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Preface

The NordREG annual report presents the work undertaken by the Nordic Energy Regulators (NordREG) in 2022 to achieve the Regulators' vision to facilitate efficient and advanced energy markets for the benefit of consumers. The strategic principles guiding the mission of NordREG are establishing correct price signals, promoting active consumers and establishing a dynamic regulatory framework that enables advanced energy markets and green transition.

The year 2022 put great pressure on the European electricity markets. The Russian invasion of Ukraine in February resulted in surging gas prices which also affected the Nordic electricity prices in many of the Nordic bidding zones during the year. The high prices have also resulted in a vivid debate on the functioning of the electricity market in general. Throughout the year NordREG has exchanged views on the developments in the Nordic countries and shared views on how to tackle the challenges steaming from the higher prices.

In 2022 NordREG has continued the cooperation on implementing EU's Clean Energy Package. NordREG has also cooperated on implementing the European network codes and guidelines that play a significant role in the development of efficient energy markets and resilient energy systems. In 2022, NordREG focused on efficient implementation of the terms and conditions related to balancing and system operation in the Nordic area as well as providing comments and input to the various decisions made by ACER on a European level.

The Nordic cooperation and coordination of the regulatory oversight of the Nordic Balancing Model (NBM) has been a high priority. The NBM provides an extensive modernization of the existing Nordic balancing system and aims to implement the EU rules on balancing while enhancing the robustness of the Nordic power systems. It provides the TSOs with correct tools to manage a highly dynamic power system characterized by more frequent and rapid changes in production, consumption and power flows. NordREG has continued the work on improving and harmonizing the Nordic retail market for electricity for the benefit of Nordic electricity consumers. NordREG has also continued its work in the area of demand side flexibility, where NordREG has been a platform for exchanging views on flexibility markets, a promising tool to manage local network constraints and imbalances in the Nordic electricity system. Additionally, by allowing flexibility providers to offer their services. NordREG will also achieve its goal of activating consumers and give them the possibility to lower their energy bills when providing flexibility to the system. NordREG has continued to follow local and regional pilot projects, analysing the need for national adjustments of the existing regulatory framework and investigating the potential of new technical solutions. In the area of network regulation, NordREG has focused on information exchange of best practices in the Nordic countries.

In conclusion, 2022 has raised the significance of good Nordic cooperation through NordREG. With the organizational structure of dedicated working groups for the retail market, the wholesale and transmission system, network regulation as well as demand side flexibility, the NordREG cooperation has played an important role in promoting efficient electricity markets and developing relevant regulation to benefit the Nordic area and especially the Nordic consumers.

Eskilstuna, December 2022

Midem

Ulrika Hesslow Chair of NordREG 2022



Executive summary

NordREG has over the years become increasingly influenced by the development of the electricity market at the EU level. The establishment of a common harmonised European electricity market has been in focus and the Clean Energy for all Europeans legislative package has had a significant influence on the development.

During 2022 NordREG has continued to focus on the work of implementing the European network codes and guidelines in the Nordic region. Other major tasks have involved the harmonisation of the Nordic retail market, network regulation, tariff design and flexibility issues, which also have prominent roles in the Clean Energy Package (CEP) regulation.

NordREG has had an important part to play in the coordination of the regulatory oversight of the new Nordic Balancing Model (NBM) to ensure a timely and efficient implementation in compliance with the legislation. The various dedicated NordREG working groups and task forces carried out important tasks to reach the strategic goals. Several tasks have required close cooperation with stakeholders.

Retail Market

In 2022, The Retail Working Group (RMWG) conducted a customer survey with 6 000 respondents, as a follow-up to a similar survey done in 2018. The purpose was to better understand how active Nordic customers are, why they are active and how the recent price shocks has affected their behaviour.

RMWG also published a report that mapped unfair business practices together with monitoring activities and remedial actions taken against these practices.

Wholesale and Transmission

The Wholesale and Transmission Working Group (W&T WG) has been focusing on the continued development of well-functioning Nordic wholesale markets. A major part of the work relates to the implementation of the CEP and the European network codes and guidelines. W&T WG also forms the link between the Nordic National Regulatory Authorities (NRAs) and the Nordic Transmission System Operators (TSOs) on Nordic wholesale market and operational issues. A large part of the work has been in line with the NordREG vision to achieve efficient and advanced energy markets in terms of promoting efficient price signals, competition, and an efficient and advanced energy system.

Network Regulation

The Network Regulation Working Group has under 2022 focused on the implementation process of the CEP. The work has been concentrated to incentives for flexibility in Network development plans and in the regulation methods for distribution system operators.

Demand Side Flexibility

The Demand Side Flexibility Working Group (Flex WG) has contributed to the coordination of implementation of the CEP, primarily through monitoring the development of local flexibility markets in the Nordics and helped ensure a strong Nordic voice on issues concerning demand side flexibility.

Strategy

In 2022 the Strategy Working Group (S WG) has continued the work to strengthen NordREG's organisational and procedural framework to ensure efficient cooperation between the Nordic Energy Regulators.

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1. Introduction

This report presents the work undertaken by the Nordic energy regulators (NordREG) during 2022 in the areas of wholesale electricity markets, retail markets, network regulation and demand side flexibility.

The aim of the report is to describe how NordREG has dealt with each task during the year. The annual report presents challenges and success stories from 2022 on a general level.

1.1 Mission and vision

NordREG's objective is to promote and develop efficient electricity markets in the Nordic area, consistent with and in the forefront of the development in the EU. The work within NordREG focuses on practical, relevant solutions to common challenges, e.g. in relation to the European network codes and guidelines.

NordREG's mission

"In cooperation, we actively promote legal and institutional framework and conditions necessary for developing the Nordic and European electricity markets."

NordREG's vision

"Actively promoting efficient and advanced energy markets, for the benefit of consumers towards a decarbonised society."

1.2 Long-Term Strategy

The report explains what various NordREG Working Groups have done to achieve the goals set in the NordREG Long Term Strategy, which was prepared and adopted in 2019 and revised in 2022 for the forthcoming years. The aim of the strategy is to provide clear guidance for the development during the years up to 2030. NordREG's mission is to actively promote legal and institutional framework and conditions necessary for developing the Nordic and European electricity market. NordREG's strategy consists of three strategic principles:

- 1. Correct price signals
- 2. Active consumers
- 3. Dynamic framework

NordREG's strategy is supported by a Road Map that outlines the activities needed in the short-, mediumand long run to accomplish the target items set in the Strategy. The Road map guides working groups and task forces to plan their work for the next 12 months. NordREG has five active working groups as seen in the chart below.

1.3 Priorities for 2022

The implementation of the CEP will introduce new areas of regional cooperation, and NordREG sees benefits according to their vision in streamlining the way the new legal acts are implemented in the Nordic countries. Additionally, when performing national tasks, NRAs increasingly encounter matters of regional concern and cross border implications. Following the vision and the strategy, the seven priorities for 2022 are as follows:

- 1. Implementation of the CEP regulation and ensuring a common, harmonised understanding and application of the rules.
- 2. Continue effective implementation of European network codes and guidelines on Forward Capacity Allocation Guideline, Capacity Allocation and Congestions Management Guideline, System Operations Guideline, Electricity Balancing Guideline, Requirements for Grid Connection of Generators Network Code, Demand Connection Network Code and High Voltage Direct Current Network Code.
- 3. Deepen the Nordic cooperation in CEER and ACER and be active in the European discussions on changes in the market design.
- 4. Continue cooperation and coordination of the work regarding the common Nordic end-user market and market conditions for customers in the Nordic retail markets for electricity.
- 5. Cooperate and coordinate the work regarding flexibility issues with a special focus on the implementation of the CEP.
- 6. Maintain a close dialogue with Nordic Transmission System Operators (TSOs) on issues of importance for the internal market.
- 7. Continue to enhance the strategic as well as the day-to-day cooperation in NordREG.





2. Retail Market Working Group

This chapter describes the work that NordREG has done within the Retail Market Working Group (RMWG) and the current state of affairs nationally looking specifically at the end-users' situation and the situation regarding unfair commercial practices in the Nordic retail markets.

2.1 Highlighted activities from 2022

In December 2022, NordREG published a report that, among other things, described Nordic endusers' incentive for being active, their experience from signing contracts and knowledge about the market. The report was based on a customer survey with 6 000 respondents in Denmark, Finland, Norway and Sweden (1 500 from each country).



2.2 Complete list of activities

 Table. Complete list of the Retail Market WG's activities from 2022

Activities from 2022	Description
Customer survey 2022.	RMWG conducted a Nordic customer survey, as a follow-up to a similar survey in 2018. The survey was undertaken by a consultant and had 6 000 respondents in Denmark, Finland, Norway and Sweden (1 500 from each country).
Mapping of unfair business practices in the Nordic markets.	RMWG mapped and compared the situation in the Nordic countries regarding unfair commercial practices.
Monitoring workshop 2022.	Annual workshop where experiences regarding monitoring were shared and discussed by monitoring experts.



3. Wholesale and Transmission Working Group

This chapter describes the work carried out by NordREG within the W&T WG and the current state of affairs. In 2022, the W&T WG work has been focusing on the continued development of well-functioning Nordic wholesale markets. A major part of the work relates to the implementation of the CEP and the European network codes and guidelines. W&T WG also forms the link between the managerial level of the Nordic NRAs and the Nordic TSOs regarding the Nordic wholesale markets and operational issues. W&T WG thus acts as a link between the Nordic NRA/TSO discussions at a technical level and the Nordic NRA/ TSO discussions at a Director General / CEO level.

A large part of the work undertaken in 2022 is supported by NordREG's vision to achieve efficient and advanced energy markets in terms of promoting efficient price signals, competition and an efficient and advanced energy system.

3.1 Reports from the Wholesale and Transmission taskforces

W&T WG is supported by five task forces and two ad hoc groups on Forward Capacity Allocation and Legal issues respectively. In the following subsections, the work carried out in 2021 by various W&T WG Task Forces is described below.

3.1.1 Crosscutting and Coordinating Task Force

The Crosscutting & Coordinating TF (C&C TF) was established in the spring of 2021 as a secretariat to the W&T WG. The C&C TF coordinates closely with the chair of the W&T WG and is the point of contact for the TSOs, EMG, ACER and CEER on wholesale and transmission issues.

The C&C TF is also responsible for hosting and chairing a yearly meeting with the market players. In 2022, a NordREG seminar on Wholesale and Transmission Developments was held on 5 December.

Moreover, and on an ad hoc basis, the C&C TF deals with issues of a more horizontal character that cannot be undertaken by the other Task Forces reporting to the W&T WG.

3.1.2 Capacity Task Force

The Capacity Task Force (Capacity TF) focuses its work on issues related to implementation of the capacity calculation and redispatch/countertrading methodologies according to European regulations in the Nordic region. The task force is also involved in processes on a European level in instances where topics with potential implications for CCR Nordic are under consideration.

In 2022, the main task of this TF has been to support and monitor the implementation of Nordic TSOs' upcoming flow-based capacity calculation methodology for the Day Ahead and Intraday timeframes.



3.1.3 Single Market Task Force

In 2022 the Single Market TF (SM TF) has exchanged views and coordinated the ongoing work related to the Commission Regulation (EU) 2015/1222 of 24 July 2015, establishing a guideline on capacity allocation and congestion management (CACM GL).

The task force has coordinated its work on national decisions on the costs of establishing, amending and operating single day-ahead and intraday coupling for 2017. The Nordic Cost Guidance was amended in June 2022 to include guidance on how to treat the Individual NEMO costs in support of regional costs.

The SM TF has also coordinated the work on the approval of the sharing the regional costs regarding single day-ahead and intraday coupling in the intraday coupling. The Nordic NRAs approved the Nordic TSO proposal in the spring of 2022.

3.1.4 System Operation Task Force

Pursuant to the SO GL the Nordic TSOs have submitted three proposals for approval by all NRAs of the Nordic Synchronous Area or Nordic LFC-block in 2022. The following regional decision has been made by Nordic NRAs in 2022:

- 1. For the Nordic synchronous area, dimensioning rules for FCR in accordance with SO GL Article 153.
- 2. For the Nordic synchronous area, additional properties of the FCR in accordance with SO GL Article 154(2).
- 3. For the Nordic LFC-block, FRR dimensioning rules in accordance with SO GL Article 157(1).

These methodologies have been approved before but is amended due to the development of the Nordic power system.

In addition, the Nordic TSOs have submitted reports and documents in accordance with SO GL and decisions made by the Nordic NRAs.

The task force has also exchanged views on the interpretation of ER NC, RfG NC, DCC NC and HVDC NC. This work is conducted in the task force, but decisions are made separately by each national regulator.

3.1.5 Electricity Balancing Task Force

The Electricity Balancing Task Force (EB TF) has been in dialogue and has carried out regulatory oversight and assessments of the Nordic TSOs' implementation of the Nordic Balancing Model (NBM), with several proposals following from the EB Regulation.

As such, the EB TF cooperated on analysing the TSOs' national proposals for a derogation from the original deadline to connect to the European balancing platforms for mFRR balancing energy (MARI) and aFRR balancing energy (PICASSO) and subsequently granted an extension of the deadline until 24 July 2024. The EB TF also analysed a proposal from the TSOs on the market-based methodology for allocating transmission capacity for the use of balancing capacity. However, the TF concluded that the methodology was identical to the one approved by ACER and therefore not amended and not possible for the NRAs to decide upon. The EB TF has hereafter coordinated the work on the decision on an actual amended proposal to the same methodology, including given guidance to the TSOs on how to amend the methodology. Moreover, the EB TF gave informal guidance to TSOs and stakeholders through, respectively, NRA/TSO NBM Coordination Group meetings and NBM Reference Group meetings.

3.2 Complete list of activities

Activities from 2022	Description
NordREG Wholesale & Transmission Developments seminar 2022.	On the 5h December the seminar was virtually hosted including topics presented by NordREG as well as various stakeholders.
Nordic TSOs' proposal for sharing of regional day-ahead and intraday coupling costs for the period 31 January–31 July 2020.	Assessment of the proposal and coordination for the national decision. The first proposal was rejected by the NRAs because the proposal did not fulfil the procedural rules of Regulation 2015/1222.
Nordic TSOs' amended proposal on ramping restrictions for active power output in accordance with SO GL Article 137(3) and (4).	The proposal was approved in February 2022.
Nordic TSOs' proposal on dimensioning rules for FCR in accordance with SO GL Article 153.	The proposal is currently under regulatory assessment with a legal deadline 29. December 2022.
Nordic TSOs' proposal for the additional properties of the FCR in accordance with SO GL Article 154(2).	The proposal is currently under regulatory assessment with a legal deadline 29. December 2022.
Nordic TSOs' proposal for the FRR dimensioning rules in accordance with SO GL Article 157(1).	The proposal is currently under regulatory assessment with a legal deadline 29. December 2022.
Nordic TSOs' requests to derogate from connecting to MARI and PICASSO by 24 July 2022.	Derogations granted until 24 July 2024.
Nordic TSOs' proposal for an amended methodology for market-based allocation for the exchange of balancing capacity.	Proposal rejected as it didn't include any amendments. Subsequently the TSOs have sent a proposal which does contain amendments.

Table. Complete list of the Wholesale and Transmission WG's activities from 2022

"Cost reflective grid tariffs & connection fees"

4. Network Regulation Working Group

The Network Regulation Working Group (NRWG) contributes to the exchange of knowledge regarding current issues in network regulation. Through this work, the working group contributes to a dynamic framework within network regulation.

4.1 Highlighted activities from 2022

The implementation of the CEP and the issues that arise in this process has been a major focus for the working group during 2022. NRWG also continued to work on incentives for flexwibility both in network development plans and regulation methods through information exchange and an updated matrix on Nordic regulation. The aim of the work program for 2022 was to focus on the implementation of the CEP in incentives for flexibility.

Flexibility services will play an increasingly important role in using the electricity grid in an economically efficient way. In 2022 the working group continued to address this issue through information exchange on regulation methods and network development plans and coordination with CEER distribution system working group. In late 2022 NRWG arranged a workshop on this topic for the members in NordREG. The purpose of the workshop was to discuss how flexibility can be incentivized through regulation, network development, methods and tariffs.

4.2 Complete list of activities

Table. Complete list of the Network Regulation WG's activities from 2022

Activities from 2022	Description
Workshop on network development plans. Matrix on Nordic regulation.	Matrix on Nordic regulation was updated with current data and supplemented on network development plans.
Workshop on incentives for procurement of flexibility.	Internal workshop in late 2022 on incentivizing flexibility through regulation (network development, methods and tariffs).



5. Demand Side Flexibility Working Group

The purpose of the Demand Side Flexibility Working Group (Flex WG) is to assess demand response in the Nordic electricity market and consider potential needs for Nordic initiatives that require coordinated actions at NRA level or ministry level.

5.1 Highlighted activities from 2022

The key deliverable in 2022 was an internal mapping of the developing flexibility markets, which also aimed at identifying the related potential regulatory challenges.

Local flexibility markets are identified as one possible tool for DSOs to manage present and upcoming capacity and quality challenges in the energy transition. There are several ongoing pilot projects demonstrating local flexibility markets running today, primarily in Sweden and Norway. In Denmark there are pilots with geographically tagged bids that can be used both by the TSO and by the DSO for local grid management. The flex WG has made a summary of the ongoing projects and lists potential regulatory challenges.

The WG has continued to be engaged in ACERs drafting of a new Framework guideline on demand side response.

The group has also continued to follow the implementation of national frameworks for independent aggregation. Where a model with central settlement is to be implemented there will be a need to decide nationally on a compensation mechanism – defining how the supplier will be compensated for the sourcing of energy by the independent aggregator. The WG has in 2022 commissioned a consultant study with the aim of receiving input to future decisions regarding the level of this compensation, deliverable in Q1 2023.

5.2 Complete list of activities

Table. Complete list of the Demand Side Flexibility WG's activities from 2022

Activities from 2022	Description
Mapping the developing flexibility markets in the Nordics	Mapping of the developing flexibility markets in Norden and identifying of the related potential regulatory challenges.
Engaging in the drafting of ACERs FG on demand side response	Participating in the drafting team for the new framework guideline on demand side response and coordinate views in the Flex WG.
Commission a consultant study Finding an adequate level of compensation	Consultant study to receive input for future decisions regarding the compensation mechanism and specifically the level of compensation.



6. Strategy Working Group

The Strategy Working Group (S WG) has the mission to deepen NordREG's cooperation. In 2022, the S WG has been revisiting the NordREG strategy to ensure that it is fit for purpose for the cooperation of the Nordic Energy Regulators. The S WG has also been preparing the NordREG Work Program, Roadmap and the Annual report to EMG. In addition, the strategy group coordinates cross-cutting activities and handles issues not covered by other NordREG working groups.

The S WG has continued the work to strengthen the organizational and procedural framework to secure an efficient cooperation.

6.1 Highlighted activities from 2022

The NordREG Long-term Strategy has been revisited and amended in 2022 to better reflect the ongoing changes in the energy market. The Long-term Strategy will provide a clear guidance for the development over the years up to 2030.

To support implementation of the Long-term strategy NordREG has also updated the road map which identifies concrete actions NordREG will make in coming three years. The road map forms a strategic basis for the preparation of annual work programs.

In 2022, NordREG has continued the work to ensure efficient organizational and procedural structures and framework for the cooperation of the Nordic Energy Regulators.

6.2 Complete list of activities

Table. Complete list of the Strategy WG's activities from 2022

Activities from 2022	Description
Revision of the NordREG Long-term Strategy	In 2022 the S WG have been revisiting the NordREG Long Term Strategy to ensure that it is fit for purpose.
	The Long-term Strategy and Road Map form a basis for the preparation of Work Program 2023.
NordREG Work Program 2023 and Annual Report 2022 to EMG	The S WG has been collecting top-down priorities from the NRAs for 2023 that has been used as guidance when preparing the Work Programme for 2023. The S WG has also prepared the NordREG Work Programme and Annual Report to EMG.
Efficient organizational and procedural structures and framework	NordREG's Modus Operandi and Rules of Procedure of the Nordic Energy Regulators Regional Forum (ERRF) have been streamlined and updated.
	A common SharePoint site for all NordREG participants has been established, where all the steering NordREG documents and templates are available.
Coordination of NordREG work in connection to the Nordic Electricity Forum (NEMF)	NordREG has participated as an observer in the Nordic Electricity Market Forum Coordination Group (NEMF CG) set up by the EMG. The objective of this group is to monitor progress of the NEMF Road Map at national and regional level, monitor progress on NEMF WG deliveries, and in cooperation with the NEMF WGs identify relevant topics for the annual NEMF Forum where Forum discussions might motivate activities to achieve the (long and medium term) Electricity Market Vision.
NordREG Strategy Day	The NordREG Strategy Day was arranged 1 June 2022. There were two inspirational sessions on:
	 Regional decision making and sector coupling in the coming 10 years Nordic Hydrogen Route initiative and hydrogen markets
	The inspirational sessions were followed by discussions regarding the need for revision of the NordREG Long-term Strategy to ensure that it is fit for purpose.

7. Upcoming Work in 2023

NordREG WGs will continue coordinating the implementation of the EU's CEP to ensure harmonised understanding and implementation of the rules and regulations. Additionally, focus will remain on the effective implementation of the European network codes and guidelines.

Decarbonisation of the society and transition towards clean energy system continues and requires adjustments in energy market design. The work within NordREG continues focusing on practical and relevant solutions to common challenges. Energy transition might bring also new topics, like sector coupling and power-to-X to be discussed within NordREG. NordREG aims to keep its organisation effective focusing on topics where cooperation of Nordic energy regulators will bring benefits to markets and consumers. We continuously strive for an efficient organisation fit for purpose; thus ad hoc working groups are formed when needed.

- In 2023 NordREG's priority will be on the following:
- 1. Implementation of the CEP regulation and ensuring a common, harmonized understanding and application of the rules.
- 2. Continue effective implementation of European network codes and guidelines
- Deepen the coordination of Nordic views and participation in CEER and ACER and be active in the European discussions on changes in the market design.
- 4. Continue cooperation and coordination of the work regarding the common Nordic end-user market and market conditions for customers in the Nordic retail markets for electricity.
- 5. Cooperate and coordinate the work regarding flexibility issues with a special focus on the Clean Energy regulation.
- 6. Maintain a close dialogue with Nordic Transmission System Operators (TSOs) on issues of importance for the internal market.
- 7. Increase information and best practices sharing among Nordic NRAs and promote the common understanding as basis for the actual decisions
- 8. Continue to enhance the strategic as well as the day-to-day cooperation in NordREG.

Please see the NordREG Work Programme 2023 for more information on NordREG activities in 2023.

"The road ahead"







NordREG is a voluntary cooperation between the Nordic energy regulators. The presidency and secretariat rotate annually.

The presidency and secretariat of NordREG was during 2022 held by the Swedish Energy Markets Inspectorate (Ei).

Please contact us if you have any questions. E-mail: <u>nordregsecretariat@forsyningstilsynet.dk</u> Webpage: <u>nordicenergyregulators.org</u>

