Nordic Electricity Market Forum

Documentation

First Annual Gathering
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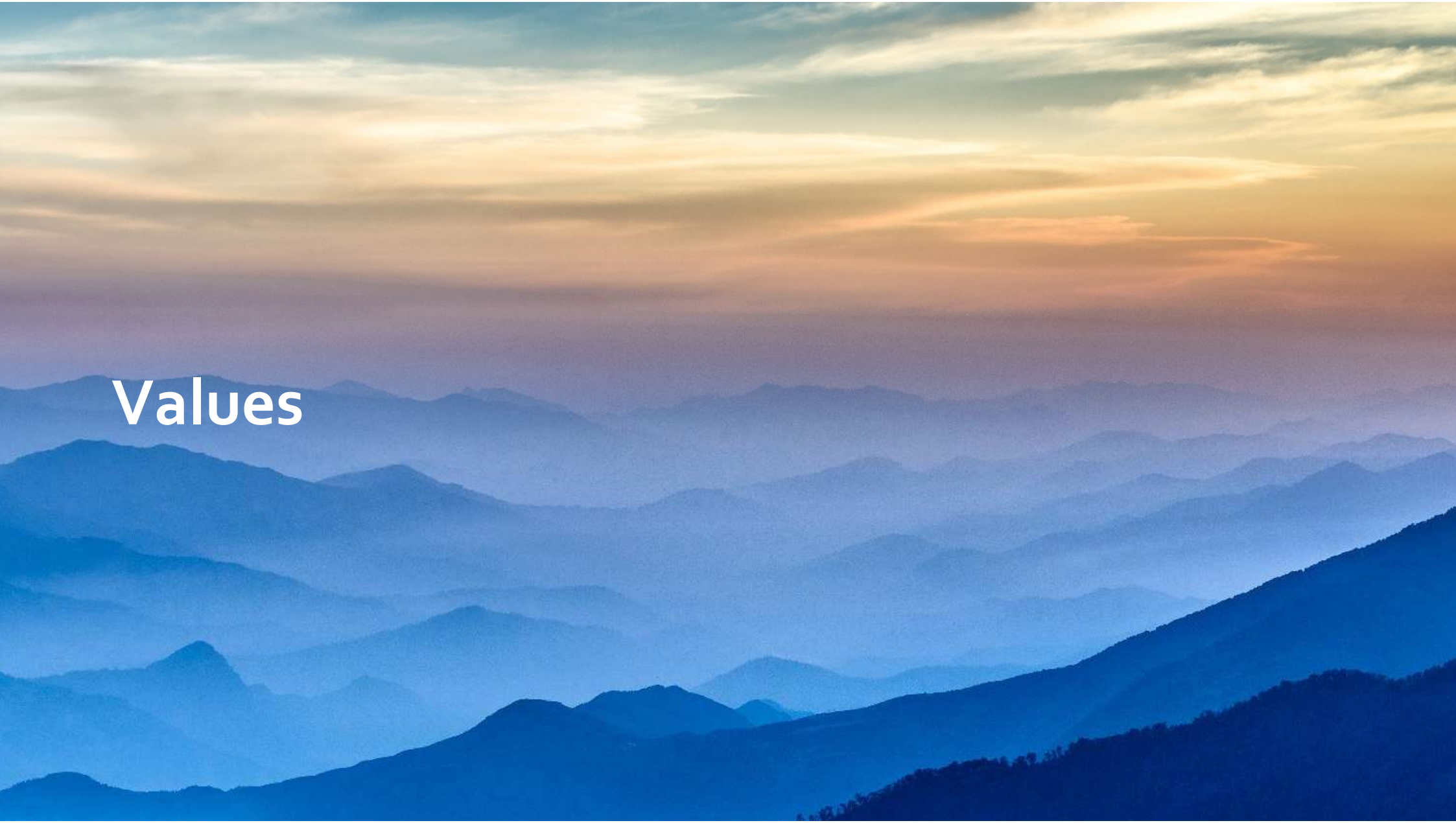
Stockholm

Nordic Council of Ministers


Values

Values emerging in previous input from stakeholders

- Innovative
- Competitive (design, prices)
- Customer/consumer focused
- Green & low-carbon (Climate friendly, Decarbonisation)
- Decentralisation
- Digitalisation
- Open (Low-barriers to entry)
- Nordic integration
- Europan integration/harmonisation
- Democratic
- Data-driven
- Transparency
- Flexibility (new business models)
- Joint approach
- Strong political leadership and steering
- Active in development (role model)
- Efficiency (resource)
- Smart
- Cost-effective and efficient
- Cooperation
- Coordination
- Market liberalisation
- Well-functioning
- Well-designed

Result from forum session on values

List three values of the Nordic Electricity Market.

Values in summary

1. Cooperation **2. Cost Efficiency & Cost Effective**	*Listed by 9-10 out of 10 groups*
3. Green and low carbon **4. Transparency (& trust)**	*Listed by 6-8 out of 10 groups*
5. Customer/Consumer Focused	*Listed by 3-5 out of 10 groups*
Active in development **Competitive** **Role model** **Reliability** **Well functioning** **Market Driven**	*Listed by 1-2 out of 10 groups*

Purpose
- Why do we have a Nordic Electricity Market?

Purposes emerging in pre-forum stakeholder input

- To serve its citizens in the best way and creates advanced business models for increased competitiveness of the economies of the Nordic countries
- To facilitate market penetration of renewable energy sources and linkages between local and regional markets
- To provide a sustainable, affordable and secure energy system
- To run the clean market driven power system
- To bring competitive prices, clean energy and excellent security of supply for societies and customers
- To provide consumers with clean, sustainable electricity at competitive prices with an adequate level of security of supply.
- To transform into a low-carbon green economy
- To provide reliable and secure electricity to all consumers at all times.
- To secure Nordic consumers emission free electricity to competetive prices

Processing of input

- The purposes identified in the material were broken down and compared in terms of themes such as:
  - Target audience
  - Level of security
  - Level of "green"
  - Key output
  - Key good

- 1. To serve its citizens in the best way and creates advanced business models for increased competitiveness of the economies of the Nordic countries
- 2. To facilitate market penetration of renewable energy sources and linkages between local and regional markets
- 3. To provide a sustainable, affordable and secure energy system
- 4. To run the clean market driven power system
- 5. To bring competitive prices, clean energy and excellent security of supply for societies and customers
- 6. To provide consumers with clean, sustainable electricity at competitive prices with an adequate level of security of supply.
- 7. To transform into a low-carbon green econonomy
- 8. To provide reliable and secure electricity to all consumers at all times.
- 9. To secure Nordic consumers emission free electricity to competetive prices

For whom?	Citizens	Societies and customers	(All) consumers	
How secure?	Secure and reliable	Excellent SoS	Adequate SoS	
How green?	Renewable	Sustainable	Clean, emission-free	Low-carbon
How cheap?	Affordable	Competitive	Market-driven	
For what?	Increase competitiveness	Market penetration of RES	Link markets	Advanced business models
Do what?	Serve	Provide, bring, run	facilitate	Transform
What good?	Energy	Electricity		

Suggested purposes for review by forum participants:

A

To provide secure, affordable, and clean energy to all consumers.

B

To serve its citizens by providing sustainable electricity at competitive prices and with an adequate level of security of supply

C

To facilitate penetration of renewable energy sources in a market-driven power system and the transformation into a low-carbon green economy.

D

Other

Result from forum session on purposes

The purpose of the Nordic Electricity Market is:

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To serve its socity by providing sustainable and reliable electricity at competitive prices. / table 6

To enable clean and secure electricity at efficient prices to all customers

Our role is to serve all Nordic customers by providing sustainable electricity at competitive market prices at any time

9-To serve all customers by providing sustainable energy at competitive prices and with an adequate level of security of supply.

Table 2: To contribute to the transformation to a low-carbon economy by providing society with clean, reliable electricity at competitive prices

To provide secure, cost effective and clean electricity to society

The Nordic Electricity market shall provide citizens with sustainable and secure electricity through competitive and smart solutions, in the transformation into a low carbon society.

Group 5: (modified A) Increasing the welfare by providing secure, affordable, and clean energy to all consumers.

Table 8 To serve Nordic Customers With Market based affordable and secure Energy, and being a driver in a low Carbon economy.

Purposes in summary

Group 2	To contribute to the transformation to a low-carbon economy by providing society with clean, reliable electricity at competitive prices.
Group 5	Increasing welfare by providing secure, affordable, and clean energy to all consumers.
Group 6	To serve its society by providing sustainable and reliable electricity at competetive prices.
Group 8	To serve Nordic Customers with market based, affordable and secure energy, and being a driver in a low-carbon economy
Group 9	To serve all customers by providing sustainable energy at competetive prices and with an adequate level of security of supply.
Unmarked Group 1, 3, 4 or 7	The Nordic Electricity market shall provide citizens with sustainable and secure electricity through competetive and smart solutions, in the transformation into a low carbon society.
	To enable clean and secure electricity at efficient prices to all customers.
	Our role is to serve all Nordic customers by providing sustainable electricity at competitive market prices at any time.
	To provide secure, cost effective and clean electricity to society.

Envisioned Future
- Where to we aspire to be in 2030?

Descriptions of future positions previous stakeholder input

"**Digitalization, electrification and automatization** will lead to a society that will be even more reliant on an **electricity supply with high reliability**. …. the electricity demand will rather increase than decrease in the future decades, and the electricity system must be able to deliver that. "

"Electricity supply is a **fundamental infrastructure** in a **modern society**. Designing a cost-efficient system that can provide the electricity requested by the **consumers** – both in terms of quantity and quality - must be at center."

"The Nordic electricity market is a **role model** supporting the European de-carbonisation."

"An **enhanced** target model for the Nordic Electricity Market in a European context in order to put the Nordic region in the **forefront** as a target model for European development to the **benefit of Nordic consumers."**

"An Energy Union […] **efficient and powerful** long-distance grid connections without physical or political barriers. Effective competition policies must provide companies with legal certainty and **uniform application** of the competition rules and principles across the EEA."

Processing of input

- The majority of goal formulations in the input were theme-specific.
- Goals identified as overarching were broken down and compared using the following categories:
  - Scale/quantification
  - Key qualities
  - Output

- One of the world's most competitive, innovative and climate friendly system
- An enhanced target model for the Nordic Electricity Market in a European context
- The worlds smartest electricity market
- A competitive, low-carbon economy by 2050
- A completed internal energy market
- All European energy-only market assisted with balancing power as well as utilise the growing renewable surplus
- A role model supporting the European de-carbonisation

Quantification/Scale	Key Qualities	Output
"the world's most"	"Competitive"	A system"
"in a European context"	"Innovative"	"a target model"
By 2050	"Climate friendly"	"a role model"
	"Low carbon" "De-carbonization"	"All European energy-only market"
	"smart"	
	"Assisted with balancing power as well as utilize the growing renewable surplus"	

Goal suggestions

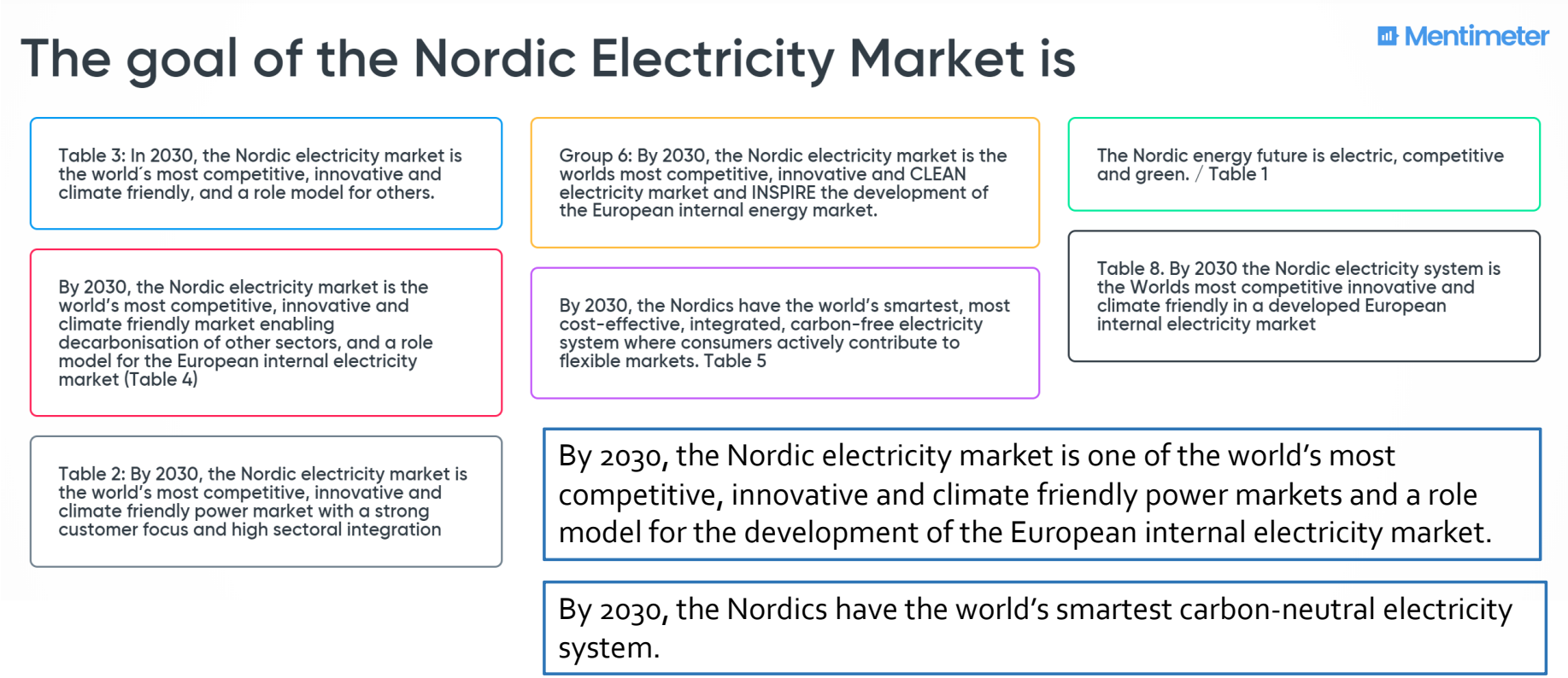
A By 2030, the Nordic electricity market is one of the world's most competitive, innovative and climate friendly power markets and a role model for the development of the European internal electricity market.

B By 2030, the Nordics have the world's smartest carbon-neutral electricity system.

C By 2030, we have an all European energy-only market assisted with balancing power as well as utilising the growing renewable surplus.

D Other

Result from forum session on goals



Goals in summary

Group 1	The Nordic energy future is electric, competitive and green.
Group 2	By 2030, the Nordic electricity market is the world's most competitive, innovative and climate friendly power market with a strong customer focus and high sectoral integration.
Group 3	In 2030, the Nordic Electricty market is the world's most competitive, innovative and climate friendly, and a role model for others.
Group 4	By 2030, the Nordic Electricity market is the world's most competetive, innovative and climate friendly market enabling decarbonisation of other sectors, and a role model for the European internal electricity market
Group 5	By 2030, the Nordics have the world's smartest, most cost-effective, integrated, carbon-free electricity system where consumers actively contribute to flexible markets.
Group 6	By 2030, the Nordic electricity market is the world's most competitive, innovative and CLEAN and INSPIRE the development of the European internal energy market.
Group 7	By 2030, the Nordic electricity market is one of the world's most competitive, innovative and climate friendly power markets and a role model for the development of the European internal
Group 8	By 2030, the Nordic electricity system is the World's most competitive, innovative and climate friendly in a developed European internal electricity market. (Option B)
Group 9	By 2030, the Nordics have the world's smartest carbon-neutral electricity system. (Option A)

Kick-off session for the roadmap

Roadmap themes based on previous stakeholder input

1. **Market development**
   new business models / services / market design / customer centred / harmonising development / price signals

2. **Flexibility issues**
   Flexibility market / Sector coupling for flexibility / Balancing market / increased electrification – flexibility support

3. **Digitalisation Integration**
   real-time data / open data / customer-owned data) / SMART grid / meters / automatization (+pilots / forerunner) / digitalization

4. **Integration of renewables**
   Carbon-neutral / Zero-Carbon / increased electrification – environmental reasons

5. **Harmonising with EU**
   Regulations, market- and grid development / harmonised Nordic standpoint on EU issues

Result from theme qualification session

A theme in our roadmap should be:

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Table 2: System adequacy to be added as additional theme, title of theme 4 to be changed to Challenges and opportunities from moving to a low carbon economy

Bord 3: • Wholesale and system operation (incl related EU regulation) • Role of DSO (TSO/DSO, monopoly/market activities, smart grid, EU) • Electrification (transportation, heat/electricity, sector coupling) • Retail markets (supplier centric,

1. Market development 2. Flexibility issues 3. Delete: Digitalisation 4. New: Developing grid infrastructure (TSO and DSO) to enable electricity system tranition 5. Rephrased: Being an inspiring role model for EU Table 4

1. Market development, incl financial market, balancing, trade etc. 2. System development, incl. flexibility issues, integration of renewables 3. Digitalisation 4. TSO cooperation, incl. grid development 5. TSO/DSO cooperation Table 5

Grid Development and congestion management. And we have questions on how to ensure Coop btw themes and how to set overall governance.

Table 7. 1. Market development: Add /aggregators/energy communities. 3. Digitalisation Integration: Delete word Integration. 4. Integration of renewables: Add /weather forecasts. 5. Change title to Influence and harmonise with EU.

Nordic system operation roadmap: in grid developement, planing and operations. Group 6

Table 8. Physics should be rleflected System, grid and Market developement

Summary revised roadmap themes

Group 1	
Group 2	• Additional theme: System Adequacy • Change title of theme 4 to Challenges and opportunities from moving to a low carbon economy
Group 3	• Wholesale and system operation (incl related EU regulation) • Role of DSO (TSO/DSO, monopoly/market activities, smart grid, EU) • Electrification (Transportation, heat/electricity, sector coupling) • Retail markets (supplier centric)
Group 4	• Market development • Flexibility issues • Delete Digitalisation • New Developing grid infrastructure (TSO and DSO) to enable electricity system transition • Re-phrase: Being an inspiring role model for EU
Group 5	• Market development incl. Financial market, balancing, trade. • System development incl flexibility issues, integration of renewables • Digitalisation • Tso Cooperation incl grid development • TSO/DCO cooperation
Group 6	• Nordic System Operation Roadmap: in gred development, planning and operations
Group 7	• Market development – add key words aggregators/energy communities • Digitalisation – delete word integration • Integration of renewables - add: weather forecasts • Change title of theme 5 to influence and harmonise with EU
Group 8	• Physics should be reflected. System, grid and market development.
Group 9	• Grid development and congestion management, and we have questions on how to ensure cooperation between themes and how to set overall governance