

Nordic vision 2030

Clean and affordable electricity enabling a climate neutral, secure and integrated energy system in the Nordics

"Optimized energy system"

Optimized Nordic energy ecosystem where infrastructure is based on the potential of climate neutral electricity, incorporating the needs of stakeholders.

"Harmonized market and secure power system"

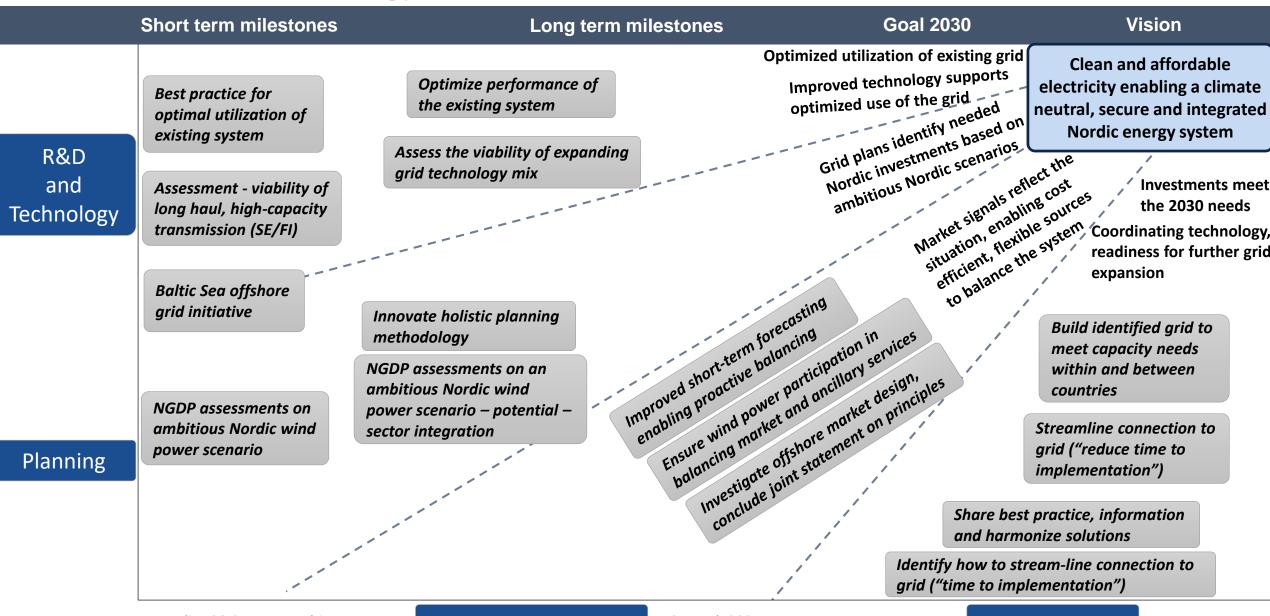
Harmonized Nordic market design supporting a coordinated flexibility in a cross-border level and secure system operation with an equal playing field for all technologies.

"Adequate infrastructure"

Adequate transmission capacity within and between countries where an integrated Nordic market for renewable resources as well as direct and indirect electrification are enabled.

Cross-border cooperation with stakeholders and shared best practices among TSOs. Excellent conditions for onand offshore wind power in the Nordics. Easy access to advanced electricity markets and reserve power markets. Demonstrated use cases integrating energy sectors. Nordics viewed as trustworthy location for green investments. A strong joint Nordic vision and strategy.

Nordic TSO - Wind Strategy (roadmap)



Nordic TSO Strategy Webinar

Markets & Operation

12 March 2021

Infrastructure

Nordic TSO – sector integration strategy (roadmap)

short term 2030 long-term Clean and affordable electricity Barriers of sector integration identified enabling a climate neutral, secure and integrated Nordic energy A level playing field for energy carriers development All energy resources have access to Nordic (e.g., grid tariffs) is created flexibility markets, e.g. FCR & FFR markets system Market Common principles and market design for distributed energy resources and local flexibility markets Real time monitoring of consumption and generation in the integrated Nordic energy system. Capability to forecast flexibility from hours to weeks systems for electricity load and generation forecast at local, national and Nordic level The potential of new long-term flexibility is considered in the energy system planning Integrated system Relevant information from different sectors available for monitoring and forecasts operation New security of supply options for new type Electricity load and flexibility potential of different. of loads that are flexible and interruptible technologies identified Methodologies and tools to enable Requirements and incentives for new type holistic energy system planning and of flexible loads are identified and infrastructure investments implemented Clear TSO role, policies and cooperation models for holistic energy system planning considering the whole value-chain

Nordic TSO Strategy Webinar

12 March 2021

System planning

Key messages

Clean, flexible and integrated energy system electrified by wind power

TSOs: Ensure participation of wind power and other resources in

balancing markets and ancillary services ("flexible")

Stakeholders: Provide flexibility resources

TSOs & stakeholders: Holistic planning methods required to optimize the

entire energy system ("integrated energy system")

TSOs & DSOs: Enables new flexibility

Stakeholders: Better cost-efficiency and clean energy system

TSOs: Need for new technologies to maximize the use of existing grid

("electrified")

TSOs: Streamlined processes to make grid and connections available in

time

Stakeholders: Enables carbon-free solutions for industry, buildings and

transportation

Stakeholders: Cost competitive and clean electricity ("wind power")

Nordics as a forerunner



Strong Nordic voice towards EU regulation

Business opportunities

- green investments
- new services
- value of flexibility

Advanced electricity markets
Affordable electricity prices
Strong experience in cooperation and P2X pilots

Key messages

Nordic experience in sector integration, advanced electricity markets, competitive electricity price and tradition of cooperation makes Nordic energy system as a potential forerunner and attractive area for investors

Sector integration enables new flexibility for TSOs and DSOs, better cost-efficiency for customers and clean energy system

Nordic wind power with competitive cost enables strong Nordic electrification and sector integration

Technologies need to be present that maximizes the use of existing grid

Planning methods need to be holistic to consider all energy sectors and to optimize the entire energy system

Ensure wind power participation in balancing markets and ancillary services

Internal (TSOs) and external processes need to be fast and streamlined in order to make grid and connections available in time

Strong Nordic voice towards EU regulation will have an impact



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