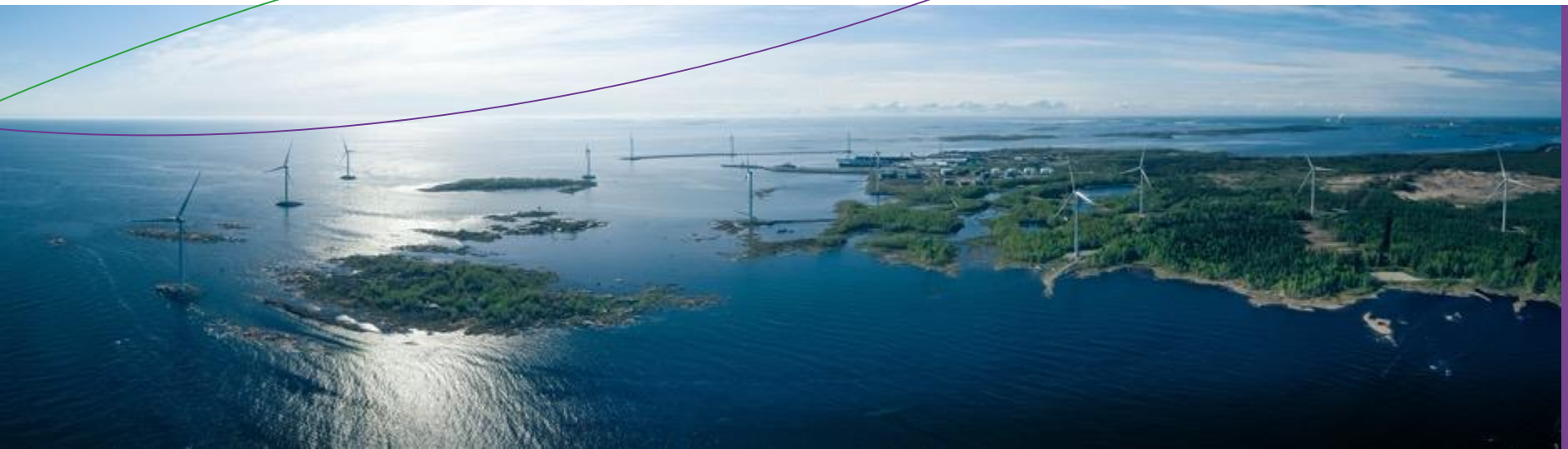
Implementation Plan

Nordic TSO strategy

February 2022



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Background for the Implementation Plan

The Nordic TSOs are currently working on projects that are prerequisites for enabling the growing amount of wind generation in the electricity system and creating economic signals and incentives for flexibility and energy sector integration.

Especially the Nordic Balancing Program which will introduce 15-minute imbalance settlement period and markets supporting it as well as accession to the European balancing energy markets will be key to enabling such developments.

Additionally, the increased coordination of operational planning among the Nordic TSOs through the Nordic Regional Coordination Centre and the new coordinated capacity calculation will benefit the region through improved utilisation of the Nordic transmission network.

The Implementation Plan of the Nordic TSO strategy presents the prioritized measures under the selected strategic themes that the Nordic TSOs plan to initiate working on to start paving the way for wind development and sector integration.

The Implementation Plan – like the strategy itself – contains measures that the Nordic electricity TSOs jointly need to work on: what is there for the TSOs and what is there for their Nordic cooperation.

The progress of Implementation Plan will be monitored and updated at least on an annual basis. Therefore, it is possible to take into account the developments in the sector as well as newly identified tasks.

Adequate infrastructure

Strategic theme	Description of the measure	Timetable (responsibility)
Build adequate infrastructure considering the Baltic Sea & North Sea region	1. Intensify the medium-term system planning cooperation in the Nordics 2. Enlarge grid planning into the Baltic Sea level 3. ENTSO-E Ten Years Network Development Plan and Nordic Grid Development Perspective (NGDP)	1. Start in 2022 (NPG) 2. TYNDP2022 (NPG, Baltic Sea Steering Group) 3. Updated every second year (NPG)
Use the full transmission technology mix for further grid expansion	Share best practices on the opportunities of using new transmission technologies to provide more grid capacity (planning perspective)	Start in 2022 (NPG)
Develop the requirements for new energy resources to ensure their flexibility and the system security	Analysis of the effects of increasing share of converter connected generation and providing solutions to ensure a secure low-carbon power system. Work covers ancillary services, updates to grid connection requirements, investments in power system components etc.	Focus area for joint Nordic work 2022-2024 (RGN and NPG)

Secure power system and integrated market

Strategic theme	Description of the measure	Timetable (responsibility)
Ensure market access and financial incentives for all energy resources to provide adequacy, flexibility and system services	1. Nordic Balancing Model Programme (NBM) • Nordic aFRR and mFRR capacity markets • Nordic mFRR Energy Activation Market and automation of balancing process • European balancing platforms accession (MARI and PICASSO) • ACE-based balancing 2. ENTSO-E European Resource Adequacy Assessment including a regional focus 3. Pre-study on adequacy	1. 2022-2025 (NBM program) 2. 2022 (NPG) 3. 2022-2023 (RGN, NPG, MSG)
Ensure market access and financial incentives for all energy resources to provide flexibility and system services	Reserve market development 1. FFR and FCR market design and integrated Nordic market - A feasibility study 2. Defining reserve needs and creating a good visibility and transparency to build capability 3. Introduce a solution for including wind and solar power to the various markets of ancillary services	1. H1/2022 (MSG) 2. 2022-2023 (RGN, MSG) 3. 2022-2024 (MSG)

Secure power system and integrated market

Strategic theme	Description of the measure	Timetable (responsibility)
Optimal utilisation and performance of the existing system	1. Flow-based capacity calculation methodology to be implemented in the Nordic Capacity Calculation Region. It enables the optimal use of available transmission capacity in different markets without compromising the system security. 2. Explore the ways to utilise the system closer to its limits	1. Ongoing (CCM project) 2. 2022 (RGN)
Introduce offshore bidding zones and integrate offshore solutions in the electricity market	Offshore market design 1. The Nordic TSOs to contribute to the ENTSO-E work 2. Work on the principles to integrate offshore wind to the power system (Baltic Sea, North Sea)	1. Ongoing (MSG) 2. 2022-2023 (MSG, NPG)

Optimised energy system

Strategic theme	Description of the measure	Timetable (responsibility)
Develop tools and create cooperation models for holistic energy system planning	Include other energy sectors (hydrogen grid and district heating) into the Nordic power system planning where relevant	Start in 2022 (NPG)
Use ambitious wind power and electrification scenarios in system planning	Update Nordic Grid Development Perspective (NGDP)	Ongoing, annually (NPG)

Nordic TSO groups in different areas

- Nordic Planning Group (NPG)
- Regional Group Nordic (RGN); system operation
- Nordic Market Steering Group (MSG)
- Nordic IT Group (NIT)
- Nordic R&D Group (NRD)
- Nordic Balancing Model Programme (NBM)
- Capacity Calculation Methodology (CCM) project

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