterer (n=61) efter ÅRL-regnskabsstandarden medtager vi skattebetalinger fra posten "TaxExpense". I 2021 var Novo Holding A/S (CVR: 24257630), som ejer 2/3 af Novo Nordisk A/S, den største enkeltstående betaler af selskabsskat. Derfor anvender figuren Novo Nordisk A/S som sammenligning i overstående figur.

Kilde: Green Power Denmark på baggrund af regnskabsgennemgang af samtlige tilgængelige regnskaber fra danske virksomheder registreret under DB-branchekoden 351400 (N=69) samt for Novo Nordisk A/S (CVR: 24256790) i erhvervsstyrelsens regnskabsdatabase (datacvr.virk.dk) samt Danmarks Statistik (SKAT). Tallene er trukket d. 11-09-2023.



The benefits of trading

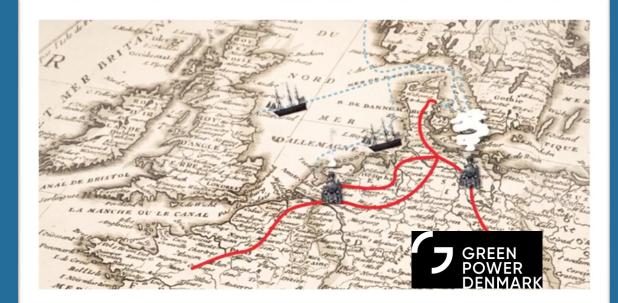
- G The goods are transported to high price areas, where consumers have the highest benefits
- Competition and liquid markets even out prices between markets and ensures competitive prices
- G Cross border trade reduces the risk of shortage
- **G** Price hedging
- G Raising the nations profitability
- **G** Creates jobs

During the 19th century the export of farming products (especially butter) turned Aarhus turned into a trade city with a large harbour.

Hans Broge became the largest tax contributor in Aarhus and was nick named "King Hans".



Hans Broge 1822-1908



Balance responsible parties

Main differences between butter and electricity (intermittent production, limited transportation capacity and no storage)

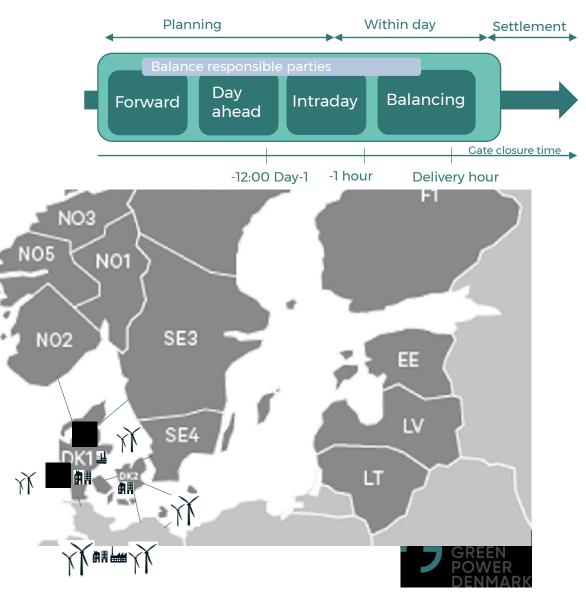
Good forecasts are essential to ensure the highest value creation and to balance the grid.

- Forecasts of production and consumption
- Forecasts of interconnector capacity
- Forecasts of remedial actions

BRPs are different from one another

- With production
- ➢ With consumptio ŶŶ
- Pure trade
- ┢┓╻

Trading across time and geography



Obstacles for electricity trading

Ambiguous regulatory guidance





REMIT

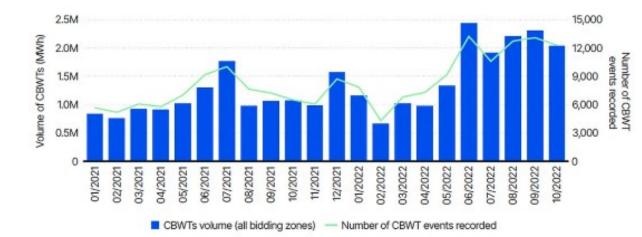
- In Denmark we have had two cases of market manipulation (capacity hoarding with CBWT) reported by DUR in 2018 which both resulted in a fine. Currently one case is under investigation.
- To ensure the full value creation of electricity trade the regulation and the interpretation of the regulation must be unambiguous and applied consistently across Europe.
- Following the public consultation of DURs
 <u>Wash trade Guidance</u> market participants
 have tried to engage in dialogue.
- The gap between legal text and practical application cannot be closed unless regulators listen to market participants.



Example of ambiguity – wash trades

Wash trades (CBWT) are not illegal, yet wash trades are a part of ACERs reporting of potentially manipulative trading to detect potential capacity hoarding.

Figure 3: Evolution of the number of potentially manipulative CBWTs recorded across all EU bidding zones (SIDC hourly products) and corresponding volume that market participants traded with themselves using CBWTs.



Source: ACER data (2022).

Need for clarity:

"In illiquid market situations, a few wash trades are more likely to secure a price. Indeed, it could be envisaged – given a low liquidity situation – that a single order could secure the price" (ACERs guidance note on wash trades, p. 13)

It is unclear what defines an illiquid market. It must be defined with quantitative borders. As an example:

- A wash trade performed in a market with a price spread smaller than 5 Euro/MWh is illegal
- G Wash trades performed 5 hours before gate closure time is illegal.
- Wash trades that acquire 95 pct. of the ATC is illegal.





Recommendations

5 No national guidance

The market participants appreciates DURs efforts to provide more examples, however a national guidance published in Danish is not the right approach. Guidance on REMIT must be included in ACERs guidance to ensure an Equal playing field across Europe.

5 Improve ACERs guidance note

- Engage with market participants and provide more examples (cases from the real world)

- ensure that the legality of a trade can be quantified by providing accurate and quantitative measures in ACERs guidance note.

6 REMIT II

Avoid unnecessary reporting, and be clear on consequences of none reporting - When including e.g. Suspicious Trades and Order Reporting remember to make the application very clear and quantifiable and ensure sufficient implementation time



Obstacles for electricity trading

Limitations on cross border capacity



Limited capacity provided to the market by TSOs

Interconnector capacity provided to the day ahead market is the key to enable the transportation of electricity from high price areas to low price areas

Interconnector capacity left to the intraday market is decisive for the BRPs when balancing their portfolios.



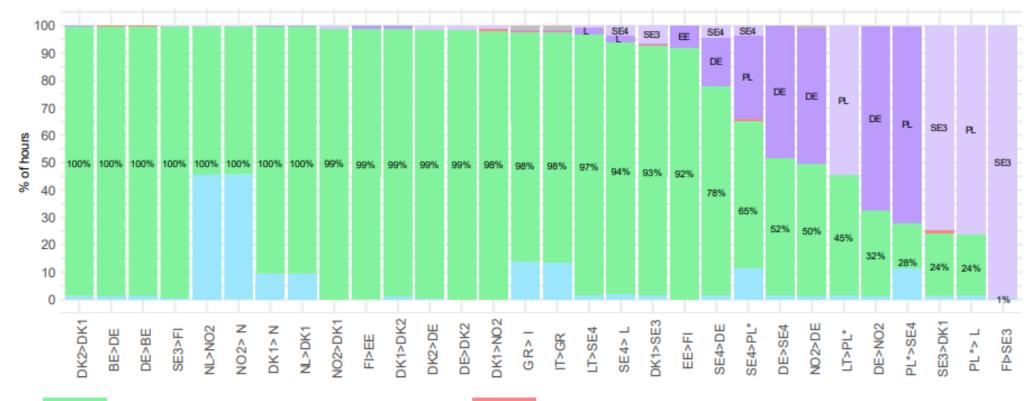


Figure 10: Percentage of hours when the minimum 70% target was reached on DC borders – 2022

Both bidding zones of the border meet the min. 70% target

All interconnectors of the border were out of service

No or insufficient data provided

Both bidding zones are simultaneously below the minimum 70% target

The first bidding zone (in alphabetical order) is below the minimum 70% target

The second bidding zone (in alphabetical order) is below the minimum 70% target

Source: ACER calculation based on TSO data and data from ENTSO-E Transparency Platform.

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Source: 2023_MMR_MACZT.pdf (europa.eu), page 19



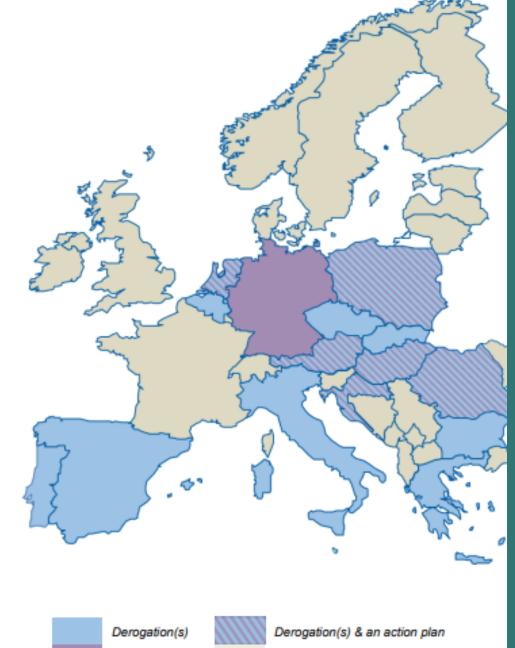
70% rule from article 16 in the electricity market regulation





Figure 59: Overview of derogations and action plans for 2022

Action plan



None

Without derogations from the 70% rules many special arrangements will be implemented to live up to national action plans across Europe.

The use of remedial actions are **not harmonized** across Europe.

Remedial actions **impact the market**



Source: MACZT 2023



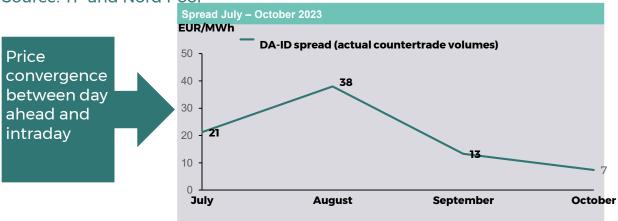
Case: Price impact

Very large counter trade	Danish BRPs downward (special) regulation in DK1	2022	2021	2020	2019	
volumes	Volume, countertrade (TWh)	3,63	4,95	3,90	1,91	
	Source: Energinet				-	



Countertrade (GWh) ID exports from DK1 (GWh)

Source: TP and Nord Pool



Source: Energinet

Obstacles for electricity trading

Low liquidity in the Nordic forward market



The problem:

The liquidity in EPADs is so low that EPADs in combination with the system price cannot provide a full hedge.

This especially applies to the northern bidding zones **The Solution** (maybe): Danish market participants are looking forward to EEX Nordic Zonal Futures which will simplify area price hedging, reduce collateral requirements and improve liquidity due to access to European market participants.

The greatest liquidity effect is expected in areas connected with the continent but over time the liquidity is expected also to improve in the northern bidding zones.





