



Theme Session 2023

Nordic energy supply at a time of uncertainty

Tuesday 14 March

How should the Nordic countries address the challenges posed by the ongoing energy crisis?

Europe is going through an energy crisis, which is high on the agenda in all the Nordic countries. One of the major causes is the security situation in the wake of the Russian invasion of Ukraine.

The Nordic Region faces the “trilemma” of balancing security of supply with sustainability and prices. Official Nordic co-operation seeks to improve security of supply while maintaining an approach to energy that is sustainable, financially fair and in line with the vision of the Nordic Region as the world’s most sustainable and integrated region in 2030.

The theme debates provide an opportunity to discuss the Nordic Region’s options for addressing the challenges facing energy supply at a time of uncertainty.

12:30–13:30

Expert presentations and debate

- Bryndís Haraldsdóttir, chair of the Icelandic delegation to the Nordic Council
- Introduction: Jorodd Asphjell, President of the Nordic Council
- Terje Aasland, Minister of Petroleum and Energy, Norway
- Halla Hrund Logadóttir, director, National Energy Authority of Iceland (Orkustofnun)
- Jarand Rystad, CEO, Rystad Energy (analysis and consulting company)
- Presentation of Nordic Energy Research’s (NEF) report, Klaus Skytte, Director of Nordic Energy Research



Theme Session 2023

Nordic energy supply at a time of uncertainty

Panel debate

- Halla Hrund Logadóttir,
- Klaus Skytte and Ola Elvestuen, chair of the Committee for a Sustainable Nordic Region
- Moderator: Bogi Ágústsson, journalist (IS)

13:30–13:45

Break

13:45–15:00

Topical debate in plenary

- Helge Orten, Vice-president of the Nordic Council
- Guðlaugur Þór Þórðarson, Minister for the Environment, Energy and Climate, Iceland

15:30–18:00

Excursion to the Hellisheiðarvirkjun geothermal power plant



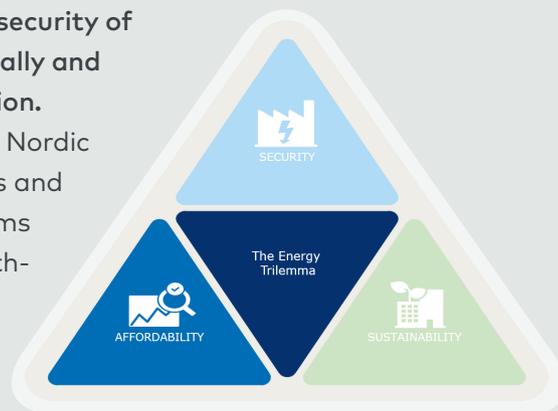
Theme Session 2023

Nordic energy supply at a time of uncertainty

**Summary of the report:
The Nordic energy tri-
lemma, by Nordic Energy
Research**

The Nordic countries are experiencing an unprecedented energy crisis. High electricity prices for end users are one of the major effects of the current situation. A number of crisis management schemes have been launched at EU and national level to address the situation. Ripple effects from continental Europe and the Russian invasion of Ukraine are major causes of the crisis. Underlying structural developments in recent years are also an important contributing factor. The risks for the energy markets in general, and the electricity markets in particular, may affect security of supply in the years to come. Closer Nordic energy co-operation is more important than ever.

The report includes recommendations for decision-makers at national, Nordic, EU and international level to tackle the “energy trilemma” – how to boost security of supply while ensuring an economically and socially sustainable energy transition. The drivers of the energy crisis, the Nordic countries’ exposure to these drivers and future risks to Nordic energy systems will be analysed to determine whether adequate mitigation measures are in place. Limitations include cyber security, geopolitical threats and inflation.



The recommendations in the report can be used to inform decisions at national level and improve Nordic co-operation. Further analysis is needed to determine how each recommendation can, or should, be implemented based on a thorough impact assessment in each country. Particular emphasis is placed on security of supply for electricity. Economic justice and sustainability are also priorities. The recommendations concentrate on interconnected energy markets in the Nordic Region – especially the electricity systems. Less attention is paid to natural gas and district heating, as they are not interconnected to the same extent as the electricity systems.



Theme Session 2023

Nordic energy supply at a time of uncertainty

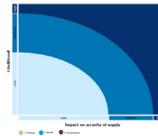
1 Overview of European and Nordic energy systems



2 Mapping of drivers contributing to the current energy crisis

Electricity market structure	Inflexible electricity demand
Decommissioned electric capacity	Increasing energy import dependency
Electricity supply and demand balancing	Natural gas supply reductions
Lack of electric transmission infrastructure	Weather dependent electricity generation

3 Risks related to energy security and The Energy Trilemma



4 Mitigation measures and gap analysis within each high-risk



5 Policy recommendations addressing gaps



Recommendations at Nordic level

The Nordic countries should further develop the Nordic energy systems and boost security of supply in line with the vision of the Nordic Region as the most integrated and sustainable region in the world by 2030. The Nordic energy systems are different but have much in common. Synergy will be achieved by working more closely together. That way, we will maintain high security of supply and socially sustainable energy systems. We must ensure that the energy systems are **resilient** to external influences, and that the green transition is as smooth and inclusive as possible.

Three of the most important recommendations at Nordic level are:

- **Improve infrastructure:** Coordinating energy transfer and storage levels could be a relevant measure. Sector interconnection, Power2X and the development of energy infrastructure for energy sectors other than electricity will also be necessary in order to bring about renewable energy integration and security of supply.
- **Speed up the concession process:** Structural measures are needed to deal with authorisation procedures for energy plants and infrastructure. It will be instructive to collect good examples of co-operation between business, local authorities and official agencies to speed up the process.



Theme Session 2023

Nordic energy supply at a time of uncertainty

- **Encourage public support:** The “social sustainability” of the energy transition should be a key policy priority, through public inclusion initiatives, information campaigns and digital tools to ensure acceptance for new energy infrastructure and grid expansion.

Annexes (figures)

Driving forces, preparedness and response

Drivers of the energy crisis – “The perfect storm” leads to higher energy prices and power cuts

 Electricity market structure	 Inflexible electricity demand and impact on household finance
 Decommissioned controllable electric capacity	 Increasing energy import dependency
 Electricity supply and demand balancing	 Natural gas supply reductions
 Lack of electric transmission infrastructure	 Weather dependent electricity generation

Preparedness – There is considerable variation in the countries’ exposure to the drivers identified

Driver	Denmark 	Finland 	Iceland 	Norway 	Sweden 
 Structure of electricity market	●	●	●	●	●
 Wasted verifiable electricity capacity	●	●	●	●	●
 Balance between power supply and demand	●	●	●	●	●
 Lack of electricity grid infrastructure	●	●	●	●	●
 Inflexible electricity demand	●	●	●	●	●
 Increasing dependence on energy imports	●	●	●	●	●
 Reductions in natural gas supply	●	●	●	●	●
 Weather-dependent electricity production	●	●	●	●	●

Legend: ● = No effect ● = Little effect ● = Medium effect ● = High effect



Theme Session 2023

Nordic energy supply at a time of uncertainty

Response – The Nordic countries have launched a number of initiatives to tackle the crisis and provide financial support to consumers

Response	Denmark	Finland	Iceland	Norway	Sweden
Subsidies	●	●	●	●	●
Reduce energy tariffs/taxes	●	●	●	●	●
Stimulate energy efficiency/technology change	●	●	●	●	●
Delay bill payments	●	●	●	●	●
Information campaigns	●	●	●	●	●
Public-sector energy saving	●	●	●	●	●
Tripartite negotiations	●	●	●	●	●
Invest in research	●	●	●	●	●

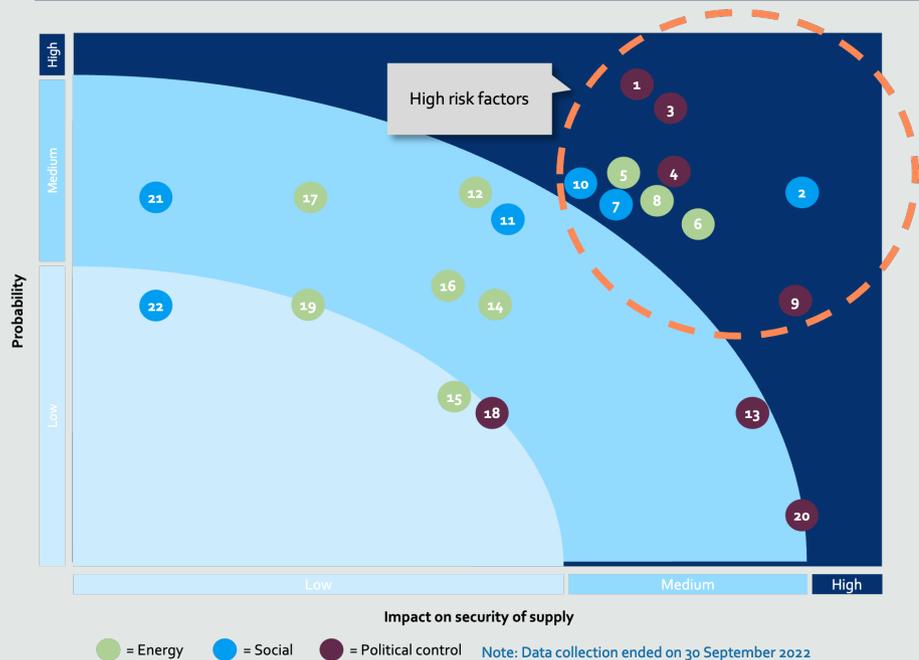
Legend: ● = Initiated ● = Decided but not yet implemented ● = Not decided

Risks and MITIGATING measures

Risk & action – Combine risk assessment with gap analysis to come up with recommendations at Nordic level



Risk assessment





Theme Session 2023

Nordic energy supply at a time of uncertainty



Gap analysis

Risk	Initiative	Documented effect	Gap analysis
1 Long concession processes	Accelerate authorisation for power generation and grid infrastructure	?	Gap remains
2 Limited acceptance of infrastructure	Public-sector inclusion initiatives in energy infrastructure	↑	Gap remains
3 Electricity market design	Analyse initiatives to adapt the electricity market	?	Gap remains
4 High dependency on mineral and fossil energy	Strategic procurement of metals	?	Gaps exist
4 High dependency on mineral and fossil energy	Strategic procurement of fuel	↑	Gap remains
5 Lack of electricity grid infrastructure	Investment in electricity grid infrastructure	↑	Gap remains
6 Lack of sustainable long-term energy storage	Integration of energy infrastructure	↑	Gap remains
7 Unchanged consumer behaviour	Information campaigns and digital tools	→	No gap
8 Increased weather dependency	Diversification of energy production	↑	Gap remains
9 Insufficient crisis management	Crisis management initiatives	→	Gap remains
10 Lack of labour	Tripartite negotiations	→	Gaps exist

↑ = Positive → = Mixed ↓ = Negative ? = Not documented



Theme Session 2023

Nordic energy supply at a time of uncertainty

**Background information
drawn up by the Nordic
Council Secretariat**

EU responses to the energy crisis

From a European perspective, Russia's unjustified military attack on Ukraine and use of gas supplies as a weapon has led to an unprecedented energy crisis. Energy prices have soared, bringing hard times to people after years of pandemic and just when economic recovery was taking off. The people of Europe expect results and the EU has adopted strong measures to address the very difficult security problems posed by the energy crisis.

Russian energy supplies to the EU have fallen sharply – from 45% the year before to just 14% in September 2022 – and the EU has both found alternative suppliers and reduced its demand to make up for the shortfall. The EU has also been active in mitigating market volatility and helping people and companies by channelling the high revenues from the energy sector. To safeguard supply in coming winters, the EU has introduced minimum gas storage requirements and a target to reduce gas demand by 15% to create a better balance between supply and demand. Efforts to save energy and replenish stocks have been successful so far, according to the Commission.

In May 2022, the "The RepowerEU plan" was adopted to break dependence on Russian fossil fuels as quickly as possible. In September 2022, new measures were adopted to reduce energy demand and use revenue from the energy sector for the benefit of people and businesses. On 18 October 2022, the Commission proposed new measures on joint gas procurement, price-cap mechanisms, transparent use of infrastructure, solidarity between the EU member states and demand management. These measures are designed to create greater stability in the market.

The EU has set a number of important targets such as a 5% reduction in electricity demand at peak prices, a 15% reduction in gas demand and a 92% level of gas diversification by European suppliers

The EU has spent months working with international partners to diversify supplies and has secured record imports of liquefied natural gas (LNG) and major pipeline gas supplies.



Theme Session 2023

Nordic energy supply at a time of uncertainty

The results of these negotiations include:

- A trilateral Memorandum of Understanding between the EU, Egypt and Israel on the export of natural gas to the EU.
- A Memorandum of Understanding with Azerbaijan on a strategic energy partnership.
- A commitment from the US to supply the EU with at least an additional 15 billion cubic metres of LNG this year.

In the six months of 2022, imports of LNG from sources other than Russia increased by 19 billion cubic metres compared to the same period the previous year. Pipeline imports from Norway, Azerbaijan, the UK and North Africa increased by 14 billion cubic metres.

To reduce the risk and cost to the EU of supply disruptions, the Commission has adopted a plan to help EU countries reduce demand. The plan aims to switch from gas to alternative fuels, to encourage lower consumption and introduces the option of declaring a “Union-wide warning” forcing all EU member states to reduce gas consumption. The plan has already paid off with a reduction in gas consumption of around 15% and a reduction in Russian gas supplies from 40% to 9% for piped gas. The Commission also has the option of providing temporary aid for specific interventions as it did, for example, during the COVID-19 pandemic.