

Recent market design developments

Nordic Electricity Market Forum
Oslo, 28 November 2019



Agenda

Ongoing development activities

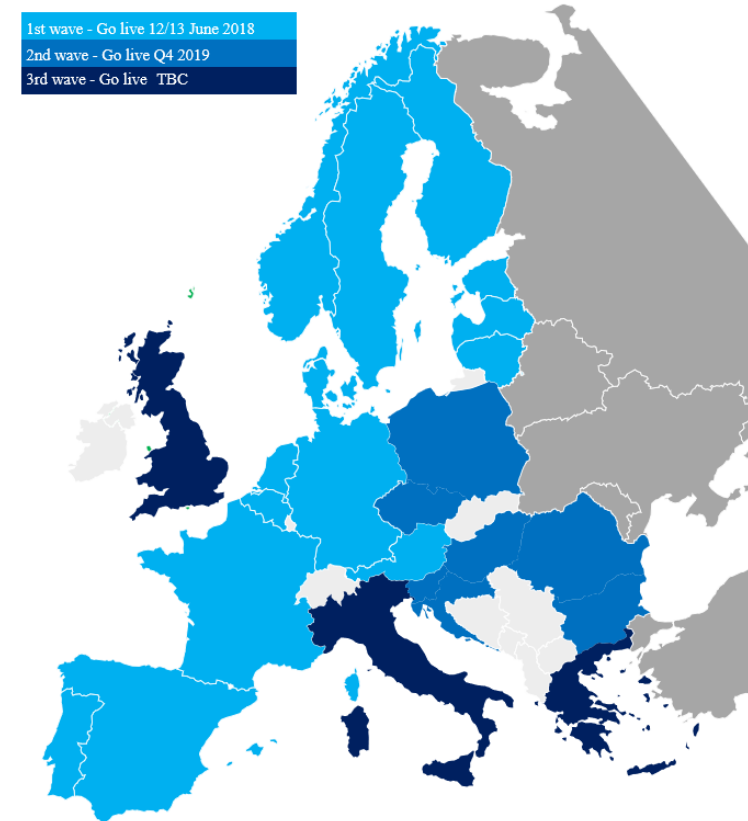
- Nordic Balancing Model
- Looking beyond current implementation work:
Short term markets paper

Large number of initiatives are being implemented

- Common Nordic capacity calculation methodology and establishment of a coordinated capacity calculator for each Capacity Calculation Region (CCR)
 - Flow-based for day-ahead. Planned implementation mid-2021.
 - ATC interim solution for intraday. Moving to FB at a later stage
- Nordic Regional Security Coordinator (N-RSC) established in Copenhagen. In operations from January 2018. Services go-live in a stepwise process.
- TSO proposal for establishment of Regional Coordination Centre (RCC) under development.
- Competition between power exchanges – “Multi-NEMO”

Single Intraday Coupling (SIDC) 2nd go-live 19th November 2019

- Pan-European intraday market launched June 2018
- 2nd launch of SIDC (formerly XBID) added 7 more countries to the common European platform for intraday trading to the 14 countries already connected
 - SwePol link initially inactive pending final testing
- 3rd wave expected end 2020

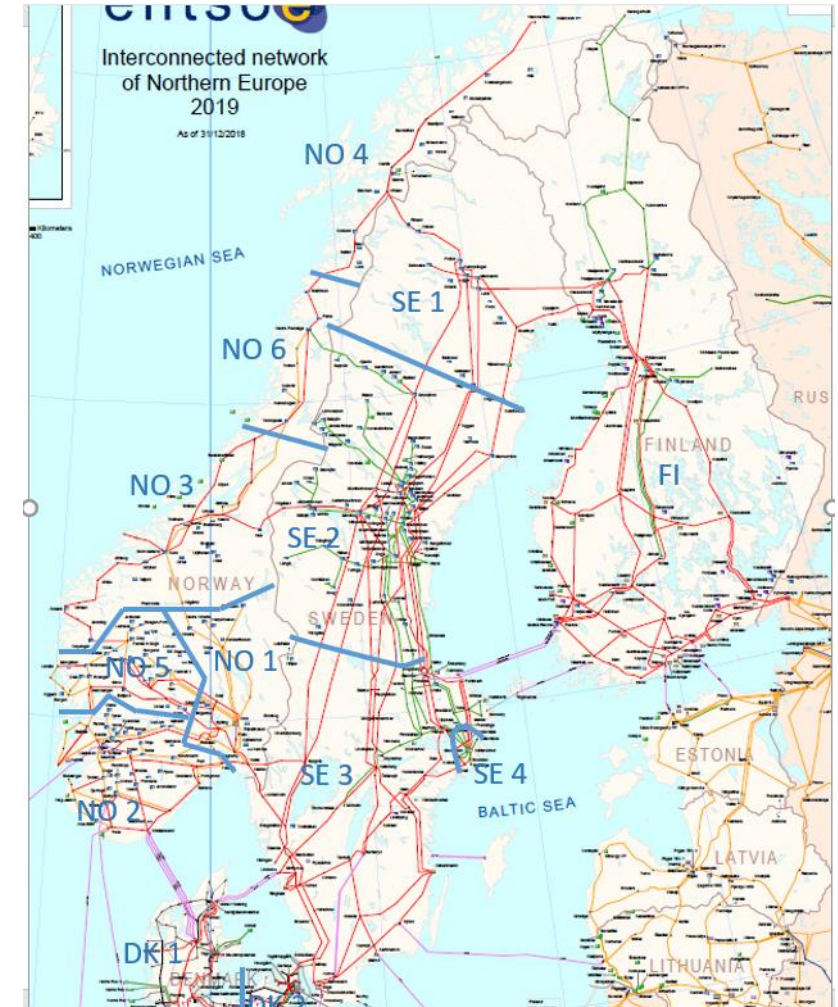


Nordic Bidding zone review - Introduction

- The Nordics have a long tradition of bidding zones
 - Norway had bidding zones since mid 1990s → Traditionally a more dynamic approach
 - Denmark introduced bidding zones 1999
 - Sweden introduced bidding zones in 2011
 - Finland as one bidding zone → No structural congestion internally
- Bidding zone borders should represent structural congestion
- Correct price signals important for efficient development and operation of the Nordic power system
- Market design should support the operations of the power system
 - Market outcome as close to the physical grid situation as possible
 - Bidding zones part of system balancing

Nordic Bidding zone review – proposal for further investigation

- Norway
 - Splitting the NO4
- Sweden
 - Merging SE3 and SE4
 - The Stockholm Metropolitan Area constitutes a new BZ
 - Other
- Denmark
 - No changes → Energinet do not see any significant challenges with meeting the 70% requirement
- Finland
 - No changes → sufficient availability of HVAC capacity for cross-zonal trading and use of costly remedial actions as shown in ACER reports and ENTSO-E Technical report



CEP 70% requirement

- TSOs shall not limit the volume of interconnection capacity made available to market participants as a means of solving congestions inside their own bidding zone.
- Considered complied with if a minimum level of 70% of the capacity of internal and cross-zonal critical network elements respecting operational security limits considering contingencies ("CNECs") => "CEP 70% requirement"
- Applicable from 1 January 2020.
- Transitory measures:
 - Action Plan: Linear improvement from starting value to 31 December 2025
 - Derogation for 1 + 1 year

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A very Challenging Cocktail is arriving



- Nuclear and thermal powerplants are closing
- Much more wind
- Fast deployment of solar power
- Lower bid sizes – more bids to consider
- Shorter Gate Closure Time
- From 24 to 96 gates per day
- New borders and interconnectors
- Prices to be published after max 30 min



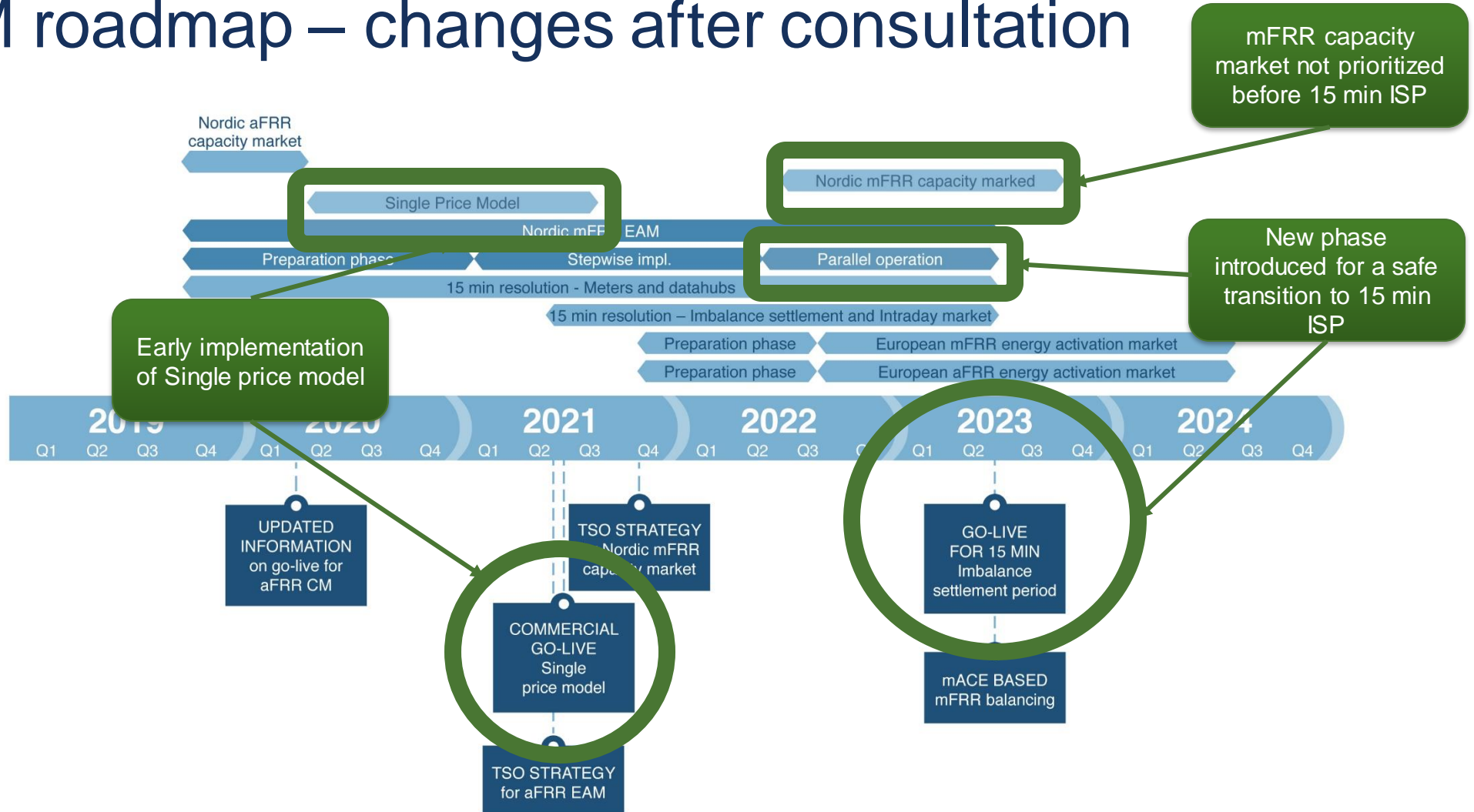
How to optimise activations
across 12 bidding zones ?

new tools are needed in order to avoid the headache among the operators

Status november 2019

- NBM roadmap has been updated after stakeholder consultation
 - what we face is a huge transition and change in balancing processes, we need time to secure safe transition to automated processes before 15 min ISP
- Nordic NRAs has asked for amendments to proposals for aFRR Capacity market
 - Nordic TSOs are working to meet expectations from NRAs in order to get the methodologies approved and the market in operation as soon as possible

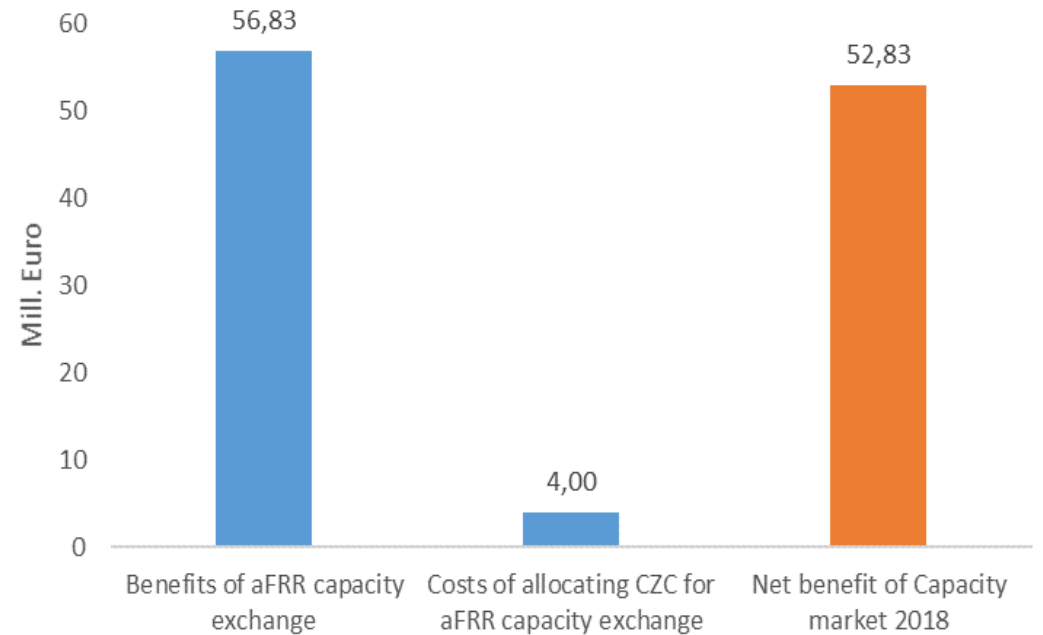
NBM roadmap – changes after consultation



- We do not have all answers today, further work will increase insight
- There will be changes

Nordic Common capacity market for aFRR

- aFRR has a **more important role** in the balancing the future of the Nordic system
- Great **potential for benefits** from exchange of aFRR



Motivation for aFRR capacity market

- Ability to allocate CZC for exchange of balancing capacity, will efficiently utilize the distribution of reserves in the Nordic region
- Some areas have a shortage of reserves today and need for access to aFRR is expected to increase in the future, i.e. SE3, SE4
- Alternatives to allocation are very costly

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- Nordic Balancing Model

**Looking beyond current implementation work:
Short term markets paper**

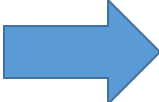
Short-term markets: process

- Nordic TSOs drafted **discussion paper** for consultation
- Stakeholders **consultation** launched at the end of April 2019 and ended on 1 July 2019
- Replies received from 14 stakeholders
- **Summary of stakeholders' replies** has been prepared and shall be published as a separate document
- TSOs will assess the stakeholders' responses when **finalising the document for future short-term markets**



Short-term markets paper: what is included?

- **Several marketplaces and platforms will co-exist:** concept for common transmission capacity management to be explored to ensure efficient capacity allocation – including also flexibility
- **Locational information of generation and consumption** to facilitate transition in the electricity power system: first in the balancing and intraday timeframes?
- **Intraday gate closure nearer real-time:** Gain experience through pilot projects
- **Monitoring of day-ahead and intraday timeframes after implementation of hybrid model:** need for market redesign?

 **list of priorities** engaging in topics for the future short-term markets will be included in final paper taking into account European developments