

Draft Recommendations on Electrification from the Nordic Electricity Markets Forum to the Nordic Ministries



Introduction

In January 2019 the Nordic Prime Ministers signed a Declaration on Nordic Carbon Neutrality. The Nordic Electricity Market Vision 2030 complements this declaration: it states that the electricity market should contribute to reaching the ambitious Nordic climate goals. Exploring different pathways towards carbon neutrality there is a broad consensus, that electrification is a vital part of the Nordic countries' strategy. The electricity market stakeholders, gathered at the Nordic Electricity Market Forum, are aware of the scale of the challenge and how different the future energy sector will look like – electrification could mean a doubling of the current total regional electricity consumption by 2050, with consequences for production and grid. We are also aware of the current security of supply issues connected to the war between Russia and Ukraine: by working towards an emission free electric future based on Nordic RES production we increase our security of supply.

Based on our collective knowledge and the expertise of the electricity sector, the 2022 Forum presents these recommendations and examples for no regret actions to support the ministries and to ensure that electrification brings the Nordics closer to our common goal of carbon neutrality, as well as to enable the utilisation of inherent business opportunities arising from the European green transition, so that we as a region may profit.



Overview: Long-list of recommendations

Joint Nordic energy transition

planning: The reality of a synchronous Nordic electricity grid and an integrated Nordic electricity market makes common planning of the energy transition a necessity.

Promote unique Nordic

strengths in Europe: Low carbon firm capacity from hydropower and nuclear, coupled with cost competitive onshore wind and a rising potential for offshore wind can facilitate the creation of power to x hubs and continued expansion of energy intensive industry.

Facilitating the carbon neutral

retail customer: Allow customers to become part of the green transition. Customers should be rewarded for choosing electric over fossil fuelled solutions, and for adapting consumption to support the power system.

Promote joint Nordic long term

grid planning at ministry level: In total, the Nordic TSOs are planning to invest more than EUR 25 billion in the coming decade. To invest that amount of money efficiently the grid needs to be planned on a Nordic level.

Improve price signals for investment

purposes: Customers of and investors in new RES production need to hedge and long term price signals. In the short term, price signals could be improved and operational cost reduced by proceeding with spot marked integration and complementing it with a gradual integration of system operation. Recognize the political potential to support the evolution of market design to allow for electrification.

Think local and facilitate investment in

small scale/distributed RES production: There is a lot of European and national legislation trying to support local small scale RES production. It benefits the customers, the environment, reduces the need for grid investment and increases security of supply.

Develop a common Nordic strategy for

power to X: Where emission free electricity can't be used directly, it can be used to produce hydrogen and other e-fuels that can be used for transport and industrial processes to electrify them indirectly. This should be thought not only in terms of meeting Nordic domestic consumption but also as an export opportunity.

Invest in Offshore Wind Production and

Grids: Electrification requires more electricity production. The biggest potential seems to be in offshore wind but the cost there are currently significantly higher compared to onshore. In addition, the regulatory complexity is higher (onshore "only" national regulation applies).



Joint Nordic energy transition planning:

- The reality of a synchronous Nordic electricity grid and an integrated Nordic electricity market makes common planning of the energy transition a necessity:
 - A shared Nordic holistic planning approach to electrification strategies for example through Nordic coordination of the EU mandated NECP processes
 - Coordinated Nordic target(s) for security of supply and harmonized methodology in the possible event of shortage situations



Promote unique Nordic strength in Europe:

- Low carbon firm capacity from hydropower and nuclear, coupled with cost competitive onshore wind and a rising potential for offshore wind can facilitate the creation of power to x hubs and continued expansion of energy intensive industry:
 - Streamline permitting and investment procedures for manufacturing (for example hydrogen), power production and grids. Implement “one stop shop” regulation if possible.
 - Nordic insights into good practices on the electricity markets should be actively lobbied for and included into legislation adopted at EU level
 - Defend the Nordic strengths, ie. already clean grid electricity mix in the EU regulation of green/clean hydrogen, RFNBOs and REDII. Avoid that European rules establish obstacles for clean investments due to extremely complex additionality rules for green electricity/hydrogen.
 - Engagement to jointly maximise access to European funding in the Nordics – supporting the green transition of Europe as a whole



Facilitating the carbon neutral retail customer:

- Allow customers to become part of the green transition. Customers should be rewarded for choosing electric over fossil fueled solutions, and for adapting consumption to support the power system:
 - Develop policies that protect vulnerable customers from short term price shocks. But at the same time protect wholesale market price signals and make sure that customers keep incentives through retail market prices to use their demand flexibility and to save electricity when prices are high and indicate scarcity
 - Design policies to allow customers to increase their energy efficiency, to save energy and to consume in a smart way. Keep in mind that also vulnerable customers should be able to profit from those subsidies and participate in those programs. Think cross sector i.e. support the renovation of buildings for example.
 - Design policies that increase competition on the retail markets



Promote joint Nordic long term grid planning at ministry level:

- In total, the Nordic TSOs are planning to invest more than EUR 25 billion in the coming decade. To invest that amount of money efficiently the grid needs to be planned on a Nordic level. Examples for actions are:
 - Publicly recognize and promote the need for grid investment and the TSOs urgent need to invest in grid. Explain that grid investment is required to alleviate the structural bottlenecks, to reduce area price differences, increase security of supply and to make room for the electrification which implies both increased production and consumption. Grid investment is also required to promote further market integration and use the potential that lies in the abundance of green energy in the Nordics.
 - Present a common Nordic grid development plan enabling the common Nordic climate ambitions. The plan should give the Nordic TSOs clear signals in which direction the Nordic regional plans within the European TYNDP should be taken.



Improve price signals for investment purposes:

- Customers of and investors in new RES production need to hedge and long term price signals. In the short term, price signals could be improved and operational cost reduced by proceeding with spot marked integration and complementing it with a gradual integration of system operation. Recognize the political potential to support the evolution of market design to allow for electrification.
 - Explore the advantages and disadvantages of a more regional approach to system operation. Decisions with regional impact are made through transparent close cooperation and coordination on a regional level. An example is the bidding zones revision process, where the possibilities of cross border bidding zones and bidding zone merges could be taken into consideration, other examples are balancing, grid operation etc.
 - Work for a better alignment of energy policy and financial policy – examples is the regulation on bank guarantees that has a considerable negative impact on forward market liquidity.



Think local and facilitate investment in small scale/distributed RES production:

- There is a lot of European and national legislation trying to support local small scale RES production. It benefits the customers, the environment, reduces the need for grid investment and increases security of supply:
 - Implement EU regulation facilitating energy communities, requirements for grid connectivity and net metering of small scale production (to facilitate take of of distributed RES) in a coordinated Nordic way.
 - Support regulation at all levels (NRA, national, European) that promotes and requires the digitalization of energy market IT systems to enable the markets and automatization, i.e. Datahubs for retail/flexibility etc. Nordic countries are at different levels there.



Develop a common Nordic strategy for power to X:

- Where emission free electricity can't be used directly, it can be used to produce hydrogen and other e-fuels that can be used for transport and industrial processes to electrify them indirectly. This should be thought not only in terms of meeting Nordic domestic consumption but also as an export opportunity. Examples are:
 - Common Nordic strategy that facilitates coordinated investment in infrastructure for hydrogen transportation and use (grid, port facilities, fueling stations for use in long haul transport) and that has a Nordic view on emerging hydrogen markets
 - Encourage Nordic cooperation between the ministries in law making and regulatory processes and between the ministries and stakeholders to encourage a Nordic regional view as has grown on the electricity market over the years. Establish a hydrogen working group under the Nordic Council of Ministers to address the upcoming EU legislation in a coordinated way
 - Think hydrogen production through electrolysis together with the use of the heat generated in the process to use resources efficiently



Invest in Offshore Wind Production and Grids:

- Electrification requires more electricity production. The biggest potential seems to be in offshore wind but the cost there are currently significantly higher compared to onshore. In addition, the regulatory complexity is higher (onshore “only” national regulation applies). Examples are:
 - A common Nordic plan for offshore wind and offshore grids in a holistic way: considering all uses of the produced electricity (own consumption, export, production of hydrogen offshore and onshore)
 - Start by creating Nordic common rules of the Offshore Grid in the North Sea and in the Baltics
 - Contributing with a strong Nordic voice to the development/regulation of a European power/grid system that will have a substantial offshore location to transport electricity from offshore windparks.



