



Market aspects on finer time resolution

Helsinki
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**NORD
POOL**

Multiple changes arising in parallel – need to align from a market perspective

New Nordic Balancing model / platform

“One balance”
Imbalance settlement

Increase of (commercial)
cross-border capacity

Digitalization

15 minute ISP

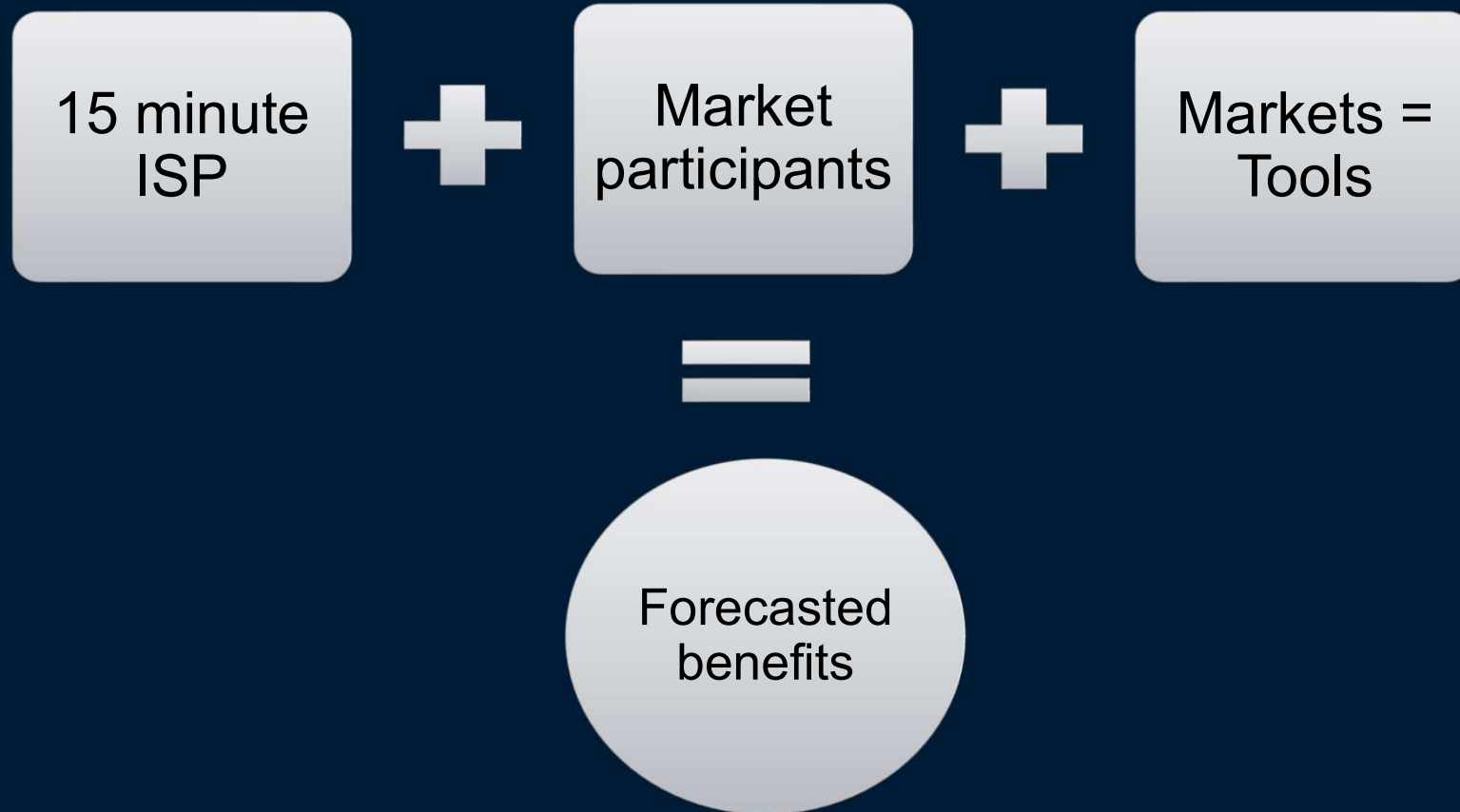
Unification of EU internal
Energy markets

Increase of renewable
production

Pricing of intraday
capacity

Need for consumption
flexibility

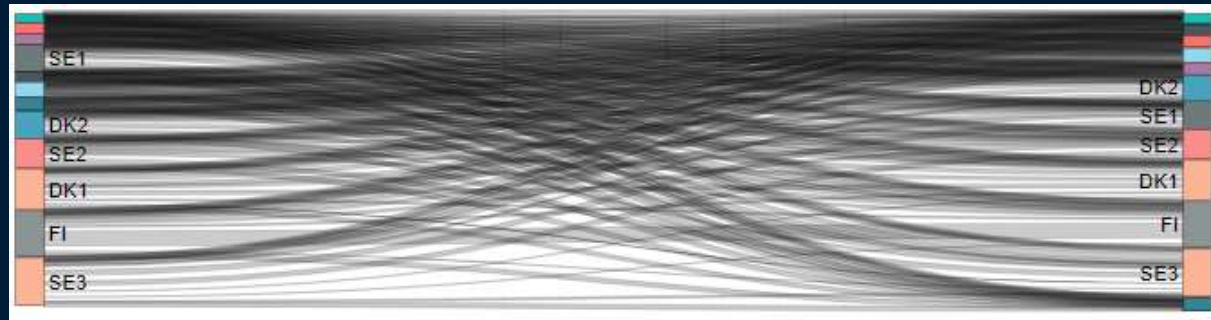
Big Picture



Markets perspective and requirements for 15 minute ISP in the Nordics

- ▶ The rate of volatility of the imbalance price (on the **15 minute periods**) is unknown and will highly impact the market
- ▶ We must design a market for the **future**, current restrictions or processes should **not constrain** where not strictly necessary
- ▶ To achieve the forecasted benefit from 15 minute ISP **efficient** markets **gathering liquidity** are needed
- ▶ Incentivise and enable the markets to resolve the balance of the power system
 - ▶ **Products and market timings** to support this
- ▶ The design of the market **should support RES** and demand response as well as retail products for 15 minute resolution
- ▶ Information transparency is key to enable a level playing field between market participants
 - ▶ For example access to regulating power prices and aggregated production plans for all market participants

Cross-border markets are essential for intraday trading in the Nordics



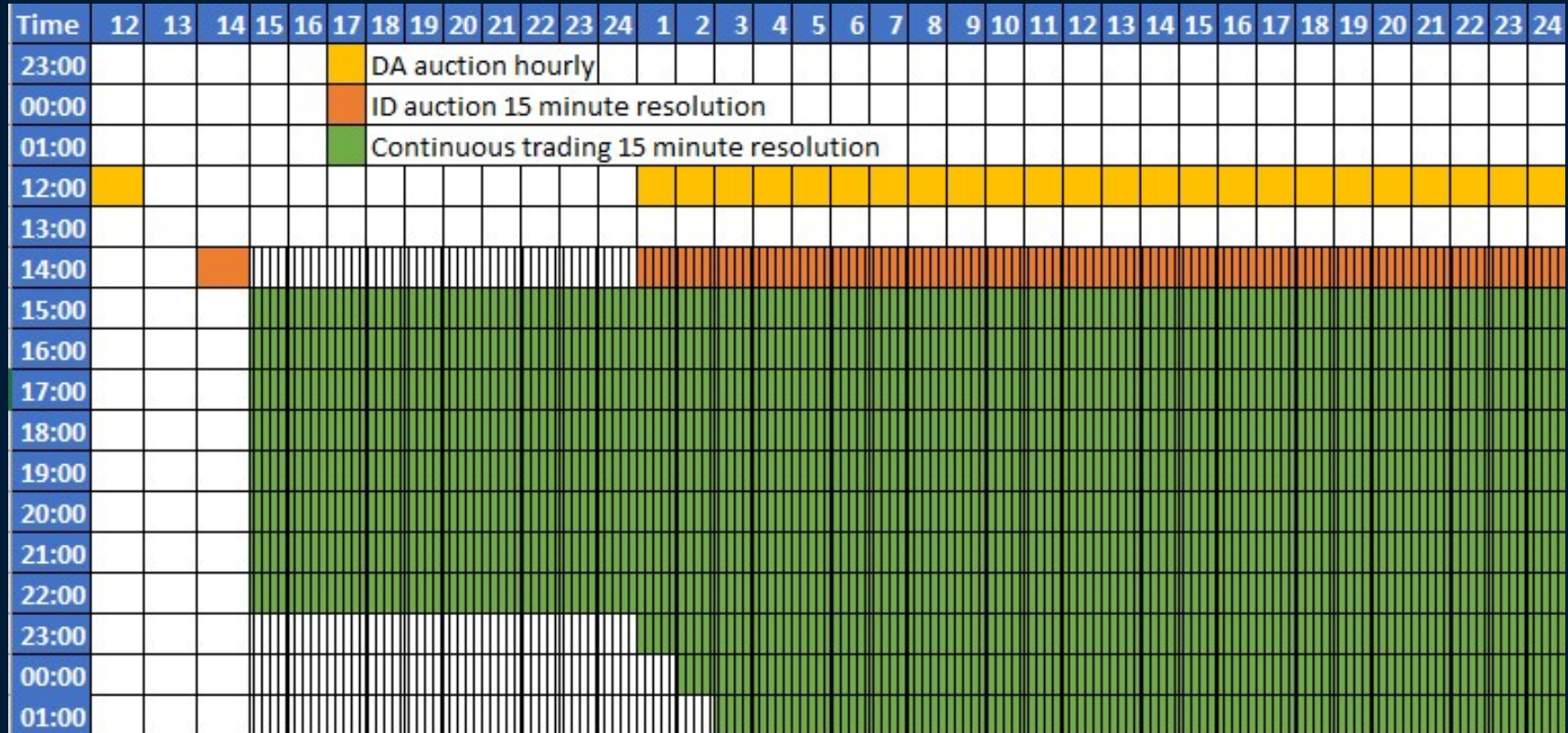
- ▶ TSOs should provide cross-border capacities with 15 minute resolution to intraday markets
- ▶ DC interconnectors should utilize “continuous ramping” to maximize capacities provided to the markets
- ▶ Timing of implementation of 15 minute ISP should where possible be aligned between countries and regions to secure continuity in the markets



Markets and products

- ▶ Nord Pool recommends that an auction-based market with 15 minute resolution in the intraday timeframe should be implemented at the go-live of 15 minute ISP/One balance balancing model as this:
 - ▶ Would provide **equal access** to the new capacities on 15 minute resolution by the TSOs
 - ▶ Would provide an efficient market, **pooling liquidity** for the 15 minute periods
 - ▶ Would enable **cross-matching** of products with 15 minute resolution increasing the possibility for efficient matching of the underlying assets
 - ▶ Could provide a basis for **reference price** for each 15 minute period (volume-weighted together with day-ahead results for example) to be used in retail power contracts
 - ▶ Could be used as a **backup for day-ahead** in the Nordics & Baltics
- ▶ Fine-tuning of BRP positions in the 15 minute periods could be done in the continuous market up-to delivery

Timing example, TBD



Gate closures with 15 minute ISP

- ▶ Increased requirement on detail in Imbalance Settlement increases need to trade closer to delivery
- ▶ Balance Responsibles need to be able to trade themselves out of imbalances in a market
- ▶ Experience from Germany(Lion Hirth, TUB 2018) with 15 minute ISP show the benefit of enabling continuous trading closer to delivery



- ▶ Gate-closure of cross-border intraday should move closer to delivery due to the higher granularity of the ISP which demands more accuracy in the forecasts
 - ▶ 15 minute rolling gate closure for cross-border and
 - ▶ 0 minute gate-closure for intra-BZ trading

	PH1				PH2			
	QH1	QH2	QH3	QH4	QH5	QH6	QH7	QH8
23:45	Yellow	Green	Green	Green	Green	Green	Green	Green
00:00	Green	Yellow	Green	Green	Green	Green	Green	Green
00:15	Green	Green	Yellow	Green	Green	Green	Green	Green
00:30	Green	Green	Green	Yellow	Green	Green	Green	Green
00:45	Green	Green	Green	Green	Yellow	Green	Green	Green
01:00	Green	Green	Green	Green	Green	Yellow	Green	Green
01:15	Green	Green	Cross-border intraday				Yellow	Green
01:30	Green	Yellow	Intra Bidding Zone				Green	Yellow

Kiitos

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