

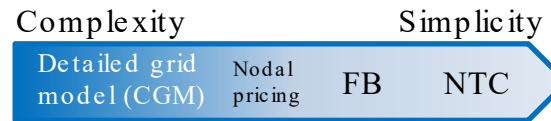
SVENSKA KRAFTNÄT

Flow-based market coupling

240529

Capacity Calculation: From a complex reality to simple market capacities

The physical world

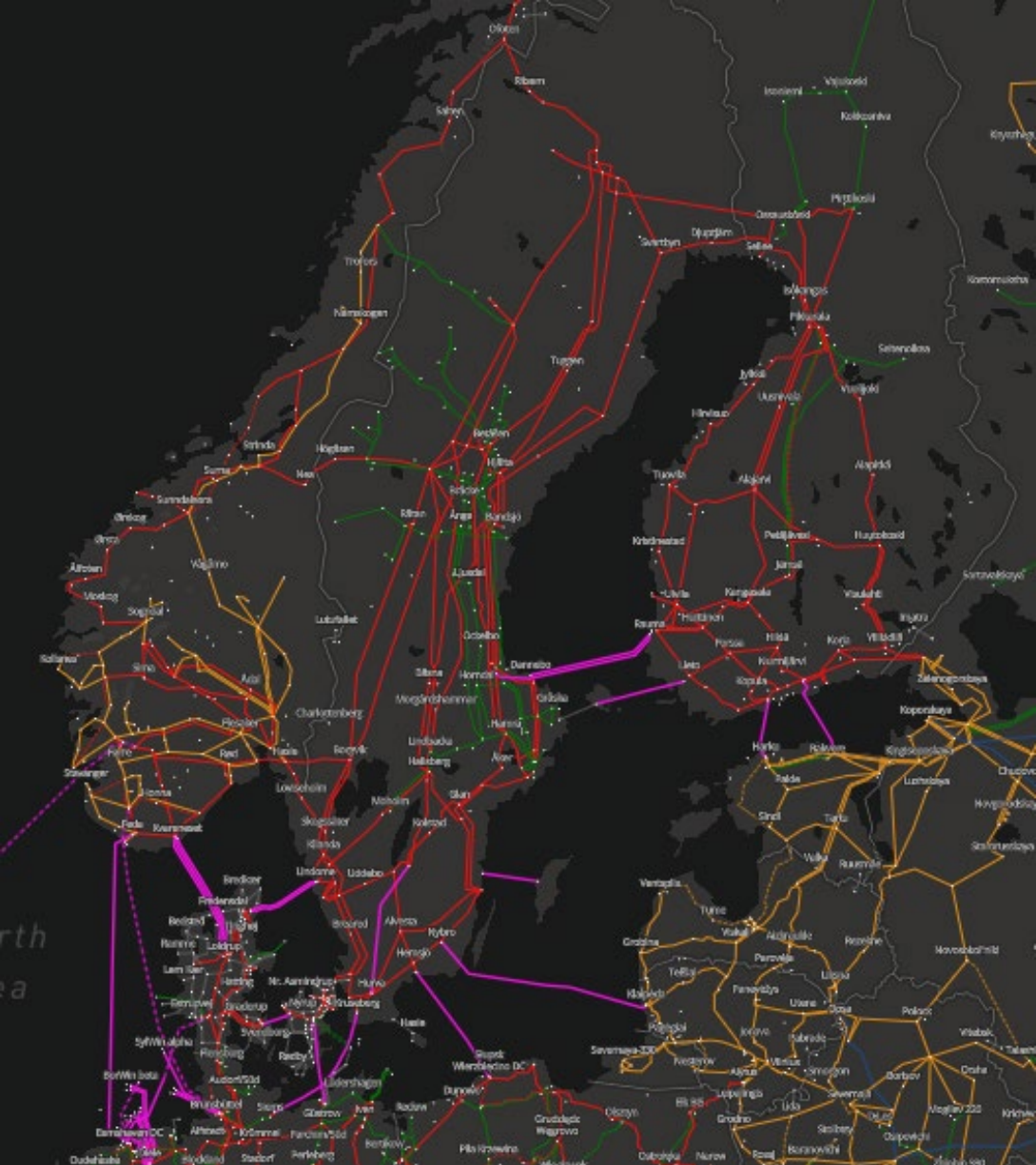


Capacity calculation is the process of translating the complex physical grid into a simplified form that can be understood and applied by the power exchange

➤ Providing grid constraints to the market platforms

The power market





FB provides a better representation of reality

- Gives the market coupling algorithm a representation of flows that better reflects the actual physical flows that will occur in the grid
 - Enables TSOs to give more capacity (other things equal)
 - Reduces the need for operators to ex-ante decide where capacity should be given → can let the market decide

FB makes it easier to adapt to a changing system

- The Nordic power system is undergoing major changes
 - Higher share of weather - dependent generation, new loads, new HVDC connections etc.
 - Results in new, and frequently changing, flow patterns
 - Increasingly difficult to manage using NTC, without reducing capacity



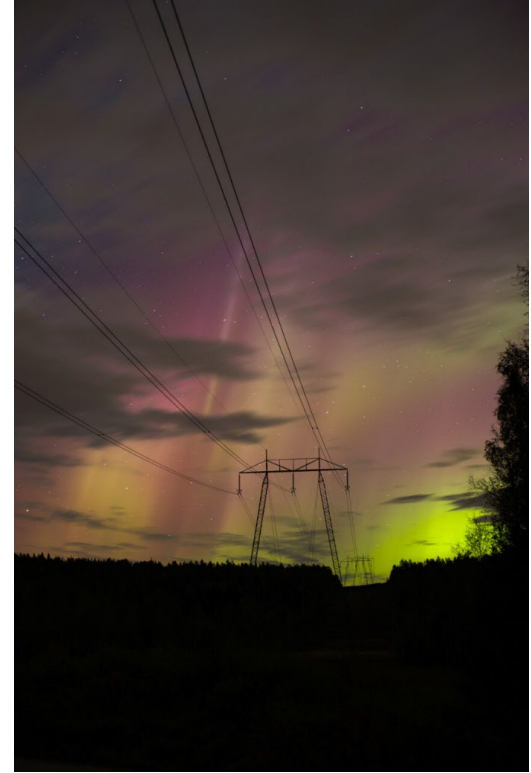
Regulatory aspects

- The advantages of FB is reflected in EU legislation
 - FB shall be used for the day-ahead and intraday markets, unless it can be demonstrated that FB ”would not yet be more efficient”
- In 2018, Nordic regulatory authorities jointly approved a FB capacity calculation methodology
- Implementation of the methodology in Q4 2024



Additional considerations

- Impacts on the intraday market
 - The intraday market is not yet ready for FB capacity allocation
 - During a transition period, the FB capacities therefore need to be translated to ATC capacities
 - This will in some cases lead to less capacity to the ID market
- Distributional effects
 - FB delivers overall economic benefits. Nevertheless, not all market participants will be better off.
- Increased complexity
 - It may become more difficult to intuitively understand prices



Questions?