

Security of supply- **Baltic** **challenges**

Jarmo Ling

Elering

15.06.2023

Agenda

1. Context
2. Developments related to security of supply
3. Summary



1. Context



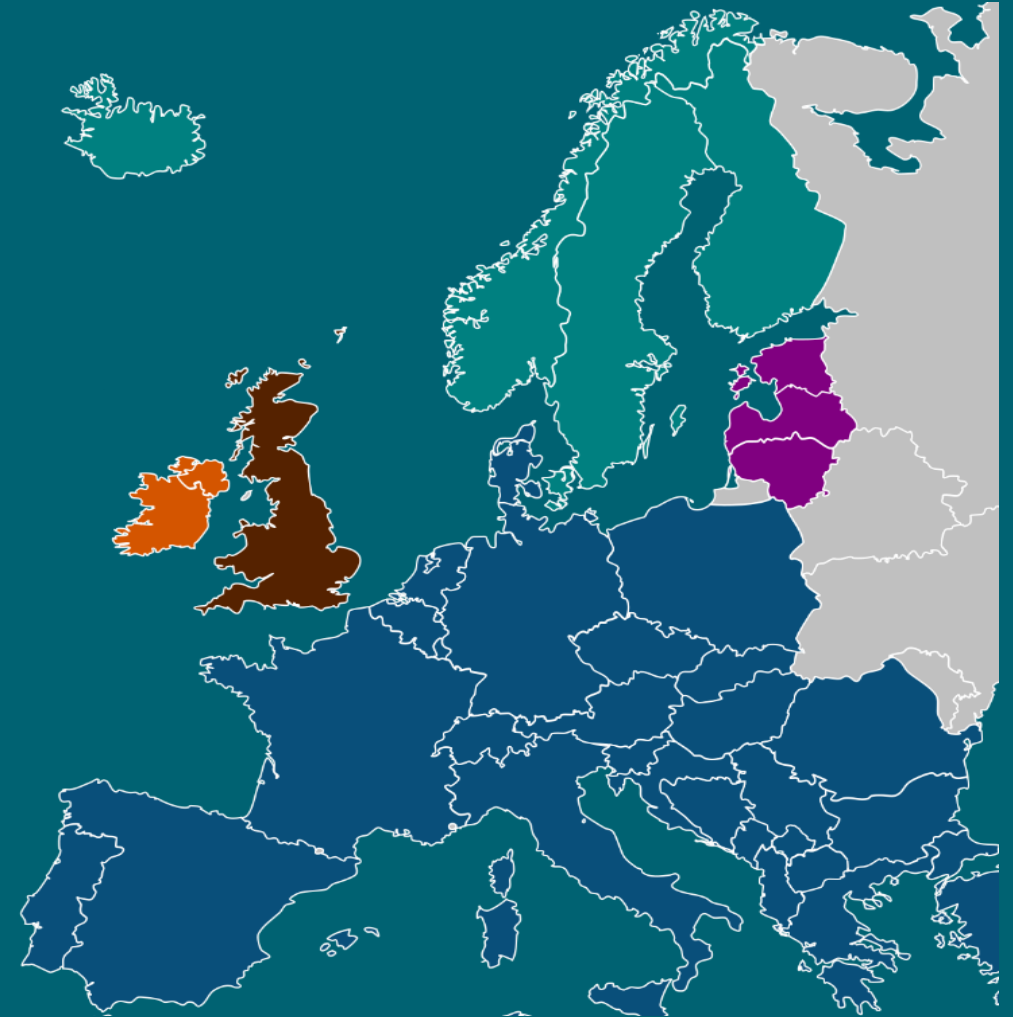
1.1 Context- location and network structure

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



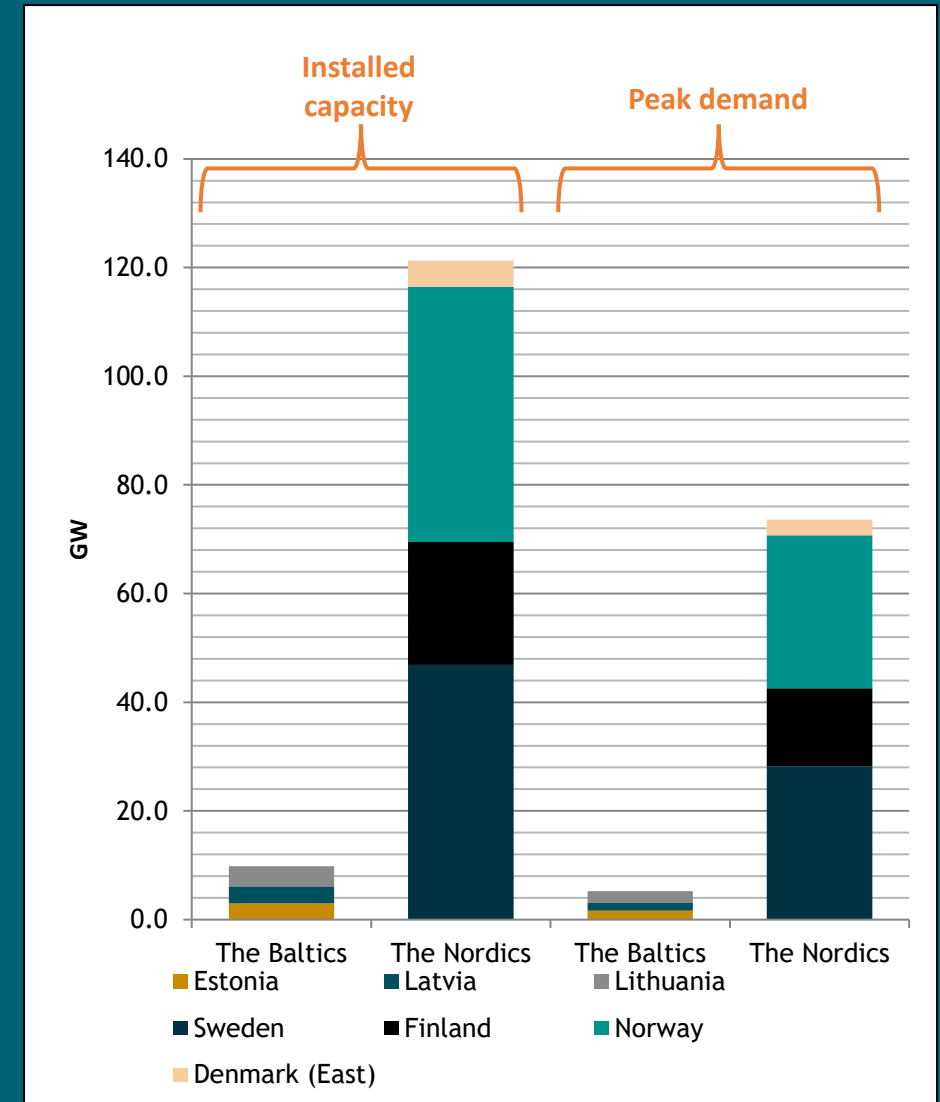
1.2 Context- size of the system

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)

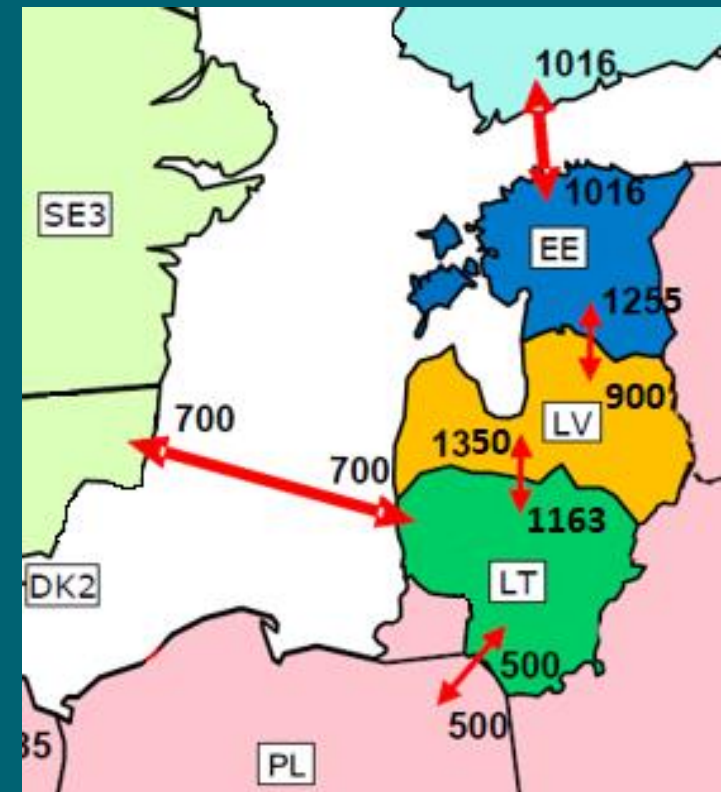
- Installed capacity is 121,3 GW
- Total peak demand is 73,6 GW



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

Average NTCs throughout 2024



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

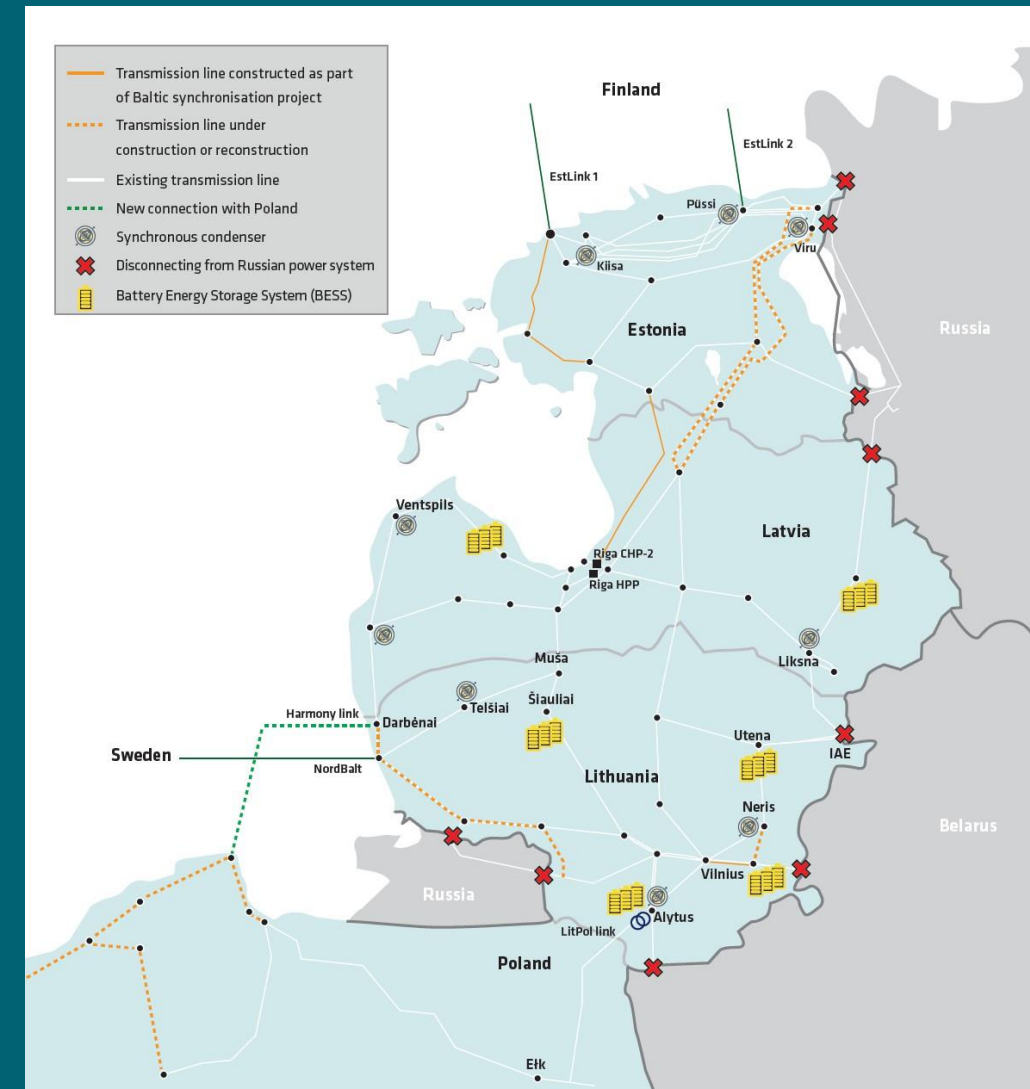
2.2 Short-term developments- 2023...2026

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



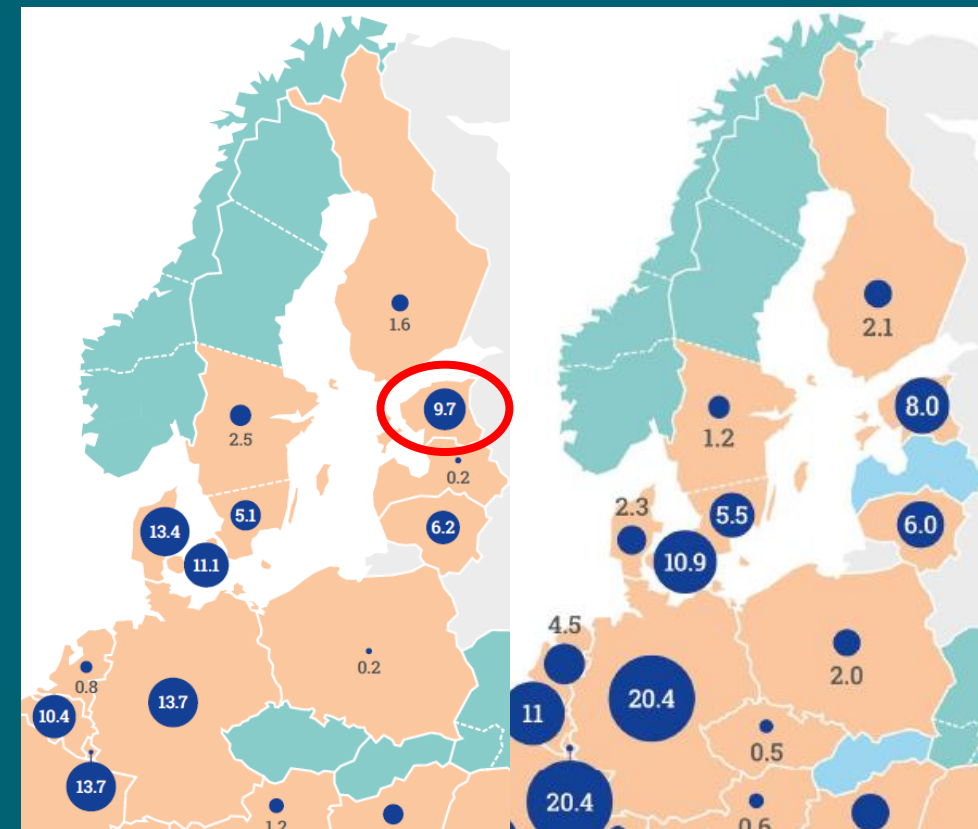
Synchronization investment projects

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

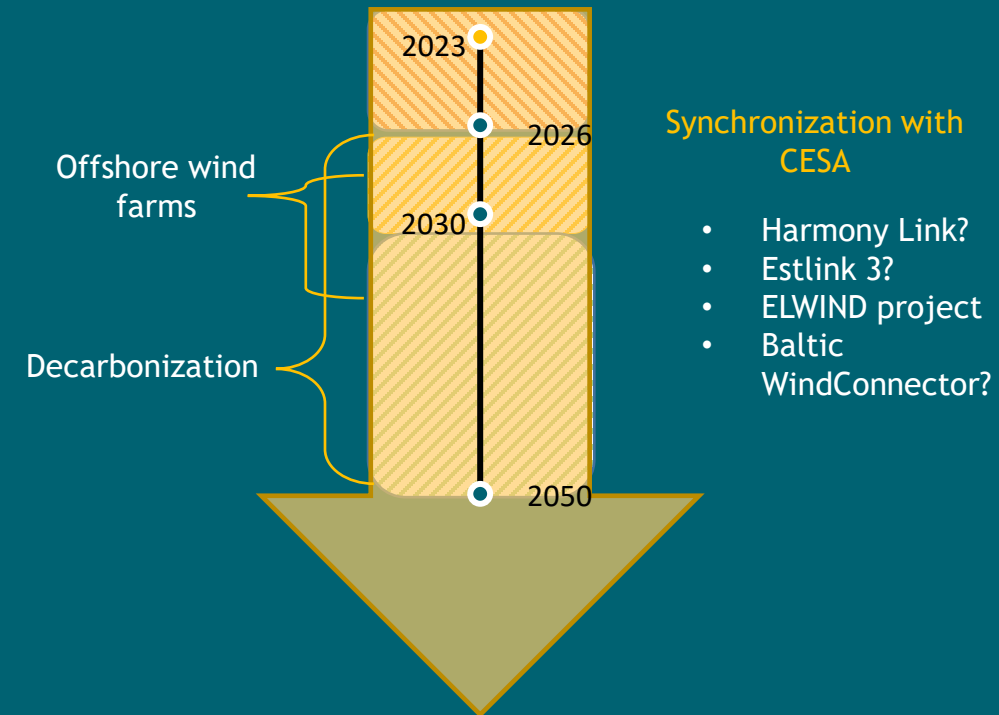
- Demand growth from electrification of several sectors
- Hydrogen market
- What is the role of the Baltics in the large system? How can we create value?



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

Jarmo Ling

Energy Markets Analyst

Jarmo.ling@elering.ee

+372 59 024 880



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