Security of supply - Baltic challenges

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Agenda

1. Context
2. Developments related to security of supply
3. Summary
1. Context
1.1 Context - location and network structure

Currently
• Part of IPS/UPS (Russian grid, BRELL agreement)

After synchronization with the Continental Europe Synchronous Area (CESA)
• Connected to CESA with a 500 MW HVAC connection
• Between CESA, Nordics, IPS/UPS systems
1.2 Context - size of the system

The Baltics in 2023
- Installed capacity is 9,8 GW
- Total peak demand is 5,2 GW

The Nordic synchronous area (FI, SE, NO, DK East)
- Installed capacity is 121,3 GW
- Total peak demand is 73,6 GW
1.3 Context - interconnections

- Import capacity of the Baltics is **2216 MW** (before synchronization with CESA)
- It is 42% of the peak demand in the Baltics.
- Largest single network element is Nordbalt (SE04-LT) 700 MW
  - Reserves must be held to cover for the outage of 700 MW.
  - Reserves are shared between Estonia, Latvia and Lithuania
2. Developments related to security of supply
2.1 Winter 2023/2024 developments

Keywords: RUSSIAN AGGRESSION, AVAILABILITY OF POWER PLANTS

• Main risk is emergency synchronization with CESA
• The electricity supply in the Baltics remains as it was last year. Developments in neighboring countries are important to us
• Security of supply related risks have lowered compared to previous winter in the Baltic Sea region
• Gas market shows no signs of gas shortage
• ENTSO-G next winter preliminary analysis is optimistic over the gas infrastructures capability to meet the gas demand
2.2 Short-term developments-2023...2026

Keyword: SYNCHRONIZATION PROJECT

- Focus is on preparing the grid and energy market for synchronization with CESA
- Stay vigilant of Russia’s behavior- infrastructure sabotage and cyber-attacks are nothing new
- Gas supply- global LNG market will have a significant affect

What will probably take place:
- Discussions regarding nuclear energy in the Baltics
2.3 Mid-term developments 2027...2030+

**Keywords: NEW MARKET, DECARBONISATION, OFFSHORE WIND**

- Running a new ancillary services market
- Room for fast-ramping, more flexible generation
- Estonia might implement a strategic reserve starting from 2027 as reliability standard, LOLE of 9 hours/year is exceeded
- Offshore wind projects will be commissioned starting from 2027
- Several interconnector plans in pipeline
  - Estlink 3
  - Harmony link
  - ELWIND project
  - Baltic WindConnector

Resource adequacy parameter - LOLE in 2027 & 2030

From ENTSO-E ERAA2022
2.4 Long-term developments ...2050

Keywords: DECARBONISATION, ELECTRIFICATION

• Demand growth from electrification of several sectors
• Hydrogen market
• What is the role of the Baltics in the large system? How can we create value?
3. Summary

Each time period has a clear set of developments

- **Short-term**: Mostly related to the risks of remaining in the Russian grid and necessary actions to safely synchronize with the Continental European system
- **Mid-term**: We are operating a small renewable heavy electricity system with a new market and development focus is offshore
- **Long-term**: Ensuring security of supply while achieving climate targets. Challenge is to find our „place“ in the larger system.
Contacts

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Backup slides
Context 1.2 - size of the system, gas

Capacities of supply channels:
- Klaipeda approx. 105 GWh/day
- Incukalns 124 - 272 GWh/day
- New LNG terminal up to 140 GWh/day
- GIPL 21+ GWh/day

Peak consumption
- Baltic countries total approx. 300 GWh per day