NORDIC RCC

NORDIC RCC A/S
C/O Copenhagen Towers
Ørestads Boulevard 114
2300 Copenhagen S, Denmark

Business Registration No.:
42 88 25 85

First annual reporting period:
6 December 2021 - 31 December 2022

The Annual General Meeting adopted the Annual Report on date:

Henrik Mikkelsen Djurhuus
Chairperson of the Annual General Meeting

ANNUAL REPORT 2022

HIGHLIGHTED CONTENT

Nordic RCC supports the Nordic TSOs in operating a secure electricity network and supporting the efficient functioning of the internal market for electricity.

Nordic RCC does so by collecting regional data and providing analyses, calculations, and recommendations to the TSOs for the entire Nordic region.

INTRODUCTION

It is a great pleasure to present you with our first Annual Report as Nordic RCC A/S.

The report is divided into three sections:

- **MANAGEMENT REVIEW**
- **NORDIC RCC TASKS**
- **FINANCIAL STATEMENTS**

In the **MANAGEMENT REVIEW,** you can read about Nordic RCC as a company, get an understanding of the tasks we perform, our transition from Regional Security Coordinator (RSC) to Regional Coordination Centre (RCC), and hear from our CEO and Chairperson.

NORDIC RCC TASKS elaborates on the tasks we perform and implement, and report on the outcome of our monitoring obligation fulfilling the requirements of Article 46 of the EU regulation 2019/943 on the internal market for electricity.

In the **FINANCIAL STATEMENTS,** you can learn about our financial development over the past year, the reporting of which fulfils the requirement of the International Financial Reporting Standards (IFRS).

Nordic RCC A/S was incorporated on 6 December 2021 and the reporting period for this report is therefore from 6 December 2021 to 31 December 2022.

However, since Nordic RCC did not have any activities until 1 July 2022, when it took over the activities of Nordic RSC, reporting on Nordic RCC Tasks will be from the period 1 July 2022 to 31 December 2022.

The Management Review will include all material activities from 6 December 2021 to 31 December 2022, however, with much of the focus on the second half of 2022, as this is where most of the activity took place.

We wish you a good read and hope you enjoy the report.

COMPANY DETAILS

NORDIC RCC A/S
C/O Copenhagen Towers
Ørestads Boulevard 114
2300 Copenhagen S, Denmark

Business Registration No.:
42 88 25 85

Registered office:
Copenhagen

Date of incorporation:
6 December 2021

First annual reporting period:
6 December 2021 – 31 December 2022

Financial year:
1 January - 31 December

Board of Directors:
Marina Louhija, Chairperson
Nicolaj Nørgaard Peulicke
Lars Erik Ek
Kristin Lucie Munthe

Executive Board
John Henrik Kofod, CEO

Auditors
EY Godkendt Revisionspartnerselskab
Dirch Passers Allé 36
2000 Frederiksberg, Denmark

MANAGEMENT REVIEW

CONTENT

JOINT LETTER FROM CEO AND CHAIRPERSON

Dear partner, client, and employee

The calendar reads 2023 and it is time to look back over the period since the establishment of Nordic RCC as an independent coordination centre in the Nordic region. Since our inauguration on 6 December 2021, and more specifically since taking over from Nordic RSC on 1 July 2022, we have provided the four Nordic TSOs with services that help them operate the electricity grid across borders.

This is the beginning of a new partnership.

Ambitious, cross-border partnerships are essential for the future success of a secure and efficient operation of the electricity system supporting the green transition, and Nordic RCC is proud to be part of that.

We look back at our first year as an independent company with a feeling of success. We have established a stable and well-defined organisation with strong capabilities and motivated, talented employees. We completed planned development releases of the IT tool used for flow-based capacity calculation and grid modelling. We started the External Parallel Run of the day-ahead flow-based capacity calculation process - a very important contribution to enable transparency, efficiency and coordination regarding the capacities provided to the market. During the year, we also established multiple forums to coordinate across the Nordic countries, such as the Cooperation Committee and the Nordic Analytics community and started hosting the Nordic cross-project coordination function, all strengthening our collaboration with the Nordic TSOs.

In 2022, Europe experienced unprecedented high energy prices. This was a result of a number of colliding factors such as low water reservoirs, less wind than usual, reduced power generation due to maintenance, and the war in Ukraine. All these factors reduced the energy supply, increasing prices.

With a lower supply continuing into the cold months, awareness was raised of the adequacy situation in Europe during the winter of 2022/2023. This prompted close collaboration with all European TSOs and RCCs to ensure meeting electricity demands and to consider mitigating actions to avoid a shortage of electricity.

On a global level, we are in the middle of mitigating climate change which requires new solutions and rethinking across many industries and sectors, including the energy system, which is at the core of a “net zero society”. The green transition of the electricity system requires changes to the way the transmission grid is operated. With continuous increase of intermittent renewable energy sources, maintaining security of supply becomes increasingly challenging and cross-border coordination more important. We are proud to be part of the green transition enabling coordination and being part of various projects, such as the flow-based capacity calculation and the change of markets into 15-minute market time-units.

With a strong foundation and great accomplishments in our first year, we look forward to 2023 with many exciting activities ahead. We expect to move forward with the External Parallel Run towards going live with flow-based capacity calculation. Additionally, we will work on improving the Coordinated Security Analysis process. 2023 will also be the year during which we implement a new IT infrastructure as the foundation for all critical business applications in our operations and start the implementation of training and certification in legal requirements.

We look forward to the coming year during which we will further develop our tasks and increase the value we add to the Nordic TSOs and to society in the Nordic countries and across Europe.

Warm regards,

Henrik Kofod
CEO

Marina Louhija
Chairperson

NORDIC RCC MANAGEMENT, FROM LEFT:
Nicolaj Nørgaard Peulicke / Group Vice President, Innovation and Digitalisation at Energinet and member of the Board at Nordic RCC
Kristin Munthe / Senior Vice President, Digital Transformation at Statnett and member of the Board at Nordic RCC
Marina Louhija / General Counsel at Fingrid and Chairperson of the Board at Nordic RCC
Erik Ek / Strategic operations manager at Svenska Kraftnät and member of the Board at Nordic RCC
Henrik Kofod / CEO at Nordic RCC

The Board of Directors of Nordic RCC consists of one representative from each of the Nordic TSOs. Currently, the Board is being chaired by the member from Fingrid, Marina Louhija. All members of the Board are here seen together with the CEO of Nordic RCC.

ABOUT NORDIC RCC

The Nordic Regional Coordination Centre (Nordic RCC) is an independent company owned by the four electricity Transmission System Operators (TSOs) in the Nordic region: Fingrid in Finland, Statnett in Norway, Svenska Kraftnät in Sweden, and Energinet in Denmark. Nordic RCC is one of six RCCs in Europe[1] supporting the national TSOs in optimising the operation of the European electricity system both in terms of security and capacity utilisation.

Nordic RCC supports the Nordic TSOs in operating a secure electricity network and supporting the efficient functioning of the internal market for electricity. Nordic RCC does so by collecting regional data and providing analyses, calculations, and recommendations to the TSOs for the entire Nordic region. This improves the TSOs' knowledge base for their decisions when operating the electricity grid. Many of these analyses are carried out by the TSOs themselves nationally, however, the RCC covers the gap between borders and provides coordinated insights that strengthen the base for decision-making.

The Nordic and European electricity system are complex and highly interconnected, and strong regional coordination is essential to ensure security of supply. In addition, green transition fundamentally changes the landscape of the electricity grid and market. Large-scale renewable energy production has to be integrated, production and consumption change locations, electrification of many sectors increases demand, new technologies, such as storage, are on the rise and markets and operations will change at shorter time intervals. Cross-border electricity exchanges and power flows are harder to predict, and precise forecasts need a better and more detailed data-based foundation. Therefore, enhanced coordination among the TSOs is needed to ensure the secure and efficient management of the European transmission system. The RCCs are the key players to enable this cooperation.

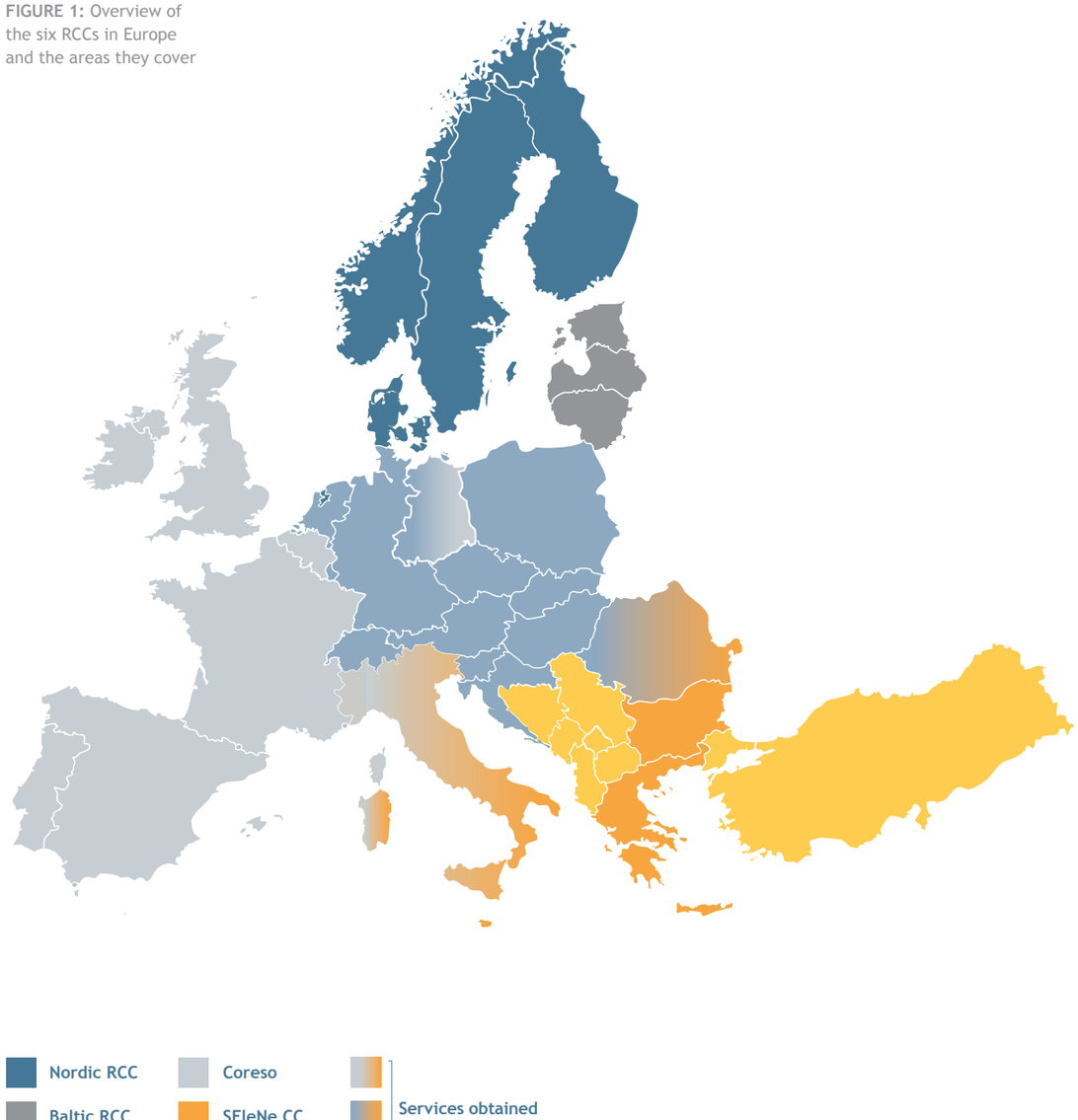
Coordination by TSOs at regional level has been formalised in Network Codes and Guidelines with the mandatory service provision from Regional Security Coordinators (RSCs). EU regulation 2019/943 on the internal market for electricity states that regional coordination of TSOs in System Operation Regions (SOR) should be further developed with an enhanced institutional framework via the establishment of RCCs, replacing RSCs.

By 1 July 2022, the RCCs had to be established in each region, where Nordic RCC covers the Nordic region.

[1] One of these six, SCC, is an RSC and not an RCC. However, in this report RCC is used as a common phrase for all 6 entities.

To enable an effective internal electricity market across Europe, the RCCs have been established to support the operational planning of the TSOs in their region, and together coordinate across the Pan-European market.

FIGURE 1: Overview of the six RCCs in Europe and the areas they cover



DID YOU KNOW

Eventhough Nordic RCC A/S was established in July 2022, the work started back in 2016, where Nordic RSC was established as a joint office between the four Nordic TSOs. Nordic RCC has continued the activities of Nordic RSC.

THE ROLE IN THE ELECTRICITY SYSTEM

The electricity system in Europe is a complex network of interconnected production units, transmission lines, and distribution systems that deliver electricity to consumers. It is designed to meet the electricity needs of consumers in a reliable, efficient, and sustainable manner. It involves a complex network of actors and systems that work together to produce, transmit, and distribute electricity to users across and between regions. One condition that makes this especially complex and challenging is that electricity storage is still very limited and therefore electricity to a large degree needs to be produced at the same time as it is consumed.

The electricity market is run by Nominated Electricity Market Operators (NEMOs), however, in order to function effectively, it needs an electricity system and reliable data on this system. The main infrastructure is owned and controlled by TSOs, who operate the grid in real time. Most European countries have one national TSO operating the electricity system in their respective country. In Europe, 39 TSOs make up the European Network of Transmission System Operators for Electricity (ENTSO-E). To enable an effective internal electricity market across Europe, the RCCs have been established to coordinate the operation of the electricity system across their region and among the TSOs in their region, and together coordinate across the Pan-European (PE) area.

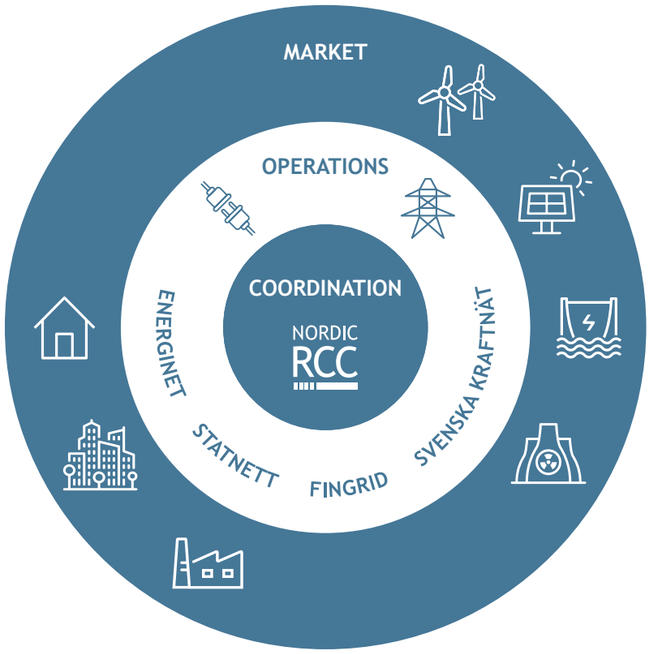


FIGURE 2: Overview of the relationship between market, operations and coordination

MARKET: Producers and consumers meet to sell and buy electricity.

OPERATIONS: Each Nordic TSO operates their own national transmission grid.

REGIONAL COORDINATION: Nordic RCC provides data to support the operational planning of the TSOs.

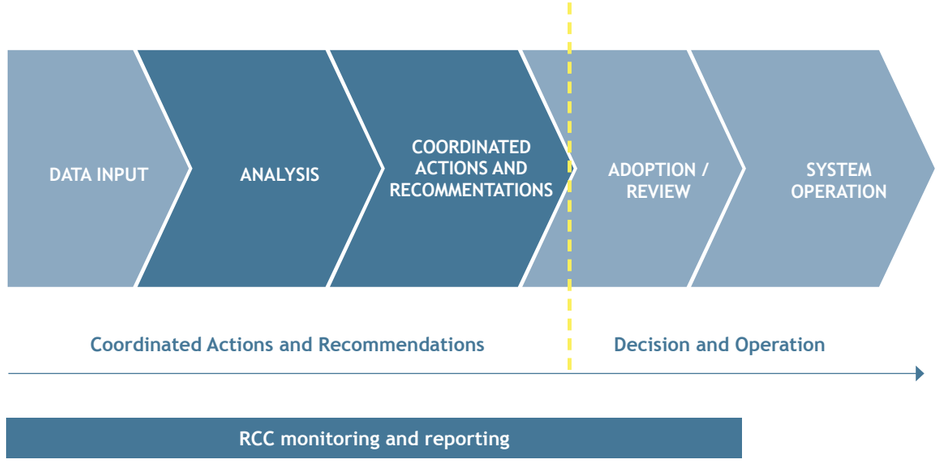


FIGURE 3: The split of roles and responsibilities between TSOs and Nordic RCC

The TSOs are responsible for the activities performed in the light blue boxes, whereas the RCC is responsible for the activities in the dark blue boxes.

The RCC will provide Recommendations and Coordinated Actions based on analyses to the TSOs and the TSOs decide to adopt or review the Coordinated Actions and Recommendations and perform the system operation.

However, RCC is responsible for monitoring and reporting on the adoption of the Coordinated Actions and Recommendations.

As seen in figure 3, the split between the work of the TSOs and of Nordic RCC is that Nordic RCC receives data from the TSOs on which Nordic RCC provides analyses and recommendations back to the TSOs for them to further adopt or review and perform system operation. The RCC is responsible for monitoring and reporting the implementation of its analyses and recommendations. Nordic RCC provides recommendations and coordinated actions, and the TSOs provide decisions and operations.

Nordic RCC is a small but important part of providing a secure, efficient, and sustainable electricity system in the Nordic region and in Europe.

TRANSITION TO NORDIC RCC

Nordic RCC was incorporated 6 December 2021 and was bought by the four Nordic TSOs; Statnett, Svenska Kraftnät, Fingrid, and Energinet on 18 January 2022, and has further entered a Cooperation Agreement with the TSO, Kraftnät Åland effective from 1 July 2022. The activities of Nordic RSC were formally transferred to Nordic RCC on 1 July 2022.

Nordic RSC was established in 2016 as a joint office among the Nordic TSOs and hosted by Energinet. The overall purpose of the RSC was to establish regional coordination based on data to support the national TSOs' operations in their area, proving a strong and basic collaboration in the Nordic region and among the Nordic TSOs. In the meantime, the EU recognised the need for more independent and regulated coordination formalised in the EU regulation 2019/943 to support the secure operation and green transition of the electricity system. In order to comply with the new EU regulation, Nordic RCC was formed, taking over the services from the RSC as well as taking on new tasks as regulated by EU.

Even though, Nordic RCC continues many of the activities from Nordic RSC, there are still vast differences from the previous organisation. Nordic RCC was inaugurated as an independent company, managed by a CEO and a Board of Directors, and owned by the four Nordic TSOs. Nordic RCC still has no power to control or force any actions of the operations of the TSOs, however, its analyses and recommendations are formally independent from the interests of the individual TSOs, and its decision mandate has increased. The transition has also forced Nordic RCC to find its place in the Nordic electricity environment, carve out of Energinet, and find its way as an independent organisation. Lastly, the new EU regulation includes 10 new regulated tasks that Nordic RCC will have to develop and deliver over the years to come, expanding the support it provides to the TSOs.

One thing stays the same though, as Nordic RCC serves the same purpose: to support the national TSOs in optimizing the availability for the electricity market of the Nordic grid and in maintaining the operational security of the electricity systems, ultimately to support the green transition.

TIMELINE 2022

6 DECEMBER 2021

Nordic RCC A/S is incorporated

JANUARY

Energinet, Fingrid, Statnett, and Svenska Kraftnät buy Nordic RCC A/S

Contract with IT infrastructure partner, NNIT, is signed

FEBRUARY

MARCH

External Parallel Run is started

APRIL

Cash contribution from shareholders

CSA goes into production with preliminary version

MAY

CEO starts in Nordic RCC (first employee)

JUNE

Daily IT operational service carve-out from Energinet is finalised

Asset contribution from shareholders

Contract with IT development partner, Immeo, is signed

Activities in Nordic RSC are transferred to Nordic RCC on 1 July 2022

JULY

Nordic RCC A/S goes into operation and services and employees are transferred

AUGUST

SEPTEMBER

Nordic RCC starts hosting the Nordic Cross-Project Coordination function

OCTOBER

Cooperation Committee is established

The task Post-Disturbance Analysis and Reporting is implemented and ready to be performed when triggered

European Weekly Operational Group meetings are set up to support Operational Coordination for Winter 2022/2023 with Nordic RCC participation

NOVEMBER

Nordic Analytics community holds their first seminar

Nordic RCC is represented at the Regional Coordination Conference

DECEMBER

Nordic RCC takeover of CCC Analytics Workspace is initiated

Capital Injection from shareholder to cover RCC implementation costs

CGS is formally approved as an additional task

From its offices in Copenhagen, Nordic RCC supports TSOs in all four Nordic countries.

KEY SERVICES

Nordic RCC performs tasks and and provide services to various TSOs with a revenue mechanism that covers its net costs plus depreciation of noncurrent assets with a mark-up of 5%. The vast majority of the tasks are regional and delivered to the Nordic TSOs. Further, a few tasks are delivered to Capacity Calculation Region (CCR) Hansa and the participating TSOs, and a few tasks are Pan-European provided to TSOs across Europe.

The revised EU regulation 2019/943 Article 37 describes 16 tasks to be performed by the RCCs, whereas 6 tasks originate from Network Codes and Guidelines as RSC responsibilities and are continued in Nordic RCC as part of the transition. Nordic RSC carried out one additional task which did not originate from legal texts, but was established by agreement with the four Nordic TSOs, which is also continued by Nordic RCC. The regulation states that RCCs should have the flexibility to carry out their tasks in the region in the way best suited to the nature of the individual tasks and should carry out tasks where their regionalisation brings added value compared to tasks performed at national level. Therefore, Nordic RCC performs and develops its tasks with a focus on the Nordic region and its specific characteristics.

In the following is a short description of the target solution of the key services already in operation to different extents and a simple overview of all tasks and their status. This is further elaborated on in the section *"Nordic RCC Tasks"*.

FIGURE 4: Overview of Nordic RCC's key services

COMMON GRID MODEL (CGM)

Based on national Individual Grid Models (IGMs), Nordic RCC provides a Common Grid Model (CGM) representing the power system in the Nordic and Pan-European area, which can be used for performing further analysis through the tasks performed by Nordic RCC.

OUTAGE PLANNING COORDINATION (OPC)

As it is necessary to perform maintenance of the electricity grid, outages are a condition of the operation of the grid. Outages of grid elements and production units affect neighbouring countries and must be coordinated in order to ensure the secure operation of the grid. The Outage Planning Coordination task coordinates the outages to optimise the availability of the Regional and European Power Grid.

SHORT TERM ADEQUACY (STA)

Nordic RCC investigates whether the reliable available expected production capacity can meet the expected consumption at any given time while also taking into consideration restrictions in the transmission grid. If there is insufficient reliable available production capacity to meet the consumption, measures need to be taken by TSOs to avoid an adequacy situation.

CRITICAL GRID SITUATION (CGS)

Critical Grid Situation is the task not regulated by article 37, but is an additional task requested by the owners. Critical Grid Situation is defined as a critical situation that cannot be solved at a national level and therefore requires coordination between one or more TSOs. CGS is a coordination service performed by RCCs to facilitate a regional or cross-regional coordination in critical grid situations.

COORDINATED CAPACITY CALCULATION (CCC)

Electricity is freely traded across borders in the internal energy market. However, the limits of transmission capacity must be respected. The service calculates the secure power market capacities to maximise the transmission capacity offered to the market, while maintaining grid security.

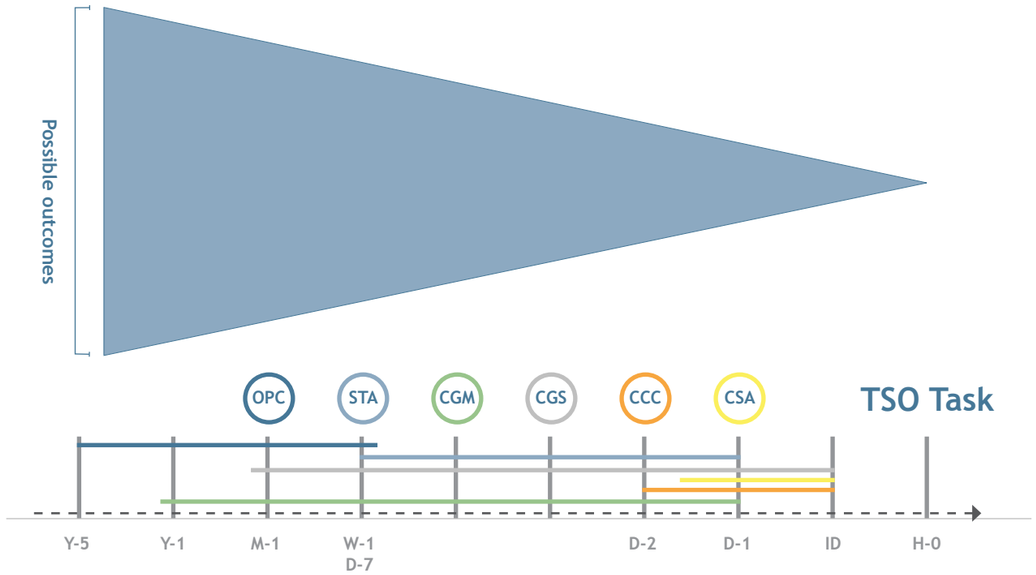
COORDINATED SECURITY ANALYSIS (CSA)

The possibility to highlight and visualise possible operational security risks in advance gives the operators additional time during the preparation and planning phase to investigate possibly needed remedial actions, thus aiding operators in their decision-making in real time.This service provides operational support to the TSOs to identify operational security risks and recommends preventive remedial actions to the individual TSOs.

OTHER SERVICES

Nordic RCC has two other tasks, it is ready to perform. Nordic RCC is required to support the assessment of defence and restoration plans. Nordic RCC, together with the other RCCs, is also prepared to carry out one of the newly delegated tasks regarding post-operation and post-disturbances analysis and reporting. There has been no activity in these two tasks in 2022.

FIGURE 5: Nordic RCC Key Services' target timeframe



Research and development activities

The activities in Nordic RCC are highly dependent on specialised IT solutions. NorCap is an IT tool used for the services CCC and CGM which is continuously being developed. In 2022, NorCap did the Major Release 3 and Release 4. The latest was on 8 November 2022, including NEMO integration, year-ahead for CGM, and Available Transmission Capacity extraction. The next release is expected in Spring 2023.

For capacity calculation, Nordic RCC is developing a flow-based model which should provide positive socio-economic welfare. On 7 March 2022, the next phase of the implementation was initiated, i.e., the External Parallel Run (EPR). The next stage of the EPR is expected to be reached in 2023.

The Flow-based calculation takes into account the entire regional grid and leads to more efficient results.

Task overview

EU REGULATION 2019/943 ARTICLE 37.1[2]	TASK	STATUS AS OF 31 DECEMBER 2022
a	Coordinated Capacity Calculation	Forwarding of NTC in operation, flow-based being developed.
b	Coordinated Security Analysis	Preliminary version in operation. Ongoing development.
c	Common Grid Models	Nordic D-2 and D-1 CGM in operation. Preparing to join Pan-European CGM and future timeframes.
d	Defence and restoration plans	Prepared to perform. No activity in 2022.
e	Short-Term Adequacy	In operation. Ongoing development.
f	Outage Planning Coordination	In operation. Ongoing development.
g	Training & Certification	Implementation started.
h	Regional Restoration	Awaiting proposal from ENTSO-E.
i	Post-disturbances analysis and reporting	Prepared to perform. No activity in 2022.
j	Sizing of reserve capacity	Awaiting proposal from ENTSO-E.
k	Procurement of balancing capacity	Awaiting proposal from ENTSO-E.
l	*Settlement*	*Not being requested by TSOs.*
m	*Identification of regional electricity crisis scenarios*	*Not being requested by TSOs.*
n	*Seasonal adequacy assessments*	*Not being requested by TSOs.*
o	*Maximum Entry Capacity*	*Not relevant in the Nordics.*
p	Supporting Ten-Year development plan	Awaiting proposal from ENTSO-E.

[2] See Abbreviations list on page 32-33.

TASKS OR SERVICES?

Talking about the RCCs and their role or deliverables to TSOs, different expressions are used, mainly tasks or services.

“Services” has been used historically during the “RSC period”. Regional Security Coordinators were not necessarily independent companies, but TSO joint ventures, and focus was on delivering useful services to TSOs.

The new electricity market regulation introduced the term “tasks” – an indication of the mandatory nature of the RCC work and the independent role RCCs have. RCCs are responsible for their part in regional coordination, so they do not only provide optional services, but have mandatory tasks.

At Nordic RCC, we understand our obligations as both – required tasks to support the safe and efficient operation of the electricity system, and services to the TSOs that make their operation easier and provide value to their organisations. If our task performance is not of value to the TSOs, their implementation will fail in practice.

Mandatory Role  **Value to TSO**

In this report we mainly talk about RCC tasks, but also about services, when this is a better fit.

ORGANISATION AND GOVERNANCE

The activities and the industry which Nordic RCC works with and operates in are highly specialised and require a high level of security. The IT tools required need to be specially developed with an understanding of the industry and Nordic RCCs core business. The operation of Nordic RCC is dependent on high levels of problem-solving and industry understanding to deliver the tasks required and develop the services for optimisation of value. Lastly, Nordic RCC works with and delivers specialised data and analytics, putting emphasis on the ability to understand the data, the data quality and how to improve this.

Nordic RCC is organised and governed as shown here, in order to effectively fulfil its obligations and perform its tasks given the conditions outlined. Employees working in the organisation need to be and are specialised with high educational levels and expert experience and are valuable knowledge resources.

FIGURE 6: Map of the four Nordic TSOs owning and receiving services from Nordic RCC

The Nordic TSOs, Energinet, Fingrid, Statnett, and Svenska Kraftnät, are the owners and primary customers of Nordic RCC, and are each represented in the Board of Directors (as owners) and the Cooperation Committee (as customers)

GOVERNANCE

BOARD OF DIRECTORS

Governs Nordic RCC and consists of one representative from each of the shareholders; Energinet, Fingrid, Statnett, and Svenska Kraftnät.

CHIEF EXECUTIVE OFFICER

Is in charge of the day-to-day management of Nordic RCC's overall business

COOPERATION COMMITTEE

Shall work to support the development and improvement of the operational interfaces and be the "customer voice" in order to establish an efficient operational cooperation between the Company and the TSOs

LINE ORGANISATION

HEAD OF BUSINESS SUPPORT

Supports the business by being responsible for Finance, HR, Legal, facility management and more.

CHIEF INFORMATION SECURITY OFFICER

Monitors, guides, and advise on the security measures necessary to work with critical infrastructure.

HEAD OF BUSINESS DEVELOPMENT

Manages the development of tasks; improving those in operation, adding new time frames, and developing new tasks.

HEAD OF PROJECT IMPLEMENTATION

Manages the implementation of bigger projects and programs needed to perform development and operation.

HEAD OF DATA AND ANALYTICS

Works with the foundation, data quality, and modelling of the data required to perform the tasks as well as performing requested analytics.

HEAD OF OPERATIONS

Is responsible for the operations in the coordination centre delivering the services to the TSOs with a team working two shifts per day 7 days per week.

HEAD OF IT SERVICES

Manages the team responsible for IT architecture, infrastructure, IT support, application development and everything in between needed to perform the business tasks including related support.

The RCCs' establishment is regulated in EU regulation 2019/943 which is part of the "Clean energy for all Europeans package".

The package of legislation also includes directives on "Energy performance in buildings", "Renewable energy" and "Energy efficiency" along with other directives and regulations[3].

ENVIRONMENTAL PERFORMANCE

Nordic RCC does not currently measure environmental performance. However, it is expected that the largest impact on the environment comes from running the office, server use, and European travels.

Nordic RCC contributes positively to its environmental performance through parts of its core activities that are meant to enable and make possible the increased use of renewable energy sources within the limits that secure supply.

The office of Nordic RCC is located in Copenhagen Towers which has a platinum certification (the highest certification possible) on the American LEED rating system, which is a framework for healthy, efficient, carbon and cost-saving green buildings.

FINANCIAL PERFORMANCE

Revenue for the first reporting period amounts to DKK 97,740 thousand and loss before tax amounts to DKK 18,113 thousand. The negative result is mainly due to costs related to the carve-out from Energinet to Nordic RCC and are therefore non-recurring by nature. The result is as expected.

[3] https://energy.ec.europa.eu/topics/energy-strategy/clean-energy-all-europeans-package_en (Clean energy for all Europeans package (europa.eu))

THE FUTURE AND UNCERTAINTIES

Expected financial development

The revenue for 2023 is expected to be in the range of DKK 200-220 million, which is more than double compared to 2022. This is due to the fact that activities in Nordic RCC have only run for 6 months (July to December) in 2022 compared to a full year (12 months) of expected activity in 2023. Further, the activity level in Nordic RCC is expected to increase slightly in general in 2023 compared to 2022.

The result before tax in 2023 is expected to be in the range of DKK 8-12 million due to an expected operating profit of roughly 5%. Compared to 2022, the expected result before tax for 2023 is a significant increase. However, the negative result of 2022 is a result of one-time costs related to Nordic RCC's establishment.

Uncertainty relating to recognition and measurement

Please see note 3 in the section "Financial Statements" for a description of accounting judgements, estimates and assumptions.

Subsequent events

No significant events have been experienced since the balance sheet date.

Nordic RCC must comply with the Minimum Viable Solution Security Plan set in place by ENTSO-E to ensure sufficient security levels and controls in the organization. Complying with the MVS SP includes having roughly 400 internal controls in place.

RISK AND COMPLIANCE MANAGEMENT

Internal control, risk and compliance management reflect Nordic RCC's corporate and social responsibility as well as regulation and shall contribute to achieve Nordic RCC's goals.

As part of the establishment of the Company, risk and compliance management has received higher priority and additional resources. Nordic RCC is in the process of building a second line risk management function to facilitate and structure the department's decentral risk activities. Through a successive strengthening of processes, roles, responsibilities, and risk awareness, the objective is that key risks related to secure and stable operations, coordination and supply of power, socio economic welfare creation, regulatory compliance, financial position, and reputation are identified and mitigated to an acceptable level.

In terms of internal controls and risk management, Nordic RCC will build policy and processes upon the globally acknowledged risk management framework given by the Committee of Sponsoring Organizations of the Treadway Commissions (COSO). Implementation and continuous improvement of policy and processes will ensure that key risks are identified, assessed, managed, and communicated across organisational boundaries. As part of this process, the Board is provided with a balanced presentation of all significant risks in addition to risk mitigation plans.

The Board has the overall responsibility for ensuring that Nordic RCC has good internal controls and appropriate risk management practices. The Board determines the Company's risk profile, policy, and risk appetite, supervises relevant processes, and monitors the Company's key risks.

The external auditors (here not defined as the auditors of this report but the auditors appointed for system audits and IT security assurance) prepare matters for deliberation by the Board and provide independent audits and assurance on the effectiveness of governance, risk management and internal controls. Top Management is responsible for the operationalisation and execution of risk management activities and internal controls, including mitigation of key risks in line with the Company's goals and risk appetite.

Operational Risks

Information and cybersecurity

Threats to the digital infrastructure are evolving and becoming increasingly complex. In 2022, the Nordic Cyber Security agencies published several national threat assessments. Critical infrastructure operations are still highlighted as particularly vulnerable to state-backed operations that use cyberspace for intelligence purposes. Nordic RCC must expect to be a target of hostile agents who are highly motivated, have considerable capacity as well as sophisticated methods and tools. In particular, if a threat agent should wish to disturb Nordic TSO coordination.

Nordic RCC considers ransomware one of the most probable threats currently. Several partners and actors in the energy industry have already fallen victim to such attacks. In general, endusers in the industry continue to be targeted, particularly via e-mail.

Mitigation

The Nordic power grids constitute a critical infrastructure. Robust cybersecurity measures are a high priority in Nordic RCC and a precondition for operations, IT and data assets, personnel, and reputation. Nordic RCC's efforts in cybersecurity focus increasingly on the ability to predict, prevent, uncover and handle any incident in the best possible way. Successful cybersecurity requires a holistic and systematic approach across the entire organisation. It requires good cooperation inside the organisation as well as cooperation with other TSOs, regulators, suppliers and partners.

A prioritised area in 2022 has been to strengthen the organisation's awareness of cybersecurity, particularly the threat from ransomware. Company-wide test and training exercises have been carried out regarding this issue as well as regular phishing simulations.

Nordic RCC's efforts in cybersecurity focus increasingly on the ability to predict, prevent, uncover and handle any incident in the best possible way

Furthermore, Nordic RCC has obtained membership of the National EnergiCert to get access to early warnings and attack sensor technologies.

Nordic RCC takes digital risks very seriously and has implemented several organisational, administrative and technical measures to protect critical infrastructure assets.

ABBREVIATIONS LIST

AAA	Adequacy Assessment Agent
AC	Alternating Current
ACER	Agency for the Cooperation of Energy Regulators
BZ	Bidding Zone
CCC	Coordinated Capacity Calculation
CCM	Capacity Calculation Methodology
CCR	Capacity Calculation Region
CGM	Common Grid Model
CGMA	Common Grid Model Alignment
CGMES	Common Grid Model Exchange Standard
CGS	Critical Grid Situation
COSO	Committee of Sponsoring Organizations of the Treadway Commissions
CSA	Coordinated Security Analysis
CSAm	Coordinated Security Analysis methodology
DOPT	Daily Operational Planning Teleconference
EMF	European Merging Function
ENTSO-E	European Network of Transmission System Operators for Electricity
EPR	External Parallel Run
ERAA	European Resource Adequacy Assessment
FB	Flow-based
HVDC	High Voltage Direct Current
IFRS	International Financial Reporting Standards
IGM	Individual Grid Model
JAO	Joint Application Office
KPI	Key Performance Indicator
LTCC	Long-Term Capacity Calculation
MS	Member States
MTU	Market Time Unit
NEMO	Nominated Electricity Market Operator
NOIS	Nordic Operational Information System
NRA	National Regulatory Authority
NRVF	Nordic Region Verification Function
NTC	Net Transmission Capacities
OPC	Outage Planning Coordination
OPDE	Operational Planning Data Environment
PE	Pan-European
PEVF	Pan-European Verification Function
PTC	Power Transfer Corridors
RAA	Regional Adequacy Assessment
RCC	Regional Coordination Centre
ROSC	Regional Operational Security Coordination
RSC	Regional Security Coordinator
SOGL	System Operation Guideline
SOR	System Operation Region
SPOC	Single Point of Contact
STA	Short-Term Adequacy
TSO	Transmission System Operator
WOPT	Weekly Operational Planning Teleconference

DID YOU KNOW

Abbreviations are extensively used in Nordic RCC. To keep an overview of the abbreviations, Nordic RCC internally has a list of abbreviations used, which is currently at 418 abbreviations and continuously being updated.

TIMEFRAMES

Y-5	Five years ahead
Y-1	Year-ahead
M-1	Month-ahead
W-4	Four weeks ahead
W-1	Week-ahead
D-7	Seven days ahead
D-2	Two days ahead
D-1	Day-ahead
ID	Intraday
OS	Observed State
RT	Realtime

NORDIC RCC TASKS

CONTENT

INTRODUCTION

This part of the Nordic RCC annual report offers more information about the tasks we perform. We also cover the reporting obligation, as required in the EU regulation 2019/943 Article 46, in this section. The section covers the following tasks:

Common Grid Model (CGM)
Outage Planning Coordination (OPC)
Short-Term Adequacy (STA)
Critical Grid Situation (CGS)
Coordinated Capacity Calculation (CCC)
Coordinated Security Analysis (CSA)

Each task is first described in a task description followed by the outcome of monitoring and lastly a future outlook. The outcome of monitoring follows the obligations in Article 46.1 on (a) operational performance, (b) issuance and implementation of coordinated actions/recommendations, and (c) effectiveness and efficiency.

CGS is an exception to the above and will only be presented with a description as it is not a task regulated by EU regulation 2019/943, but included to provide transparency on the tasks performed.

The task descriptions illustrate the target service which Nordic RCC is currently working towards, and the implementation section illustrates how far Nordic RCC is in the implementation of this task.

Towards the end of this section of the report, an overview of new tasks from the EU regulation 2019/943 Article 37.1 is provided, and lastly shortcomings identified from the monitoring process are described.

Monitoring and the reporting thereof is performed by drawing data on relevant available parameters. The different tasks are implemented to varying degrees and are still being developed further. For some tasks no Coordinated Actions or Recommendations are issued yet, resulting in a limited ability to monitor this.

All European RCCs have aligned and strive to report similar KPIs (Key Performance Indicators) for the reporting on their tasks. However, different regional implementation can lead to different reporting practices.

GEOGRAPHICAL SCOPE OF NORDIC RCC TASKS

Nordic RCC performs task within different geographical scopes.

CGM, OPC and STA are to be Pan-European tasks with deliveries to all European TSOs. However, the tasks are also performed regionally per System Operation Region (SOR), as defined in EU regulation 2019/943 Article 36 and defined in (ACER) decision 05/2022[4].

CCC and CSA tasks shall be performed for each Capacity Calculation Region (CCRs). CCRs are defined in EU Regulation 2015/1222 Article 15 and determined in ACER decision No 04/2021[5].

See the pictures below for an overview.

DID YOU KNOW

It is the TSOs of a System Operation Region (SOR) that make the official proposal of the establishment of the RCC in their region. Capacity Calculation Region (CCR) is the geographic area in which the Coordinated Capacity Calculation is applied.

Nordic SOR and CCR Nordic covers the same area, however CCR Hansa covers the bidding zone borders between CCR Nordic and CCR Core.

FIGURE 7: Geograpcial scope of Nordic RCC tasks

NORDIC SOR	CCR NORDIC	CCR HANSA	PAN-EUROPEAN
Nordic CGM Nordic OPC Nordic STA	Nordic CCC Nordic CSA	Hansa CCC Hansa ROSC (CSA)	CGM OPC STA
CGS (case by case)			

[4] https://www.acer.europa.eu/sites/default/files/documents/Individual%20Decisions/ACER%20Decision%2005-2022%20on%20the%20Definition%20of%20System%20Operation%20Regions_0.pdf

[5] https://acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2004-2021%20on%20the%20CCR.pdf

COMMON GRID MODEL (CGM) ARTICLE 37.1 (c)

Task description

The main purpose of the Common Grid Model (CGM) is to provide a common data model representing the power system in the Nordic and Pan-European area, which can be used for performing further analysis through the tasks performed by Nordic RCC to ensure a secure power market and security of supply.

The value of the CGM task is the creation of a single grid model representing the whole Nordic (or European) region which can be used by other services to increase the security and efficiency of the grid. The CGM represents a detailed overview of the electricity grid across borders that has not been available to TSOs before. On that basis better regional or Pan-European analysis through the other RCC tasks can be done. This provides TSOs with better information for making better decisions.

The CGMs are created for different time horizons from a near real time representation of the grid, to one and two days ahead, and all the way up to year ahead models. The different time horizons have different purposes and provide input data for different services. The target solution is to create CGMs for various timeframes as can be seen in Figure 8.

Pan European CGM

European legislation requires a Pan-European CGM that is created by using individual grid models (IGMs) from all relevant TSOs. The new Common Grid Model Exchange Standard (CGMES) has been created for this purpose.

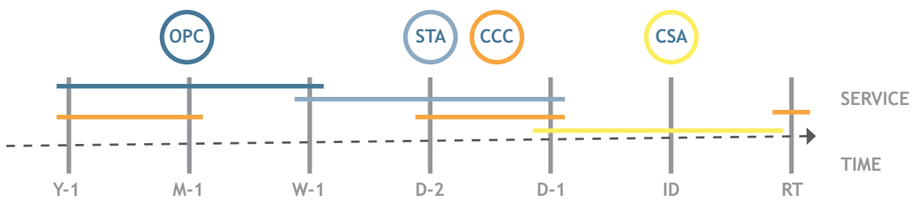
The Pan European CGM process merges IGMs from all European TSOs into one Pan European CGM. The systems and rotational principle for merging the CGM went live at the end of 2021 with a continuously increasing number of IGMs delivered by TSOs.

As of 2022, Nordic RCC does not yet participate in the Pan European process. For Nordic RCC to deliver the regional tasks based on a CGM a Nordic CGM process was set up.

Nordic CGM merge

Nordic RCC receives the IGMs for each of the 5 Nordic control areas, Eastern and Western Denmark, Norway, Sweden and Finland. The IGMs arrive at Nordic RCC, they are then validated to ensure good quality and finally merged into a Nordic CGM. The merged CGM serves as input to the Nordic regional tasks and is provided to Nordic TSOs for internal use.

FIGURE 8: Target solution for various CGM timeframes



CGM Alignment - CGMA and PEVF

The CGMA (CGM Alignment) and PEVF (Pan European Verification Function) ensure that the IGMs are aligned with each other. This is done for a multitude of time horizons (Y-1, M-1, W-1, D-2, D-1, ID).

To ensure that the IGMs are mergeable, they need to be balanced when combined, be congestion free and have High Voltage Direct Current (HVDC) flows that follow the pre-aligned flow, either forecasted or from the market. The CGM alignment is divided into CGMA and PEVF which is used as a basis for different time horizons.

Common Grid Model Alignment (CGMA)

For the D-2 time-horizon, before the market results are available, all IGMs constituting the CGM area are aligned in the CGMA process. The CGMA process ensures that the power flows on the HVDC links and net positions are agreed upon before the creation of the D-2 IGMs. Afterwards, AC (Alternating Current) tie line flows are calculated based on HVDC links and net positions.

The Nordic power system has distinctive characteristics. Three of the Nordic national transmission systems are divided into Bidding Zones (BZs). The Nordic power system is characterized by a combination of a lot of wind power and hydropower which result in volatile flow directions. Furthermore, the Nordic area is an exception to the European system by having HVDC links consisting of multiple poles. Due to these distinctive characteristics the input data in the Nordics is aligned before sending it to the European CGMA, to improve the quality of the results from the European CGMA.

Pan-European Verification Function (PEVF)

For the D-1 and ID time-horizon, the PEVF data is used to ensure that the IGMs are mergeable. In this time horizon, the market results are available and used as the basis for the alignment.

Implementation (CGM, CGMA, PEVF)

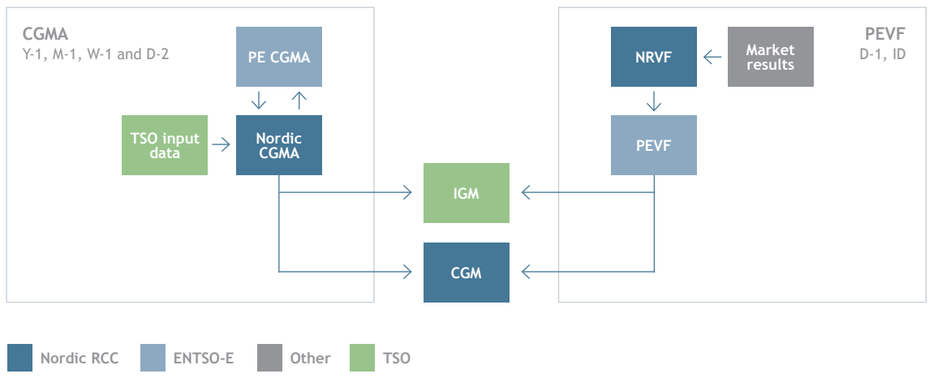
The Nordic D-2 (two day ahead) CGM process went into operation in the autumn of 2021. The D-2 CGM is used as input for the (D-1) flow-based Capacity Calculation process.

The D-1 (day-ahead) process is implemented as a reduced version. Work is ongoing to have this process fully implemented with the same support as the D-2 process. For this time-horizon PEVF aligned data will be used for the merge of the IGMs. The D-1 CGM will be used as input for the CSA and CCC tasks.

The remaining timeframes (Y-1, ID, M-1 and OS) will be gradually developed and implemented in the coming years. The CCC service will use the Y-1, M-1,D-2, D-1, ID CGM and OS CGMs, the OPC service will use the Y-1 CGM, and the CSA will use the D-1 and ID CGMs.

For ID timeframe, PEVF data will be used as for the D-1 process. Furthermore, historical PEVF aligned data will be used for the M-1 and Y-1 specific scenarios.

FIGURE 9: CGMA and PEVF business process



Outcome of monitoring

Operational performance

The figures below present the success rate of the CGM process. Figure 10 shows the “available valid IGMs” for each day during the second half of 2022. IGMs that were either invalid or missing were substituted with an IGM for a different hour. Figure 11 shows the “successfully merged CGM” for each day during the same period. All successfully merged CGMs consist of all 5 IGMs in the Nordic region, either using the available IGM or a substitute.

Recommendations and the extent to which they are implemented by the TSOs

The CGM service and its results do not lead to any recommendations for TSOs. Merged CGMs (regional or Pan-European) are only input to other services, but not an instruction of any kind for the TSOs.

Effectiveness and efficiency

The CGM service is operational for the D-2 timeframe and under development for other timeframes. Insights of effectiveness and efficiency are to be expected when more experience is gained.

In the development phase significant resources had to be used in order to ensure a high standard of data quality. The TSOs and Nordic RCC have gained valuable experience in creating and merging CGMES based IGMs.

Regarding the efficient performance of the European Merging Function (EMF), we are in a dialogue with other RCCs in order to ensure the efficient use of resources when (further) developing or using any tools for this task.

Future outlook

The Nordic CGM process is running reasonably well for the D-2 timeframe with a decreasing trend on IGM substitution.

The Nordic CGM merge for other timeframes will be developed in the coming years. Nordic RCC will also develop further functionalities and features to increase accuracy and accommodate the changing requirements for system operation. As with the other tasks, Nordic RCC is also striving to increase the understanding and visualization of results by considering additional tools.

For the Pan-European CGM task, further work needs to be done when it comes to the provision of IGMs. The TSOs face different challenges in providing IGMs in CGMES format related to information security, IT-integration or model creation. For the Pan-European CGM to work successfully, consistent and widespread IGM provision and involvement from the TSOs is needed.

For the Nordic CGM, data quality continues to be a focus point, and Nordic RCC as well as the TSOs continue quality improvement through load flow analysis as well as the actual use of CGMs in the CCC and CSA tasks that provides valuable insights and learnings.

FIGURE 10: Available valid IGMs

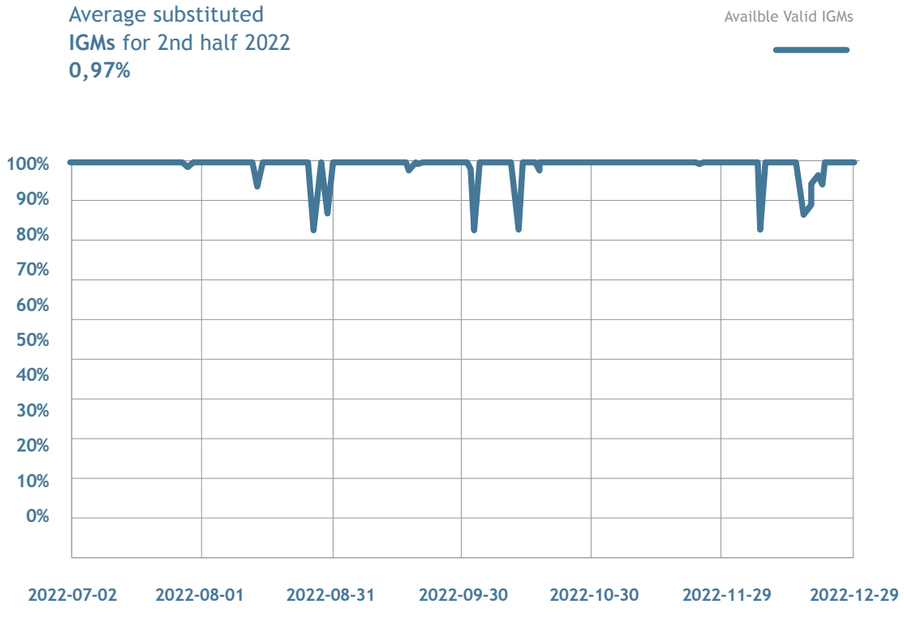
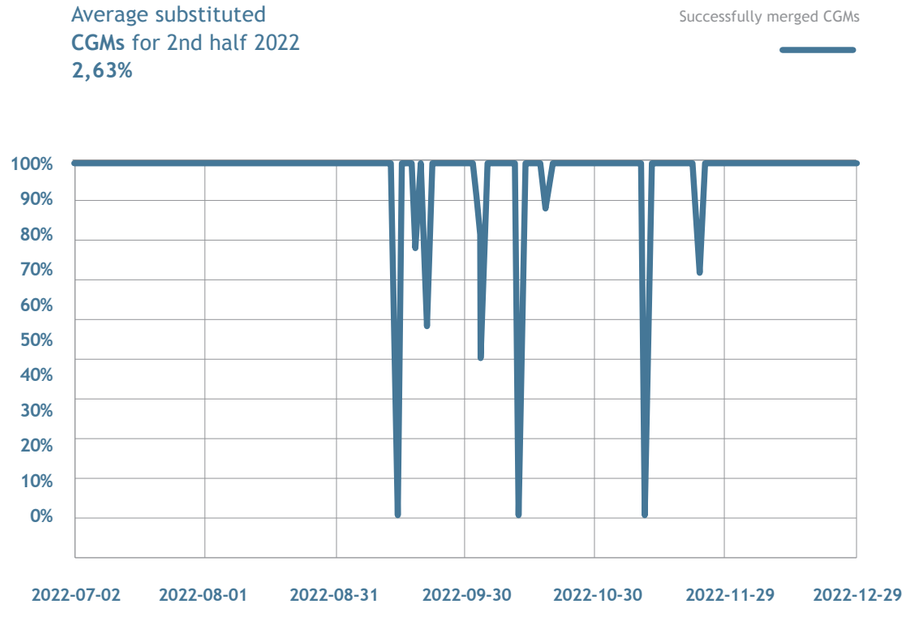


FIGURE 11: Successfully merged CGMs



OUTAGE PLANNING COORDINATION (OPC) ARTICLE 37.1 (f)

Task description

The Outage Planning Coordination (OPC) task facilitates the Regional and Pan-European Outage Planning Coordination processes. OPC is at the heart of regional coordination and the first step of coordinated system operation in the Nordic Region and in Europe. The value of the OPC task is to provide the TSOs with a baseline for system operation - a coordinated plan of outages for the next year. Possible changes to that baseline are coordinated in the four weeks ahead (W-4) and week-ahead (W-1) timeframe.

The Nordic OPC process is agreed and defined in cooperation with the Nordic TSOs, and the Pan-European OPC process is described in the Pan-European OPC Rulebook.

Nordic task

In the Regional Nordic process, OPC has the overall goal to optimize the availability of the grid and minimize the impact on security of supply and the market when planning necessary outages. Outages can be necessary to maintain assets in the transmission grid, in the construction phase and commissioning of new network elements, for decommissioning of old elements and when rebuilding existing elements.

The Nordic OPC task works with the time horizons five years ahead (Y-5), year-ahead (Y-1) four weeks ahead (W-4) and the week-ahead (W-1).

Y-5 process:
Nordic RCC facilitates the sharing of information on upcoming projects and changes in the transmission grid that expect to impact grid availability on a regional level.

Y-1 process:
Nordic RCC coordinates outages on regional and cross-regional level for the next year. This is the main process of the OPC task and serves as a starting point and benchmark for the next year. Outages are coordinated on regional level using the Nordic IT tool (NOIS, Nordic Operational Information System). The TSOs identify relevant outages with the help of the list of relevant assets updated every year with the support of the RCCs (see Pan-European process).

In the target solution a Regional Operational Security Analysis based on a Y-1 CGM will be done in a structured way with various relevant load and productions scenarios.

Implementation status

At present Nordic RCC is performing a CGM-based security analysis on specific limited scenarios. This security analysis does calculations on the expected grid, including planned outages. This is combined with an expert-based assessment carried out in close cooperation with the TSOs and the use of the TSOs' calculations.

The Nordic Y-1 regional process is linked to the Pan-European process. The Y-1 OPC process must be finalized each year before 1 December.

DID YOU KNOW

The Nordic TSOs have coordinated regional outages since the mid-1980s.

W-4 and W-1 processes:
Changes of outages to the Y-1 plan are coordinated for the next 4 weeks or one week respectively.

Outages for the coming week are closely coordinated and agreed upon[6]. Any outage planning incompatibilities are solved collectively.

The Nordic W-1 task combines the expected adequacy situation in the Nordic Region, the expected operational situation in the Nordic Region and the outage planning.

Pan European task

The Pan-European task focuses on outage planning coordination for the next year (the process must be finalized no later than 1 December for the next year) and the next week (the process must be finalized Friday at 1 PM for the next week).

As a part of the Pan-European tasks, the RCCs facilitate several weekly and yearly processes. The tasks are done on a rotational basis shared by the RCCs, and include:

- the annual process creating the CGM Y-1 model,
- planning of the details in the year-ahead outage planning coordination
- coordinate the process of updating the relevant assets list by the TSOs,
- maintenance of the PE OPC tool and OPC procedures
- following the weekly, monthly and yearly process using the PE OPC tool.

Furthermore, the RCCs participate in the further development of the PE OPC tool and task. RCCs and TSOs also work on continuous coordination and relevant integration between the OPC and STA services.

Status of the Pan European obligations

Nordic RCC has joined the Pan European work on a rotational basis as described and agreed in the Pan European OPC Rulebook and takes part in the work in the Best Practice Task Document.

[6] For further information, see the information on WOPT and DOPT on page 58-59

Outcome of monitoring

Nordic RCC takes part in the rotational tasks on a weekly and yearly basis. Reporting on the Pan-European tasks is covered as part of ENTSO-Es Regional Coordination Assessment Report.

Operational performance

In 2022, Nordic RCC facilitated the Y-1 process for 2023 completed on 30 November 2022.

In the yearly process performed in 2022, the number of outages coordinated for 2023 was 235 for the Nordic region, including outages between the Nordic region and the neighbouring regions.

The Nordic regional outages coordination process is carried out prior to the Pan European Process. The TSOs often coordinate their outages bilaterally in the planning process before the regional OPC process.

As the outages in most cases are coordinated before upload to the NOIS system or coordinated using the NOIS system before the weekly Nordic regional process (described in the WOPT section on page 58 + 59), the number of outages on which the regional process leads to a recommendation to, for example postponing an outage, is limited.

The W-1 and W-4 coordination was performed on a weekly basis in the WOPT calls since the start of Nordic RCCs operation.

Recommendations and the extent to which they are implemented by the TSOs

The Nordic regional outage coordination process focuses on optimization of the availability of the grid and minimization of the impact on security of supply and the market when planning necessary outages. In this process recommendations are given to the TSOs, mainly in the year ahead (Y-1) process. A recommendation can typically be a specific recommendation for a coordination of outages or replanning of a specific outage, a recommendation to reduce the impact of the planned outages or reduce the planned period for the outage. For the Y-1 process in 2022 for 2023, 16 recommendations were agreed on between Nordic RCC and the TSOs. All recommendations were either implemented or more efficient solutions were developed in the Nordic Outage Cooperation to solve the detected situation.

Effectiveness and efficiency

Effectiveness of the OPC process can be defined with parameters like the participation of the TSOs, the transparency of the process and access to tools used, how complicated it is to update the outage plan and the overview of the result when assessing the results of the security analysis. The effectiveness thus depends on regional processes and tools and Pan European processes and tools.

In recent years of cooperation, Regional and Pan-European together have resulted in an effective process. Main focus areas have been to ensure a data exchange as seamless as possible and to prepare the process to be CGM compatible.

The efficiency of outage planning coordination is in principle to have as little impact as possible on the security of supply and the market.

Future outlook

In the future, Nordic RCC will perform a Regional Operational Security Analysis based on a Y-1 CGM with relevant load and productions scenarios, calculating effects of planned outages. This will continue to be combined with an expert assessment to ensure and increase the availability of the grid and minimize the impact on security of supply and the market.

The definition and monitoring of issued recommendations and their implementation will further be developed. The process will use a regional Y-1 CGM model using various consumption and production scenarios[7] and specific scenarios describing Nordic normal and strained situations.

[7] Defined in the System Operation Guideline and in the Pan European OPC Rulebook

SHORT-TERM ADEQUACY (STA) ARTICLE 37.1 (e)

Task description

The Short-Term Adequacy (STA) task supports the TSOs in the assessment of operational security by analysing the adequacy situation a week ahead of operation. Nordic RCC provides an analysis on the ability of supply meeting demand under the given regional grid limitations, based on the forecasted load, transmission capacities, and generation capacity.

The STA task is performed every day for the coming seven days. If an adequacy situation is identified, Nordic RCC facilitates the TSO coordination on remedial actions for the resolution of the conflict.

The service covers two parallel processes.

- The first process covers the Nordic SOR and uses a regional tool. The region is analysed in detail taking into consideration its own specificities (high level of interconnection, high penetration of wind, coordination of outages, and more).
- The second process is Pan-European with input from all TSOs and a common tool. The Pan-European process delivers comparable results and enhances the coordination capacity between the Nordic region and the neighbouring zones to achieve the most secure level of operation.

The STA task supports the Nordic TSOs on securely operating the system in collaboration with other tasks. It is closely related to Outage Planning Coordination (OPC), as the unavailability of resources can affect adequacy. In the same way, STA supports the Critical Grid Situation (CGS) process which is triggered by the Nordic TSOs if the grid is expected to experience extraordinary stress.

Every day, Nordic TSOs provide the transmission capacity, generation and load forecasts for their zones. Nordic RCC checks the data quality and obtains the adequacy overview for the upcoming seven days. In cases where the load cannot be supplied by the generation and import capacity, Nordic RCC triggers a coordination protocol to further analyse the problem in collaboration with the other TSOs with the objective of reducing the risk of adequacy.

In the target solution, Nordic RCC will propose recommendations that reduce the risks of a detected regional adequacy situation. At present, Nordic RCC facilitates the coordination of risk reducing measures.

Pan-European Regional Adequacy Assessment

The Pan European STA process takes place every morning and starts at 9.00 am. The common Pan-European tool receives data from all European TSOs and performs the corresponding calculations before 9.30 am. At this point, the adequacy situation of Europe can be assessed.

On a rotational basis, the RCCs have the role of Adequacy Assessment Agent (AAA). The Adequacy Assessment Agent informs all RCCs about adequacy situations identified in any European region and triggers further calculations if the TSOs require an update of the data.

After the RCCs have been informed of the adequacy issue, any of the affected TSOs can trigger the Regional Adequacy Assessment (RAA) process. For this process, the responsible RCC will facilitate coordination among the affected TSOs and all regions that are connected to the affected zone. The performance of the Pan-European task is reported as part of ENTSO-Es regional coordination assessment report.

Outcome of monitoring

Operational performance

Figure 12 shows the percentage of days the Nordic STA process was performed successfully before the deadline at 8:30 am. The process includes carrying out the Nordic STA calculation and publishing results to the Nordic TSOs. The unsuccessful cases were caused by IT connection issues that were solved after the deadline.

Figure 13 shows the percentage of days that Nordic RCC successfully sent TSO data to the Pan-European STA tool before the deadline of 9:00 am.

The days when this process has not been successful are related to IT issues, when the first part of the process was not successful.

Figure 14 shows the percentage of days where any Nordic TSO data was missing.

Recommendations and the extent to which they are implemented by the TSOs

In case of an identified adequacy issue, remedial actions are taken. The TSOs suggest and agree upon the remedial actions which will be most efficient for solving the observed issue, based on the extensive and detailed knowledge of their own grids. The role of Nordic RCC is to support the TSOs, to coordinate the best possible solution with all the involved actors, and to improve and document the process based on the results.

Effectiveness and efficiency

Regarding effectiveness and efficiency Nordic RCC and other RCCs are in a dialogue to determine possible ways of defining and monitoring effectiveness and efficiency for the STA task. Nordic RCC continuously assesses the efficiency of the Nordic and Pan-European processes. Initially, the Nordic process was developed to ensure that the needs of the region were satisfied. However, Nordic RCC constantly evaluates the benefits of having both processes and works to combine them to ensure efficiency.

Future outlook

Nordic RCC and the Nordic TSOs have a clear path to coordinate and enhance communication with the neighboring regions, as this will increase operational security for all parties. As the service evolves, additional data can be monitored and reported on.

As the STA task further advances the monitoring of recommendations, their implementation will also progress.

FIGURE 12: Percentage of days with Nordic STA process completed before 8.30 am

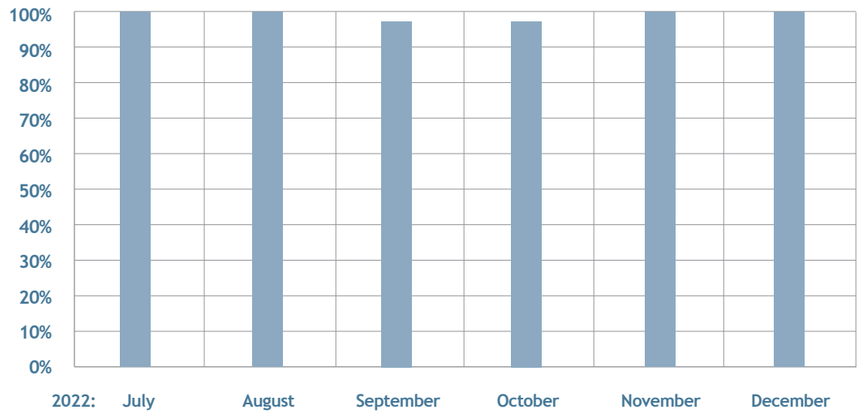


FIGURE 13: Percentage of days Nordic RCC sent TSO data to PE STA tool

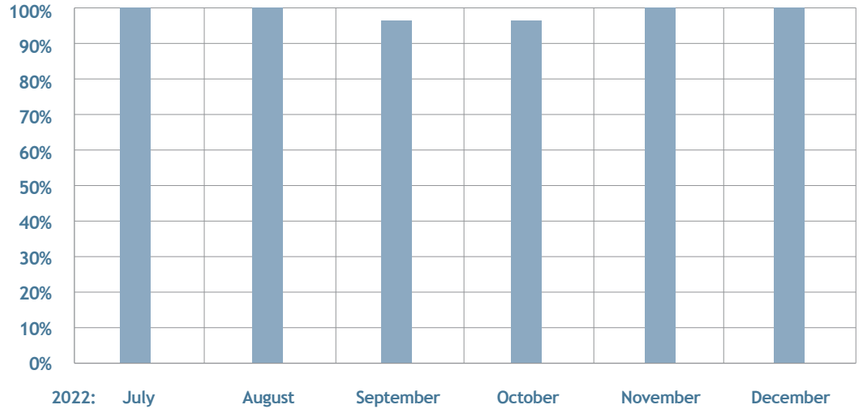
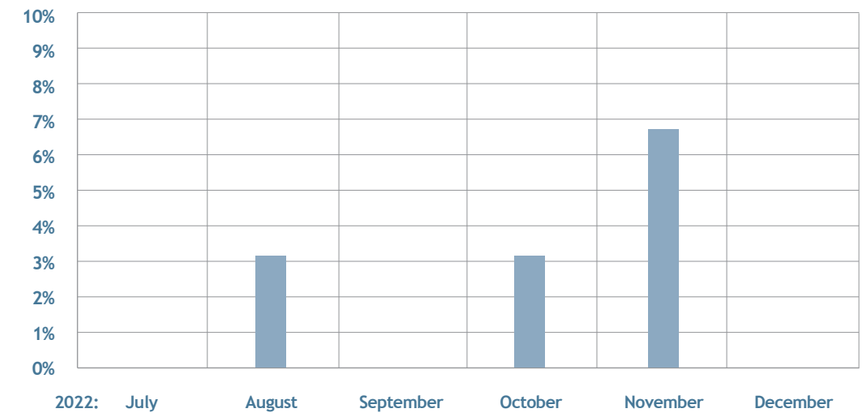


FIGURE 14: Percentage of days with Nordic TSO data missing



CRITICAL GRID SITUATION (CGS) NOT REGULATED BY EU REGULATION 2019/943

Critical Grid Situation (CGS) is a task that does not originate from EU Regulations, as the other RCC tasks do, but are a consequence of an ENTSO-E decision of September 2017.

Based on the cold spell in the winter of 2016/2017 and the experiences gained, ENTSO-E and TSOs identified the value of initiating a tighter coordination process amongst TSOs and RCCs in cases where the electricity system is under extraordinary stress or expected to be so.

TSOs can trigger the CGS task when a critical situation occurs or is expected which cannot be solved solely at national level and cannot be solved by normal available remedial actions.

After initiation, the relevant RCC facilitates regional or cross-regional coordination. The core of the CGS process is facilitation and support of exchange of information among relevant TSOs and relevant RCCs.

Regular meetings are organised, and relevant data and analysis are shared in order to get a clearer picture of the situation and of possible mitigating actions.

When triggered, the CGS task acts as a link between long term processes, such as the OPC Y-1 process, and short-term processes, such as the W-1 STA and OPC. CGS processes depend heavily on the specific situation. The time horizon spans from 3 months ahead until a few days ahead.

In the Nordic Region, the TSOs often act proactively, using the CGS service to avoid a potentially critical situation. Since the introduction of the CGS task Nordic RCC has participated in 3 Nordic CGS processes.

After each completed CGS process, the RCCs document the process and produce a report that is sent to ENTSO-E.

FIGURE 15: Number of times Nordic RCC has participated in a Nordic CGS process

2017	2018	2019	2020	2021	2022
-	-	-	2	1	0

COORDINATED CAPACITY CALCULATION (CCC) ARTICLE 37.1 (a)

Task description

Today, TSOs calculate the Net Transmission Capacities (NTC) which are available for trade across borders on the so-called interconnectors. In the future, the calculation will be based on the flow-based methodology according to CCR Nordic Capacity Calculation Methodology (CCM)[8]. The flow-based calculation includes a more detailed physical representation of the entire regional grid and is expected to utilize more transmission capacity and produce efficient market results. Furthermore, the flow-based methodology provides a direct physical link between the grid and capacity allocation which reduce counter-trade and increase market transparency.

Flow-based capacities will be based on input data from the TSOs.

Implementation Status

The Coordinated Capacity Calculation (CCC) task has been taken over by Nordic RCC step by step. Today, the Nordic TSOs calculate the Net Transmission Capacities (NTC), while Nordic RCC coordinates, delivers and verifies day-ahead (DA) capacities and verifies the results for DA flows in the Nordic Area. NTC values among all bidding zones give a simple and easily understandable DA market settlement in a secure grid. In that way, Nordic RCC ensures that the process is aligned among the TSOs and towards NEMOs which makes a good basis when changing the flow-based (FB) capacity calculation.

The target solution is FB capacity calculation performed by Nordic RCC as described above. Also with FB, Nordic RCC will continue to deliver capacities to NEMOs and facilitate the verification process of DA flows. ATC values for intraday gate opening will be extracted from the calculated DA FB domain and DA flows.

Geographical scope

For CCR Nordic, Nordic RCC provides the CCC service as described above.

CCR Hansa

In cooperation with TSCNET, Nordic RCC also performs the CCC task for CCR Hansa. This region consists of the interconnectors from CCR Nordic to the Core CCR (Central Europe). In practice, Nordic RCC delivers the CCC service for the interconnectors at the Swedish-Polish border and the Danish-German border. In the future, Nordic RCC will also provide the CCC service to the interconnector at the Swedish-German border (owned by Baltic Cable AB).

The methodology[9] for calculating capacities in CCR Hansa is based on the so-called coordinated NTC.

DID YOU KNOW

Nordic cross-zonal capacities are input to the Pan-European Single Day-Ahead Market Couling covering approximately 1.530 TWh per year matching trades with a daily value of approximately 200M€.[10]

[8] https://forsyningstilsynet.dk/media/8342/bilag-1-ccm-legal-document.pdf

[9] https://forsyningstilsynet.dk/media/5376/bilag-2-ccr-hansa-ccm-amended-legal-document-finalv2.pdf

[10] https://www.entsoe.eu/network_codes/cacm/implementation/sdac/

Outcome of monitoring

External Parallel Run (EPR)[11]

The daily flow-based capacity calculation has run as a daily process for more than a year in parallel to the current NTC. In March 2022, publication of calculated FB-domains began when entering the so-called External Parallel Run (EPR).

The flow-based domain is published daily on the JAO (Joint Application Office) Publication Tool[12].

To assess the functionality and efficiency of the flow-based CCC process, National Regulatory Authorities (NRA) have defined a KPI for fallback/backup FB-domains of 3% or less.

Defining 'Performance' as the capability of calculating a daily FB-domain means that the Performance target should be higher than 97% for meeting the NRA KPI of less than 3%.

The monthly Performance of the daily flow-based capacity calculation can be seen in Figure 17 below.

As a part of the Nordic FB CCM EPR reporting, Nordic RCC will report to the NRAs on a KPI for the social economic welfare gain between current NTC and FB methodology.

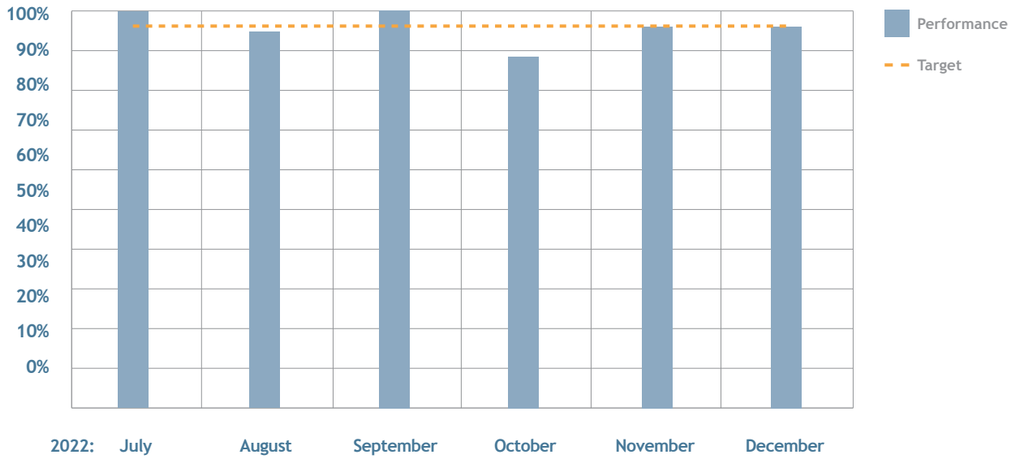
Due to unavailability of the necessary simulation tool, it has since June 2022 been impossible to calculate market results and make a social economic welfare analysis from the FB-domains.

As a result, the expected go-live date of day-ahead FB capacity calculation is postponed to Q1 2024.

Operational performance CCC FB

Figure 16 shows the percentage of successful runs of the flow-based process resulting in a valid FB domain within the defined deadlines for the day-ahead timeframe.

FIGURE 16: Percentage of successful runs of flow-based process



[11] Market reports and information on EPR progress are available at https://nordic-rsc.net/flow-based/simulation-results/

[12] https://test-publicationtool.jao.eu/nordic

The 97% target level, which corresponds to 3% KPI back-up usages, is illustrated in the figure with a dashed line. The target level has not been met for some months. In more than 3 pct of the market time units (MTU) a FB calculation could not be performed, and back-up FB domain has been provided. The Nordic RCC and the Nordic TSOs are working intensely to increase the CCC FB performance in order to meet the target level.

CCC1c

Figure 17 shows the percentage of a successful CCC1c process (based on NTC) on a monthly basis. The CCC1c process currently in operation consists of coordinating and verifying day-ahead capacities and delivering them to NEMOs as well as verifying the results for DA flows in the Nordic area.

The Nordic RCC target level for the CCC1c operational performance is 100pct. This means that the Nordic RCC should be sending NTC capacities from the TSOs to NEMOs every day without exception. The target was met for all months since the Nordic RCC operation started 1 July 2022.

Coordinated actions and the extent to which they are implemented by the TSOs

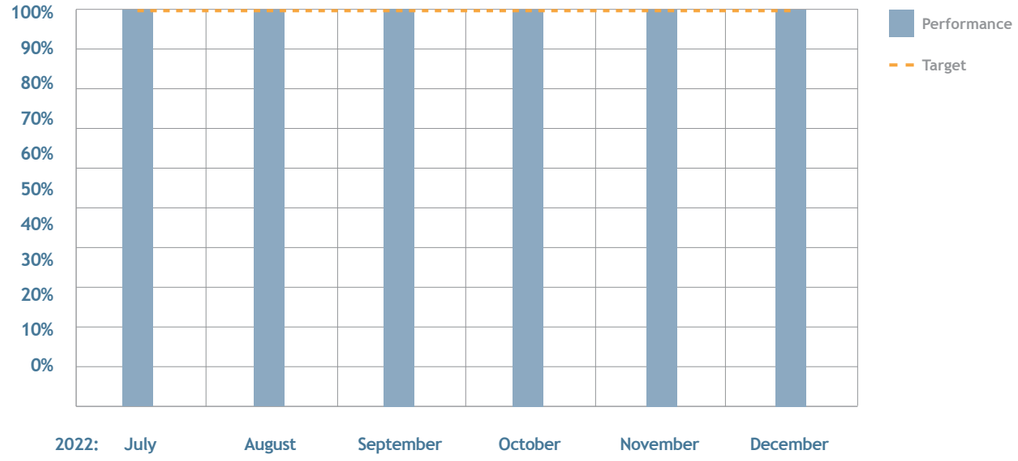
Currently Nordic RCC only coordinates, delivers and verifies day-ahead (DA) capacities. Calculation is made by the TSOs and no coordinated actions are issued.

From go-live of the flow-based capacity calculation, Nordic RCC will issue coordinated actions and monitor and report their implementation.

Effectiveness and efficiency

Once go-live of the flow-based capacity calculation has taken place and more experience gained, additional KPIs on effectiveness and efficiency can be defined, monitored and reported on.

FIGURE 17: Percentage of successful CCC1c process



Future outlook

The capacity calculation task is currently still in the testing phase, the so-called External Parallel Run. Go-live of the task is expected at the earliest in Q1 2024.

Within 12 months after go-live with the DA FB capacity calculation, the FB Capacity Calculation (LTCC) will be introduced providing for FB domains for Y-1 and M-1 timeframes.

COORDINATED SECURITY ANALYSIS (CSA) ARTICLE 37.1 (b)

Task description

The main purpose of the Coordinated Security Analysis (CSA) task is to identify operational security risks in advance and recommend optimal remedial actions to the TSOs, while ensuring clear communication and coordination among all affected parties.

The possibility to highlight and visualise operational security risks in advance gives the operators additional time to prepare and investigate possibly needed remedial actions thus aiding operators during real-time operation.

The current CSA task is based on the high-level need from the System Operation Guideline (SOGL)[13] and the corresponding high-level CSA methodology (CSAm)[14]. For each CCR, relevant TSOs further specified a methodology for regional operational security coordination (ROSC)[15] which Nordic RCC is implementing.

Nordic CSA

The CSA service runs on a daily basis and relies on the latest results of the day-ahead market, which are included in the Nordic D-1 Common Grid Models (CGMs). Nordic RCC performs a security analysis which consists of simulating a large number of fault scenarios where one or more elements are disconnected, following the TSOs' recommendations. The focus is to identify potentially overloaded elements in the network and suggest optimal remedial actions to either act preemptively or ensure cost-effective measures are in place, should the outage scenario occur during operation.

Since the D-1 CGM does not contain all the necessary information to perform a security analysis, all four Nordic TSOs are required to send additional data to Nordic RCC. This additional data includes a list of outage scenarios to be simulated, i.e., contingencies, Power Transfer Corridors (PTC) with associated limits and system integrity protection schemes (SIPS), which describe automatically triggered responses to specific system states. Furthermore, suggested optimal remedial actions require the TSOs to inform the RCC of the measures available given the results of the day-ahead market, planned maintenance schedules or any other consideration that might affect their adoption. It is then the responsibility of Nordic RCC to perform an optimisation process, the results of which indicate the best actions to be taken.

Implementation status

The preliminary version of the CSA in production covers the day-ahead timeframe and consists of the security analysis and a verbal coordination among the Nordic TSO and RCC operators[16]. System integrity protection schemes (SIPS) are included as part of the security analysis, but optimization remedial actions are not yet included.

CCR Hansa

A separate ROSC methodology has been developed and approved[17] for the CCR Hansa. Implementation is foreseen once CSA is in operation in CCR Nordic and the Core CCR. Nordic RCC and TSCNET are together preparing the implementation of Hansa ROSC.

[13] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32017R1485&from=EN

[14] https://eepublicdownloads.entsoe.eu/clean-documents/Network%20codes%20documents/Implementation/sys/4.a.180710_Methodology_for_coordinating_operational_security_analysis.pdf

[15] https://forsyningstilsynet.dk/media/8573/bilag-2-konklusion-om-enighed-mellem-de-nordiske-regulatorer.pdf

[16] As most of the Nordic region is in a separate synchronous area, the analysis is based on the Nordic CGM with the inclusion of the DK2 area in Germany to present realistic flows for the western part of Denmark as they are in the same synchronous area.

[17] Hansa ROSC methodology https://eepublicdownloads.entsoe.eu/clean-documents/nc-tasks/EBGL/SO_GL_A76_Hansa_CCR_Operational%20Security%20Coordination%20methodology%20SOGL%207677%20_consultation.pdf

Outcome of monitoring

Operational performance

Figure 18 shows the percentage of successful runs of the CSA process at Nordic RCC from July 2022. This is expressed in terms of the monthly quota of Market Time Units (MTUs) for which the results of the CSA analysis are available.

Figure 19 shows instead the reasons of failed runs relative to the monthly number of MTUs' missing CSA results. It is important to note that the tools developed by Nordic RCC are still undergoing a maturing phase and therefore it is not possible yet to distinguish between failures caused by the tools and underlying data quality issues.

Coordinated actions and the extent to which they are implemented by the TSOs

The current version of the CSA does not include remedial action optimization nor suggestions for remedial action to the TSO operators. Hence no coordinated actions are issued yet.

Effectiveness and efficiency

As the current version of the CSA does not include remedial action optimization nor suggestions for remedial action, we cannot measure their effectiveness. Investigations are being carried out as to how to verify the accuracy of the security analysis itself.

Future outlook

The plan for the CSA is to focus on the implementation of the Nordic ROSC with full remedial action optimization, including both day-ahead and intraday time horizons. To achieve this, a Nordic Remedial Action Optimization methodology will be developed to ensure that the implemented approach provides the needed value for the Nordic TSOs.

FIGURE 18: Monthly quota of Market Time Units (MTUs) that are available with CSA results

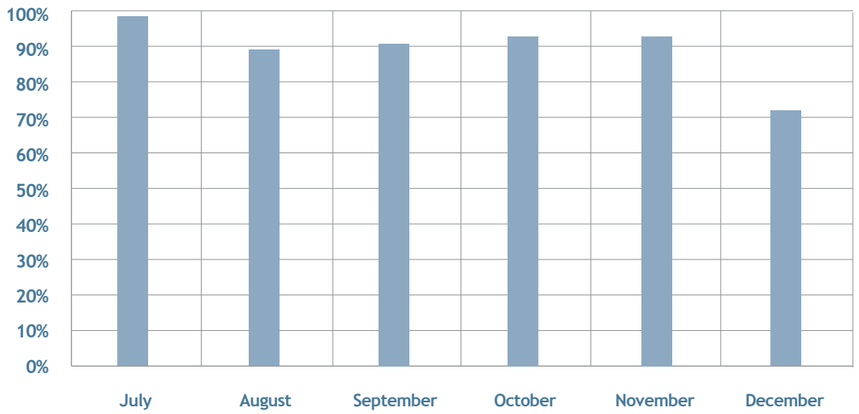
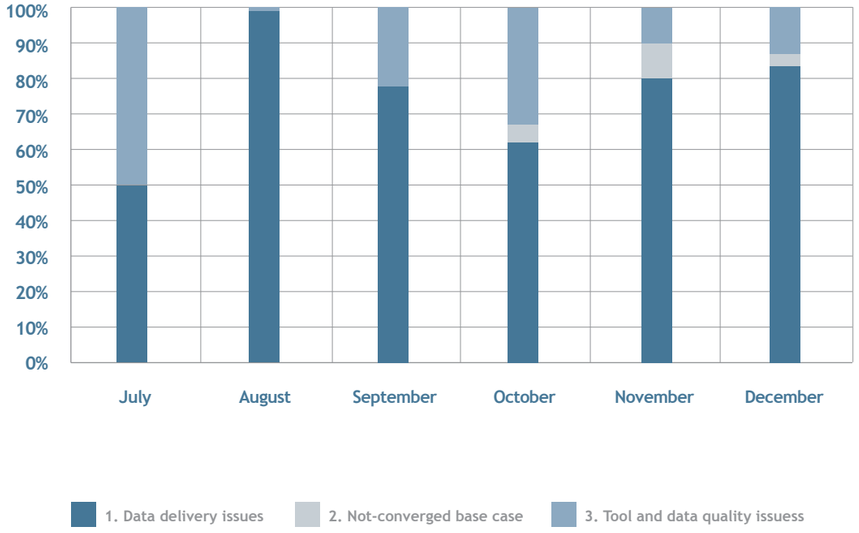


FIGURE 19: Relative quota of MTUs' missing CSA results grouped by reasons



WEEKLY OPERATIONAL PLANNING TELECONFERENCE (WOPT)

WOPT

The Nordic region performs the Weekly Operational Planning Teleconference every Thursday. During this meeting, Nordic RCC and the TSOs discuss the operational situation of the region, sharing relevant information and taking actions to prevent or reduce risks. The call is divided as follows:

- A final coordination and communication of the outages for the upcoming week and a preliminary confirmation for the next four weeks in the Nordic region.
- An evaluation on the outages connecting to bordering regions of the Nordic countries.
- An analysis of the adequacy situation for the next seven days, focusing on the twelve Nordic bidding zones
- An assessment of the adequacy situation in bordering regions, raising awareness of possible risks.
- An operational discussion with relevant inputs from the TSOs.

The **WOPT** facilitates sharing the most relevant information for the region in the upcoming week with the objective of ensuring the best possible operation and coordination.

DAILY OPERATIONAL PLANNING TELECONFERENCE (DOPT)

DOPT

The Daily Operational Planning Teleconference is performed every evening in the Nordic region. It takes into consideration the input that every Nordic TSO believes is relevant, focusing on the next day of operation, but also taking into account any relevant event in the upcoming week. Nordic RCC collects the information and facilitates the meeting with the objective of making all the TSOs aware of the upcoming operational situation of the region.

The **DOPT** allows enhanced coordination in case any preventive actions need to be taken to ensure the energy supply in the region.

FIGURE 20: Timing of WOPT and DOPT

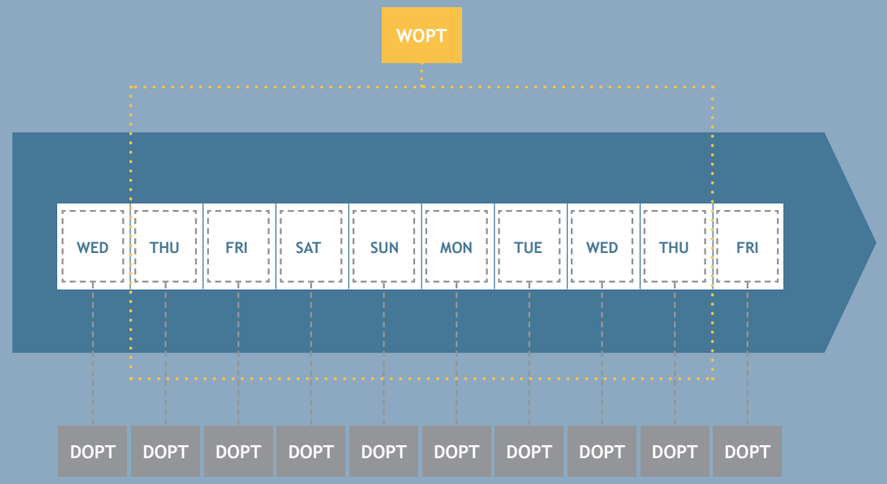
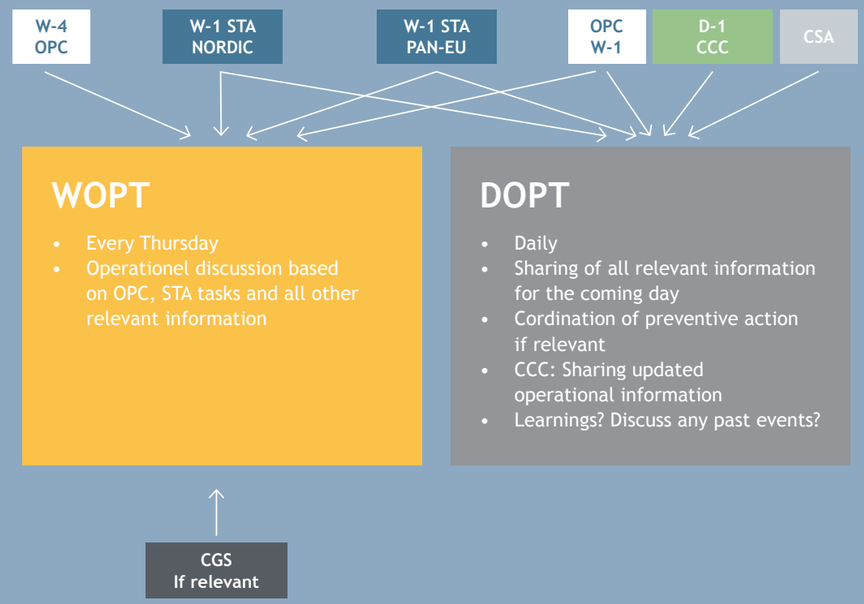


FIGURE 21: Agenda for WOPT and DOPT



NEW TASKS

EU REGULATION 2019/943 ARTICLE 37.1	TASK	PROPOSAL	IMPLEMENTATION DEADLINE	STATUS
g	training and certification of staff working for RCCs	Proposal approved by ACER[18]	2024 (training) and 2026 (certification)	Implementation started
h	supporting the coordination and optimization of regional restoration as requested by transmission system operators	Proposal under development by ENTSO-E		
i	carrying out post-operation and post-disturbances analyses and reporting	Proposal approved by ACER[19]	1.10.2022	RCCs have coordinated amongst each other and are prepared for the process.
j	regional sizing of reserve capacity	Proposal under development by ENTSO-E		
k	facilitating the regional procurement of balancing capacity	Proposal under development by ENTSO-E		
l	supporting TSOs, at their request, in the optimization of inter-transmission	Proposal approved by ACER[20]	Not requested by Nordic TSOs	
m	carrying out tasks related to the identification of regional electricity crisis scenarios if and to the extent they are delegated to the RCCs	Task not requested by TSOs at the moment and no proposal is developed so far		
n	carrying out tasks related to the seasonal adequacy assessments if and to the extent that they are delegated to the RCCs	Task not requested by TSOs/ ENTSO-E at the moment. No proposal development so far		
o	calculating the value for the maximum entry capacity available for participation of foreigncapacity in capacity mechanisms	Proposal approved by ACER[21]	Dependent on ERAA results. RCCs and TSOs prepare and coordinate implementation within ENTSO-E.	
p	carrying out tasks related to supporting TSOs in the identification of needs for new transmission capacity, for upgrade of existing transmission capacity or their alternatives	Proposal under development by ENTSO-E		

[18] https://www.acer.europa.eu/sites/default/files/documents/Individual%20Decisions_annex/ACER%20Decision%2007-2022%20on%20RCC%20Training%20and%20Certification%20of%20Staff%20Methodology%20-%20Annex%20I_0.pdf

[19] https://www.acer.europa.eu/sites/default/files/documents/Individual%20Decisions_annex/ACER%20Decision%2004-2022%20on%20the%20RCC%20Post-Operation%20Post-Disturbances%20Methodology%20-%20Annex%20I_0.pdf

New tasks due to EU regulation 2019/943

With the revised Regulation on the internal market for electricity[22], new tasks have been introduced for RCCs, either as mandatory tasks or tasks that can be delegated by TSOs, if they deem relevant.

Process

For each new task, ENTSO-E is developing a more detailed task proposal with the involvement of TSOs and RCCs, where relevant. The finished task proposal is submitted to ACER for decision[23]. After the ACER decision, RCCs can start the implementation of tasks. Deadlines for implementation are individual for each new task and specified in each task proposal.

Tasks with approved proposals

g. training and certification of staff working for RCCs

On 18 May 2022, ACER approved the RCC Training and Certification of Staff Methodology which states that RCCs must prepare and carry out training and certification programs for all operational staff.

According to the methodology, Nordic RCC and its fellow RCCs have until May 2024 to implement a training and certification program, and by May 2026 all operational staff must be certified accordingly.

Nordic RCC has started implementation and plans to develop the desired training modules during 2023 in conjunction with the relevant Service Delivery Teams and Experts.

i. post-operation and post-disturbances analyses and reporting

The task proposal was approved by ACER in April 2022, and the RCCs have prepared themselves to be ready for potential task operation by October 2022. Nordic RCC has provided a SPOC (Single Point of Contact) to the ICS subgroup under ENTSO-E, as described in the methodology.

In 2022 there were no incidents triggering an RCC analysis according to the post-operation and post-disturbances analysis and reporting methodology.

l. optimization of inter-transmission system operators' settlement

The methodology establishes the process for optimisation of inter-TSO settlements related to redispatching and countertrading in accordance with Article 37.1(l) of Regulation (EU) 2019/943. The methodology applies only where relevant TSOs within one capacity calculation region jointly request support from RCC(s) on the optimisation of inter-TSO settlements. TSOs of the Nordic SOR have stated that they do not currently request this task.

o. calculating the value for maximum entry capacity available for the participation of foreign capacity in capacity mechanisms

The RCC task is defined in Annex 1 of the ACER Decision on technical specifications for cross-border participation in capacity mechanisms. Performance of the task depends on the result of the ERAA (European Resource Adequacy Assessment) process and related capacity mechanisms. RCCs and TSOs prepare and coordinate implementation within ENTSO-E. The calculation is only performed in the Nordics where capacity mechanisms open to cross-border participation are implemented.

[20] https://www.acer.europa.eu/sites/default/files/documents/Individual%20Decisions/ACER%20Decision%2013-2022%20on%20RCC%20inter-TSO%20settlements%20for%20RDCT.pdf

[21] Technical specifications for cross-border participation in capacity mechanisms: https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions%20Annexes/ACER%20Decision%20No%2036-2020_Annexes/ACER%20Decision%2036-2020%20on%20XBP%20CM%20-%20Annex%20I%20-%20technical%20specifications.pdf

[22] REGULATION (EU) 2019/943 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 June 2019 on the internal market for electricity

[23] Approval or amendment

SHORTCOMINGS

RCCs are obliged to report any shortcomings that they identify in the monitoring process[24] to ENTSO-E, NRAs in the system operation region, ACER and other competent authorities of Member States (MS).

Nordic RCC and the relevant TSOs receiving services work closely together to ensure that tasks are well-defined, tested and functioning before put into operation. Consequently, Nordic RCC has not observed any significant shortcomings for operational performance, implementation of recommendations or coordinated actions from TSOs, nor for the effectiveness and efficiency of its tasks.

This is also to be seen in the context of the status of implementation for the different tasks. As described earlier, there are several tasks that are still in the implementation and trial phase or at an intermediate step, where for example no direct recommendations or coordinated actions are issued yet.

It can be emphasized that implementation of the RCC tasks has proved to be complex and challenging in many ways, both for RCCs and TSOs. At the core of the RCC role is the creation of a common grid model that serves as a basis for most other RCC tasks. The creation of IGMs and a CGM based on the new CGMES standard has never been done before and has proved to be an immense task.

Relevant challenges or shortcomings in the implementation process are described here:

Requirements for information security

TSOs are obliged to provide data of their grid (in the form of IGMs) as well as forecast data on consumption, production and cross-zonal capacities to ENTSO-E platforms and/or RCCs. Some data is regulated as secret, for example in national security legislation in Norway and Sweden. This leads to conflicting obligations of EU obligations and national law on national security.

Therefore, there are complications and delays or even complete failure of the sharing of data and the implementation of tasks, as well as the reporting of results. To improve implementation and operation of RCC tasks, it is essential to find solutions to the conflicting requirements for national TSOs.

[24] Under paragraph 1 of Article 46, EU Regulation 2019/943

IGM quality

The CGMES standard required for IGMs and CGMs is a new standard and a new level of detail for most European TSOs. The IGM creation is complex. The merging into a regional or Pan-European CGM is extremely challenging as it must ensure high-level data quality and compatibility. For the Pan-European CGM, a common platform (OPDE, Operational Planning Data Environment) has been created by ENTSO-E, and European TSOs are providing their IGMs to different degrees. However, far from all IGMs are provided, and the creation of a useful Pan-European CGM is not yet achieved. On a Pan-European level this is still a challenge.

The Nordic region has opted to create a regionally merged CGM with input from all Nordic TSOs taking into account regional specificities. The TSOs and Nordic RCC have spent a considerable amount of time and resources on getting the data quality to the required level and on running the regional CGM merging process successfully and with stability. This has been successful for the D-2 timeframe (basis for the flow-based capacity calculation task). The D-2 quality is sufficient for ensuring that the process can run, and data is valid. For the D-1 timeframe (used by the CSA task), IGMs are provided and a CGM is merged. However, results have still to be improved to represent the electricity grids to a satisfactory degree.

Delay of the External Parallel Run for FB Capacity Calculation

The EPR of the FB capacity calculation has experienced several challenges along the way. It took time to achieve the necessary data quality (mentioned above) which delayed the start of the EPR.

Furthermore, the EPR calculation must comply with certain regulatory KPIs (1. Usages of fallback/backup FB domains and 2. Delays in delivery and publication of FB domain) in order for the FB calculation to go into operation. Those KPIs had not been reached at the end of 2022.

One main reason for not reaching regulatory KPIs is the obligation to provide market simulations and calculations on the socio-economic welfare effects of the FB calculation compared to the current NTC calculation. The tool[25] expected to provide market simulations and the basis for required calculations has been unavailable since the Summer of 2022.

Since December 2022, an alternative solution for market simulations has been provided by NEMOs, and the EPR can progress compliantly[26].

[25] "Simulation facility" provided by NEMOs

[26] For more information, see the Nordic RCC webpage: https://nordic-rcc.net/go-live-of-nordic-flow-based-ccm-delayed-to-q1-2024/

FINANCIAL STATEMENTS

CONTENT

KEY FIGURES AND RATIOS

Key figures

DKK'000	6 Dec 2021 - 31 Dec 2022
Revenue	97,740
Profit/loss from primary activities	5,174
Net financial income and expenses	-319
Profit/loss for the year	-14,475
Total assets	384,664
Investments	-38,010
Equity	**318,381**

FINANCIAL STATEMENTS

Income statement

(DKK'000)	Note	6 Dec 2021 - 31 Dec 2022
Revenue from contracts with customers	4	97,740
Employee benefits expense	5	-20,546
Operating expenses	6	-44,441
Depreciation and amortisation	9, 10, 11	-27,579
OPERATING LOSS		**5,174**
Financial income	7	149
Financial expenses	7	-468
Other expenses	8	-22,968
PROFIT/(LOSS) BEFORE TAX		**-18,113**
Tax on profit/(loss)	13	3,638
PROFIT/(LOSS) AND TOTAL COMPREHENSIVE INCOME FOR THE FINANCIAL YEAR		**-14,475**

Statement of financial position

Asssets

(DKK'000)	Note	31 Dec 22	06 Dec 21
Office and IT equipment	9	18,360	0
Intangible assets	11	259,190	0
Right-of-use assets	10	18,681	0
Defered tax assets	13	3,638	0
TOTAL NON-CURRENT ASSETS		**299,869**	0
Trade receivables	16	17,385	0
Other receivables	16	14,035	0
Cash and cash equivalents		53,375	400
TOTAL CURRENT ASSETS		**84,795**	**400**
TOTAL ASSETS		**384,664**	**400**

Equity and Liabilities

(DKK'000)	Note	31 Dec 22	06 Dec 21
Share capital	12	2,100	400
Share premium	12	330,756	0
Reserve for development costs		15,620	0
Retained earnings		-30,095	0
TOTAL EQUITY		318,381	400
NON-CURRENT LIABILITIES			
Lease liabilities	10	18,376	0
Decomissioning Provisions	10	1,000	0
TOTAL NON-CURRENT LIABILITIES		19,376	0
CURRENT LIABILITIES			
Lease liabilities	10	425	0
Trade and other payables	14	46,482	0
TOTAL CURRENT LIABILITIES		**46,907**	**0**
TOTAL LIABILITIES		**66,283**	**0**
TOTAL EQUITY AND LIABILITIES		**384,664**	**400**

Statement of changes in equity

Attributable to the shareholders of Nordic RCC A/S

(DKK'000)	Share capital	Reserve for development cost	Share premium	Retained earnings	TOTAL EQUITY
EQUITY AT 6 DEC 2021	**400**	**0**	**0**	**0**	**400**
Development costs for the year	0	15,620	0	-15,620	**0**
Net profit/(loss) for the period	0	0	0	-14,475	**-14,475**
Other comprehensive income	0	0	0	0	**0**
TOTAL COMPREHENSIVE INCOME	0	**15,620**	0	**-30,095**	**-14,475**
Asset contribution	600	0	265,556	0	**266,156**
Cash contributions	1,100	0	65,200	0	**66,300**
EQUITY AT 31 DECEMBER 2022	**2,100**	**15,620**	**330,756**	**-30,095**	**318,381**

Statement of cash flow

(DKK'000)	Note	6 Dec 2021 - 31 Dec 2022
Pretax profit/loss		-18,113
Non-cash items:		
Depreciation	9, 10, 11	27,579
Change in working capital	15	15,062
Financial income		-149
Financial exenses		468
TOTAL NON-CASH ITEMS		**24,847**
Finance income, received		97
Finance cost, paid		-44
CASH FLOW FROM OPERATING ACTIVITIES		**24,900**
Purchase of office equipment, intangibles	9, 11	-38,010
NET CASH FLOWS FROM INVESTING ACTIVITIES		**-38,010**
Proceeds from capital increase		66,300
Payment of principal portion of lease liabilities	10	-215
CASH FLOW FROM FINANCING ACTIVITIES		**66,085**
Cash and cash equivalents, 6 Dec 2021		400
Net (decrease)/increase in cash and cash equivalents		52,975
Cash and cash equivalents in the cash flow statement comprise:		
CASH AND CASH EQUIVALENTS		**53,375**

The figures in the cash flow statement cannot be directly derived from the figures in the balance sheet.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Note 1: Corporate information

The Company was incorporated on 6 December 2021 and established for the purpose of meeting EU regulation requirements. Nordic RCC A/S is one of six regional centres in Europe that will support national transmission service operators in optimising the operation of the European electricity system both in terms of security and capacity utilisation.

Nordic RCC A/S continues and expands the activities that the Nordic Regional Security Coordinator (RSC) has built since 2016. The activities of Nordic RSC were previously conducted as part of Energinet's operations but were contributed to Nordic RCC A/S as of 30 June 2022, including assets, liabilities, employees and other relevant contracts (e.g. IT, service contracts etc.).

Note 2: Significant accounting policies

2.1 Basis of preparation

The financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and as adopted by the EU and additional Danish disclosure requirements for the financial statements of reporting class C (Medium) enterprises, cf. the Danish Executive Order on Adoption of IFRS ("IFRS-bekendtgørelsen") issued in accordance with the Danish Financial Statements Act ("DFSA").

As set out below, these are the Company's first Financial Statements.

The Financial Statements are presented in Danish kroner (DKK) which is the functional currency of Nordic RCC A/S. All values are rounded to the nearest thousands, except when otherwise indicated.

The financial statements have been prepared on a historical cost basis.

The Company's general accounting policies are described below and have been applied consistently in respect of the financial year and the comparative figures. See note 2.4 regarding first time adoption of IFRS.

2.2 Going concern

The Board of Directors has a reasonable expectation that the Company has adequate resources to continue as a going concern for the foreseeable future, having considered the Company's forecasts and projections, taking account of reasonably possible changes in operating performance and the current economic uncertainty. Accordingly, they have adopted the going concern basis of accounting in preparing the financial statements.

2.3 Materiality in financial reporting

In the preparation of the financial statements, Management aims to focus on the information considered to be material and relevant for the understanding of the Company's performance in the reporting period.

If a line item is not individually material, it is aggregated with other items of a similar nature in the financial statements or in the notes. Management provides specific disclosures required by IFRS unless the information is not applicable or considered immaterial to the economic decision-making of the users of these financial statements.

2.4 First time adoption

The financial statements for the year ended 31 December 2022 with comparative figures are the first set of financial statements prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union and additional requirements in the Danish Financial Statements Act.

Since the Company was incorporated 6 Dec 2021 and the first financial reporting period is 6 Dec 2021 – 31 Dec 2022, the Company has not previously prepared or presented financial statements for previous periods.

2.5 Summary of significant accounting policies

a) Revenue from contracts with customers

Revenue from contracts with customers is recognised when control of the services is transferred to the customer at an amount that reflects the consideration to which the Company expects to be entitled in exchange for those services. Indirect taxes and discounts, etc., are deducted from the sales income when calculating turnover.

The fundamental principle of the IFRS 15 standard is that sales revenue should be recognised when control over the service is transferred to the customer. A five-step process is to be applied when recognising sales revenue:

- Identify the customer contract(s)
- Identify the individual performance obligations
- Determine the transaction price according to the contract
- Allocate the transaction price to individual performance obligations, and
- Recognise revenue when each performance obligation is met.

The Company delivers the following material services to its TSO owners which are considered to be stand ready obligations and a series of distinct services:

- Outage Planning Coordination (OPC) is conducted in order to maintain the high voltage grid. New lines and stations must be built, and old ones removed. Outages of the grid elements are needed to do this. Regional outage planning coordination is done in order to facilitate that the impact is known, coordinated, and shared among the TSOs to optimize the availability of the grid and to minimize the negative impact on the security of supply and the market.
- The main purpose of the Common Grid Model (CGM) is to provide a common data model representing the power system in the Nordic and Pan-European area, which can be used for performing further analysis through the services performed by Nordic RCC, in order to ensure a secure power market and security of supply.
- Coordinated Capacity Calculation (CCC) is the service where cross-border transmission capacities are calculated in order to maximise the transmission capacity offered to the market and in order to ensure a secure power market and security of supply.
- The main purpose of the Coordinated Security Analysis (CSA) service is to identify operational security risks and recommend preventive remedial actions to the individual TSOs.
- Short Term Adequacy (STA) analyses whether there is sufficient reliable available production capacity to meet the consumption, given the transmission capacity constraints in the grid. This assessment is done daily for the next 7 days' time frame and provides the TSOs with an STA forecast.

Besides the services described above, Nordic RCC also delivers services to third parties such as ENTSO-E and CCR Hansa.

The selling price of its services to its TSO owners is based on a cost-plus model.

The Company recognises revenue from its services over time because the customer simultaneously receives and consumes the benefits provided to them. The Company uses an input method in measuring progress of the services because there is a direct relationship between the Company's effort (e.g., based on the labour hours incurred) and the transfer of service to the customer. The Company recognises revenue on the basis of the labour hours spent relative to the total expected labour hours to complete the service.

Trade receivables

A receivable is recognised if an amount of consideration that is unconditional is due from the cus-

tomer (i.e., only the passage of time is required before payment of the consideration is due). Since the vast majority of the revenue is invoiced in advance and the counterparties (i.e. primarily TSO owners) have a very low credit risk (ultimately state-owned, except Fingrid, where the Finnish state is the majority shareholder), no impairment is recognised due to immateriality.

b) Employee benefits expenses

Employee benefits expenses consist of salaries, pensions and social costs, vacation pay, and other benefits. Employee benefits expenses are recognised in the year in which the associated services are rendered by the employees. The Company has entered into retirement benefits schemes and similar agreements with employees. Contributions to defined contribution plans are recognised in the income statement in the period to which they relate, and any contributions outstanding are recognised in the statement of financial position as other liabilities.

c) Taxes

Current income tax

Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted at the reporting date in the countries where the Company operates and generates taxable income. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred tax

Deferred tax is provided using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognised for all taxable temporary difference.

Deferred tax assets are recognised for all deductible temporary differences and the carry-forward of any unused tax losses. Deferred tax assets are recognised to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax losses can be utilised.
The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

The Company offsets deferred tax assets and deferred tax liabilities if and only if it has a legally enforceable right to set off deferred tax assets and deferred tax liabilities, it relates to the same taxation authority and Nordic RCC can realise the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

d) Financial income and expenses

Financial income and expenses comprise interest income and expenses and exchange rate adjustments.

e) Office equipment

Office equipment is measured at cost less accumulated depreciation and impairment. Cost comprises the acquisition price and other directly attributable costs until the date on which the asset is available for use.

Depreciation is recognised on a straight-line basis from the time of acquisition, or when the asset is available for use, over the expected useful life. The expected useful lives are assessed individually for every class of assets. A reassessment is made once a year to ascertain that the depreciation basis reflects the expected useful lives and future residual values of the assets.

The expected useful lives are as follows:

• Office equipment: 3-5 years

f) Leases

The Company assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Company as a lessee

The Company applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Company recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

Right of-use assets

The Company recognises right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, decommissioning provision, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets, as follows:

• Property: 4-10 years

The right-of-use assets are also subject to an impairment assessment on an annual basis or if there are any indications.

Lease liabilities

At the commencement date of the lease, the Company recognises lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments), variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Company and payments of penalties for terminating the lease, if the lease term reflects the Company exercising the option to terminate.

Variable lease payments that do not depend on an index or a rate are recognised as expenses in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Company uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable.

After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

Short-term leases and leases of low-value assets

The Company applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low-value assets are recognised as expense on a straight-line basis over the lease term.

g) Intangible assets

The Company's intangible asset consists of two on-premise software systems. All projects are internally generated and have finite useful lives.

Research costs are expensed as incurred. Development expenditures on an individual project are recognised as an intangible asset when the Company can demonstrate:

- The technical feasibility of completing the intangible asset so that the asset will be available for use or sale
- Its intention to complete and its ability and intention to use or sell the asset
- How the asset will generate future economic benefits
- The availability of resources to complete the asset
- The ability to measure reliably the expenditure during development

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortisation and accumulated impairment losses. Amortisation of the asset begins when development is complete, which for some projects are defined in major releases, and the asset is available for use. It is amortised over the period of expected future benefit on a straight-line basis. Amortisation is recorded in 'Depreciation and amortisation'. During the period of development, the asset is assessed for impairment on an annual basis.

When recognising development projects as intangible assets, an amount equalling the costs incurred less deferred tax is taken to equity under Reserve for development costs that is reduced as the development projects are amortised and written down.

h) Impairment of non-financial assets
The Company assesses at each reporting date, whether there is an indication that an asset may be impaired. The Company thoroughly assesses both external and internal sources of information. If any indication exists, or when annual impairment testing for an asset is required, the Company estimates the asset's recoverable amount.

As an inherent part of its business model, the Company has agreed with its owners that revenue is based on a cost-plus model where costs include depreciation of non-current assets and a 5% markup. Hence, the future cash flows of a capitalised asset will always exceed the carrying amounts as long as the intended use is upheld (i.e., not disposed of prior to the end of the useful life).

i) Cash
Cash in the statement of financial position comprises cash at banks and on hand.

j) Decommissioning provision
A provision has been recognised for decommissioning costs associated with the Company's leased office area at Copenhagen Towers. The Company is committed to decommissioning and restoring the site as a result of implemented safety measures.

Provisions are measured at an amount reflecting Management's best estimate of the costs required to settle the obligation.

k) Other payables
Other payables comprise debt to public authorities, holiday allowance, etc., and are measured at amortised cost, which usually corresponds to the nominal value.

l) Cash flow
The cash flow statement shows the cash flows from operating, investing and financing activities for the year, the year's changes in cash and cash equivalents as well as cash and cash equivalents at the beginning and end of the year.

Cash flows from operating activities are calculated in accordance with the indirect method based on profit/loss before tax adjust for non-cash operating items, changes in working capital, interest received and paid, including the interest element related to recognised lease commitments.

Cash flows from investing activities comprise payments in connection with acquisitions of intangible assets, equipment and other non-current assets.

Cash flows from financing activities comprise changes in the size or composition of the share capital and related expenses as well as repayment of lease commitments.

Cash and cash equivalents comprise cash at bank and in hand.

Note 3: Significant accounting judgements, estimates and assumptions

As part of the preparation of the financial statements, Management makes a number of accounting estimates and assumptions as a basis for recognising and measuring the Company's assets, liabilities, income and expenses as well as judgements made in applying the Company's accounting policies. The estimates, judgements and assumptions made are based on experience gained and other factors that are considered prudent by Management in the circumstances, but which are inherently subject to uncertainty and volatility.

The assumptions may be incomplete or inaccurate, and unforeseen events or circumstances may occur, for which reason the actual results may differ from the estimates and judgements made.

Estimates and assumptions
The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below. The Company has based its assumptions and estimates on parameters available when the financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising that are beyond the control of the Company. Such changes are reflected in the assumptions when they occur.

Research and development costs
The Company capitalises costs in connection with on-premise, internally developed IT systems. Initial capitalisation of costs is based on management's judgement that technological and economic feasibility is confirmed. In determining the amounts to be capitalised, management makes assumptions regarding eligibility of capitalisation of development costs, the expected future cash generation of the project and the expected period of benefits.

Note 4: Revenue from contracts with customers

Set out below is the disaggregation of the company's revenue from contracts with customers:

(DKK'000)	6 Dec 2021 - 31 Dec 2022
Revenue from shareholders	91,100
Other revenue from shareholders	3,263
Other revenue from thirdparties	3,377
TOTAL REVENUE FROM CONTRACTS WITH CUSTOMERS	**97,740**

As an inherent part of its business model and agreed with its owners, the Company primarily provides its services to the four TSOs in the Nordic countries (i.e. Denmark, Norway, Sweden and Finland). Revenue is split on an even basis. In addition, services are also delivered to operators within the European TSO market.

Performance obligations

The Company applies the exemption in IFRS 15.121 regarding performance obligations since the Company has entered into a service agreement with its owners and other customers where Nordic RCC always has a right to invoice an amount that corresponds directly with the performance to date i.e., both hours and incurred costs.

Note 5: Employees benefits expense

(DKK'000)	6 Dec 2021 - 31 Dec 2022
Wages and salaries	15,871
Social security costs	252
Pension costs (defined contribution plan)	1,782
Other employee expenses	2,641
TOTAL EMPLOYEES BENEFITS EXPENSE	**20,546**

When calculating the average number of employees in 2022 it should be considered that most employees were transferred from Energinet on 30 June 2022 immediately after the asset contribution. The number of employees as of 31 December 2022 were 49.

Compensation of key management personnel of the Company

(DKK'000)	6 Dec 2021 - 31 Dec 2022
Short-term employee benefits (wages, salaries and social security costs)	4,038
Post-employment benefits (pension costs)	575
TOTAL	**4,163**

The amounts disclosed in the table are the amounts recognised as an expense during the reporting period related to key management personnel (see definition of key management personnel in note 18).

Note 6: Operating expenses

(DKK'000)	6 Dec 2021 - 31 Dec 2022
Marketing costs	755
Consultant services	20,139
IT costs (License, Hosting, Maintanance)	20,632
Facilities and other office equipment	2,915
TOTAL OPERATING EXPENSES	**44,441**

Note 7: Financial income and expenses

Financial income

(DKK'000) *Financial income*	6 Dec 2021 - 31 Dec 2022
Interest income from assets measured at amortised cost	149
TOTAL FINANCIAL INCOME	**149**

Financial expenses

(DKK'000) *Financial expenses*	6 Dec 2021 - 31 Dec 2022
Interest expenses from liabilities measured at amortised cost	-434
Exchange rate adjustment	-14
Other financial expenses	-20
TOTAL FINANCIAL EXPENSES	**-468**

Note 8: Other expenses

(DKK'000)	6 Dec 2021 - 31 Dec 2022
Costs related to carve-out	-22,968
TOTAL OTHER EXPENSES	**-22,968**

Other expenses relate to costs regarding the carve-out from Energinet to Nordic RCC and are therefore non-recurring by nature.

Note 9: Office equipment

(DKK'000)	Office equipment	Construction in progress	TOTAL
Cost at 6 December 2021	0	0	0
Asset contribution as at 30 June 2022	417	0	417
Additions	0	17,985	17,985
Tranfers	6,904	-6,904	0
COST AT 31 DECEMBER 2022	**7,321**	**11,081**	**18,402**
Depreciation and impairment at 6 December 2021	0	0	0
Depreciation for the year	-42	0	-42
DEPRECIATION AND IMPAIRMENT AT 31 DECEMBER 2022	**-42**	**0**	**-42**
CARRYING AMOUNT AT 31 DECEMBER 2022	**7,279**	**11,081**	**18,360**

Note 10: Leases

Right-of-use assets

Set out below are the carrying amounts of right-of-use assets recognised and the movements during the period:

(DKK'000)	Office rent	TOTAL
As at 6 December 2021	0	0
Additions *	19,644	19,644
Depreciation expense	-963	-963
AS AT 31 DECEMBER 2022	**18,681**	**18,681**

* The decommissioning provision is included in the cost.

Lease liabilities

Set out below are the carrying amounts of lease liabilities and the movements during the period:

(DKK'000)	Office rent	TOTAL
As at 6 December 2021	0	0
Additions	18,646	18,646
Interest expense	370	370
Payments	-215	-215
AS AT 31 DECEMBER 2022	**18,801**	**18,801**

The maturity analysis of lease liabilities is disclosed in Note 16.

The following are the amounts recognized in profit or loss:

(DKK'000)	6 Dec 2021 – 31 Dec 2022
Depreciation expense of right-of-use assets	-963
Interest expense on lease liabilities	370
Expense relating to leases of low-value assets (included in other operating expenses)	-10
Expense relating to short-term leases (included in other operating expenses)	-88
TOTAL AMOUNT RECOGNIZED IN PROFIT OR LOSS	**-691**

The Company had total cash outflows for recognised leases of DKK 215 thousand in the period 6 Dec – 31 December 2022. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions.

The decommissioning provision recognised as part as the cost of the right-of-use asset is expected to be settled at the end of the lease term.

Note 11: Intangible assets

(DKK'000)	Development costs (in-progress)	IT systems	TOTAL
Cost at 6 December 2021	0	0	0
Asset contribution as at 30 June 2022	0	265,739	265,739
Additions - internally developed	20,025	0	20,025
Transfers	-14,601	14,601	0
COST AT 31 DECEMBER 2022	**5,424**	**280,340**	**285,764**
Depreciation and impairment at 6 December 2021	0	0	0
Depreciation for the year	0	-26,574	-26,574
DEPRECIATION AND IMPAIRMENT AT 31 DECEMBER 2022	**0**	**-26,574**	**-26,574**
CARRYING AMOUNT AT 31 DECEMBER 2022	**5,424**	**253,766**	**259,190**

As at 31 December 2022, Nordic RCC has one research and development project (internally generated) which consists of approx. 65% of total assets. The project (NorCap) is related to capacity calculation and is gradually released to production.

Up until 31 December 2022, the project has made 4 releases out of currently planned 7. Release 4 was made during November 2022. The useful life is currently estimated to five years. R&D costs estimated to DKK 2,743 thousand have been recognised in profit or loss during the year.

No impairment has been recognised during the year.

Note 12: Share capital

The share capital comprises 2.100.000 shares of DKK 1 each (6 December 2021: 400.000). The shares are all authorised, issued and fully paid. No shares carry any additional special rights.

The Company continuously assesses the need for adjustment of the capital structure.
There is no dividend proposed for 2022 (6 December 2021: 0).

Note 13: Income tax

Tax for the year

(DKK'000)	6 Dec 2021 - 31 Dec 2022
Profit before tax	-18,113
Tax calculated as 22% of profit/(loss) for the year	3,985
Tax effect on non-deductible expenses	-619
Tax effect of tax increase of R&D and other equipment	272
INCOME TAX AT THE EFFECTIVE INCOME TAX	**3,366**
INCOME TAX EXPENSE REPORTED IN THE INCOME STATEMENT	**3,638**
Effective tax rate for the year (%)	20.1%

Deferred tax

(DKK'000)	06 Dec 2021	Recognised during the period	31 Dec 2022
Intangible assets	0	3,387	3,387
Office equipment	0	-34	-34
Provisions	0	246	246
Tax loss carried forward	0	39	39
TOTAL	**0**	**3,638**	**3,638**

Deferred tax is measured on the temporary differences between the carrying amount and the tax value of assets and liabilities.

Deferred tax assets, including the tax value of tax loss carry-forwards, are measured at the expected realisable value of the asset, either by set-off against tax on future earnings or by set-off against deferred tax liabilities within the same legal tax entity.

Note 14: Trade and other payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business. These are classified as current liabilities if payment is due in one year or less. If payment is due at a later date, they are presented as non-current liabilities.

(DKK'000)	31 Dec 2022
Trade payables	39,723
Other payables	6,759
TOTAL TRADE AND OTHER PAYABLES	46,482

Trade payables are non-interest bearing and are normally settled on 30-day terms.

Other payables are non-interest bearing and have an average term of 30 days.

Note 15: Working capital

Working capital is defined as current assets (excluding cash) less current liabilities and measures the net liquid assets that the Company has available for the business.

(DKK'000)	31 Dec 2022
Change in trade receivables	-17,385
Change in other receivables	-14,035
Change in trade payables and other payables	46,482
TOTAL WORKING CAPITAL	15,062

Note 16: Financial risks

Capital management

For the purpose of the Company's capital management, capital includes issued capital, share premium and all other equity reserves attributable to the equity holders. The primary objective of the Company's capital management is to maximise the shareholder value.

The Company manages its capital structure and makes adjustments in light of changes in economic conditions and the requirements of internal financial KPIs. To maintain or adjust the capital structure, the Company may issue new shares. The Company monitors capital on an ongoing basis.

Financial risk management

The overall framework to manage financial risks is reflected in the Company's financial risk management policies. The policies include identification, limits, measurement and how to address risks regarding credit, foreign currency, liquidity, and interest rates.

The policies are updated annually and approved by Executive Management.

It is the Company's policy not to speculate in financial risks. Hence, the financial risk management strategy aims at managing and reducing risks due to the Company's operations, investments, and finance activities.

Only significant risks are described below. Each section gives a short description of the financial risk, the related business activity, risk management and impact during the year.

Liquidity risk

Liquidity risk is the risk that Nordic RCC cannot fulfil its short- and long-term payment obligations. The Company aims to ensure that it is able to timely obtain the financing from both related and external counterparties.

Maturity of the Company's financial liabilities

(DKK'000)	Less than 1 year	Between 1-5 years	MORE THAN 5 years	TOTAL
2022:				
Lease liabilities	-425	-12,248	-10,586	-23,259
Trade payables	-39,723	0	0	-39,723
Other payables	-6,759	0	0	-6,759
TOTAL	-46,907	-12,248	-10,586	-69,741

Methods and assumptions of the maturity analysis

The maturity analysis is based on undiscounted cash flows which include estimated interest payments.

Credit risk
Credit risk is the risk that a counterparty will not meet its obligations towards the Company, leading to a financial loss. Nordic RCC is only to a limited extent exposed to credit risk since the Company invoices the majority of the revenue in advance and the primary customers are the TSO owners that ultimately are state owned (except Fingrid, where the Finnish state is the majority shareholder). Credit risk is primarily related to its trade and other receivables, including cash held at financial institutions.

The maximum exposure to credit risk at the end of the reporting period equals the carrying amounts.

Categories of financial assets and liabilities

Financial assets

(DKK'000)	31 Dec 2022
Trade receivables	17,385
Other receivables	14,035
Cash and cash equivalents	53,375
FINANCIAL ASSETS MEASURED AT AMORTISED COST	**84,795**

Financial liabilities

(DKK'000)	31 Dec 2022
Lease liabilities	18,801
Trade and other payables	46,482
FINANCIAL LIABILITIES MEASURED AT AMORTISED COST	**65,283**

Since the Company's financial instruments measured at amortised cost are either short-term and/or exposed to floating interest rates, Management has assessed that the carrying amount is a reasonable approximation of fair value.

Note 17: Changes in liabilities arising from financing activities

(DKK'000)	6 Dec 2021	Asset contribution	Cash flows	Other	TOTAL
Lease liabilities	0	18,646	-215	370	18,801
TOTAL	**0**	**18,646**	**-215**	**370**	**18,801**

Note 18: Related parties

The Company is owned by the four Nordic transmission system operators (TSOs) due to EU legislation. The TSOs jointly control the Company and are the ultimate controlling party. They each own 25% and are:

- **Energinet**
  Tonne Kjærsvej 65, Erritsø, 7000 Fredericia
- **Statnett SF**
  Nydalen allé 33, 0484 Oslo Norway
- **Fingrid OYj**
  Läkkisepäntie 21, 00620 Helsinki, Finland
- **Affärsverket Svenska Kraftnät**
  Box 1200, 172 24 Sundbyberg, Sweden

Related parties also comprise the key management personnel and their close family members. Key management personnel are persons having authority and responsibility for planning, directing, and controlling the activities of the Company, directly or indirectly and consists of:

- The Board of Directors
- CEO
- Head of Business Support
- Head of Business Development
- Head of Data Analytics
- Head of IT Services
- Head of Operations
- Head of Project Implementation

Transactions with owners are:

(DKK'000)	Sales of key services	Sales of other services	Purchase of services	Asset contribution	Equity contributions in cash	Amounts owed by related parties*	Amounts owed to related parties**
Energinet ***	22,775	873	86	66,539	16,675	4,712	86
Statnett	22,775	665	1,203	66,539	16,675	3,643	215
Fingrid	22,775	568	0	66,539	16,675	3,546	0
Svenska kraftnät	22,775	1,158	0	66,539	16,675	4,136	0
TOTAL	91,100	3,264	1,289	266,156	66,700	16,037	301

* The amount is classified as trade receivable.
* * The amount is classified as trade payable.

*** Nordic RCC has entered into a lease agreement with Energinet regarding data center space. During the year, an interest expense and depreciation has been recognised in income stamement amounting to DKK 2 thousand and 12 thousand, respectively. The carrying amount of the right of use asset and lease liability at year end is DKK 86 thousand and DKK 84 thousand, respectively. In addition to the annual lease payment of DKK 26 thousand, Nordic RCC pays for energy costs amounting to DKK 114 thousand.

Transactions with key management personnel comprise salaries, pension, and other benefits as described in note 5.

Terms and conditions of transactions with related parties
Transactions with related parties are made on terms equivalent to those that prevail in arm's length transactions. Outstanding balances at the year-end are unsecured and interest free and settlement occurs in cash. There have been no guarantees provided or received for any related party receivables or payables.

Note 19: Standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Company's financial statements are disclosed below. The Company intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

Disclosure of Accounting Policies - Amendments to IAS 1 and IFRS Practice Statement 2
In February 2021, the IASB issued amendments to IAS 1 and IFRS Practice Statement 2 Making Materiality Judgements, in which it provides guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures.

The amendments to IAS 1 are applicable for annual periods beginning on or after 1 January 2023 with earlier application permitted. Since the amendments to the Practice Statement 2 provide non-mandatory guidance on the application of the definition of material to accounting policy information, an effective date for these amendments is not necessary.

The Company is currently revisiting its accounting policy information disclosures to ensure consistency with the amended requirements.

Besides the above, no other new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Company's financial statements are expected to have a material impact on the Company`s financial statements.

Note 20: Events after the reporting period

No events have occurred after the balance sheet date, which would change the evaluation of the annual report.

STATEMENT BY MANAGEMENT

The Board of Directors and the Executive Board have today discussed and approved the annual report of Nordic RCC A/S for the financial year 6 December 2021 – 31 December 2022.

The annual report has been prepared in accordance with the International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the financial position of the Company at 31 December 2022 and of the results of its operations and cash flows for the financial year 6 December 2021 – 31 December 2022.

Further, in our opinion, the Management's review gives a fair review of the development in the Company's operations and financial matters, the results for the year and the Company's financial position. We recommend that the annual report be approved at the annual general meeting.

Copenhagen, 24 March 2023

Executive Board:

John Henrik Kofod

Board of Directors:

Marina Louhija / Chairperson

Kristin Lucie Muthe

Nicolaj Nørgaard Peulicke

Lars Erik EK

INDEPENDENT AUDITOR'S REPORT

To the shareholders of Nordic RCC A/S

Opinion

We have audited the financial statements of Nordic RCC A/S for the financial year 1 January – 31 December 2022, which comprise income statement, statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the financial position of the Company at 31 December 2022 and of the results of the Company's operations and cash flows for the financial year 1 January – 31 December 2022 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Company in accordance with the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (IESBA Code) and the additional ethical requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code.

Statement on the Management's review

Management is responsible for the Management's review.

Our opinion on the financial statements does not cover the Management's review, and we do not express any assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the Management's review and, in doing so, consider whether the Management's review is materially inconsistent with the financial statements, or our knowledge obtained during the audit, or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the Management's review provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the Management's review is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the Management's review.

Management's responsibilities for the financial statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, Management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting in preparing the financial statements unless Management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance as to whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs and additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit conducted in accordance with ISAs and additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control.

Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.

Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

Evaluate the overall presentation, structure and contents of the financial statements, including the note disclosures, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Copenhagen, 24 March 2023
EY Godkendt Revisionspartnerselskab
CVR no. 30 70 02 28

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