Regional challenges at Baltic Sea

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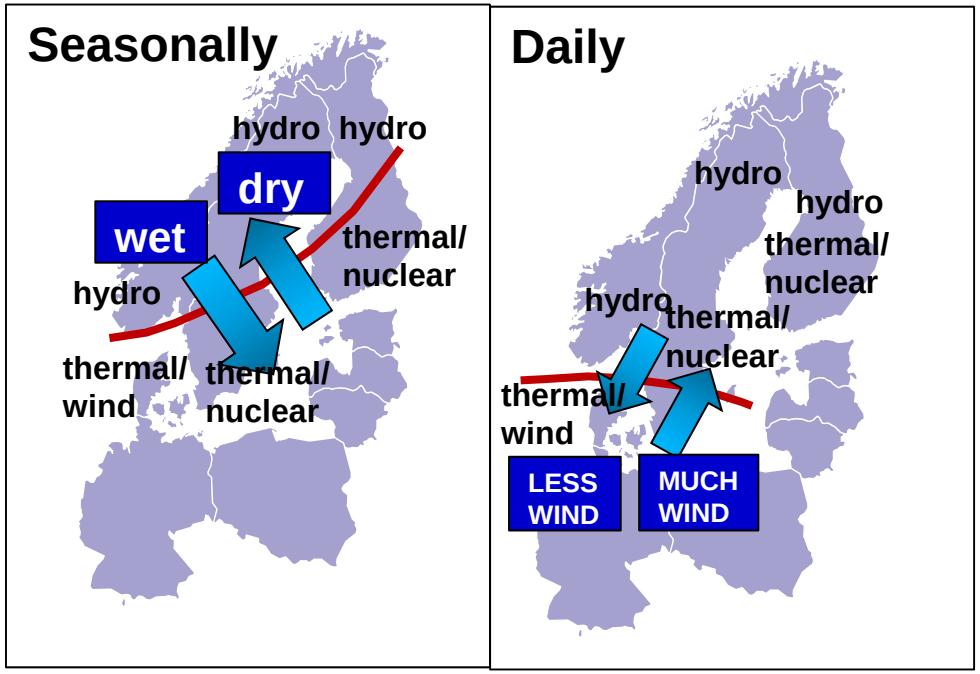
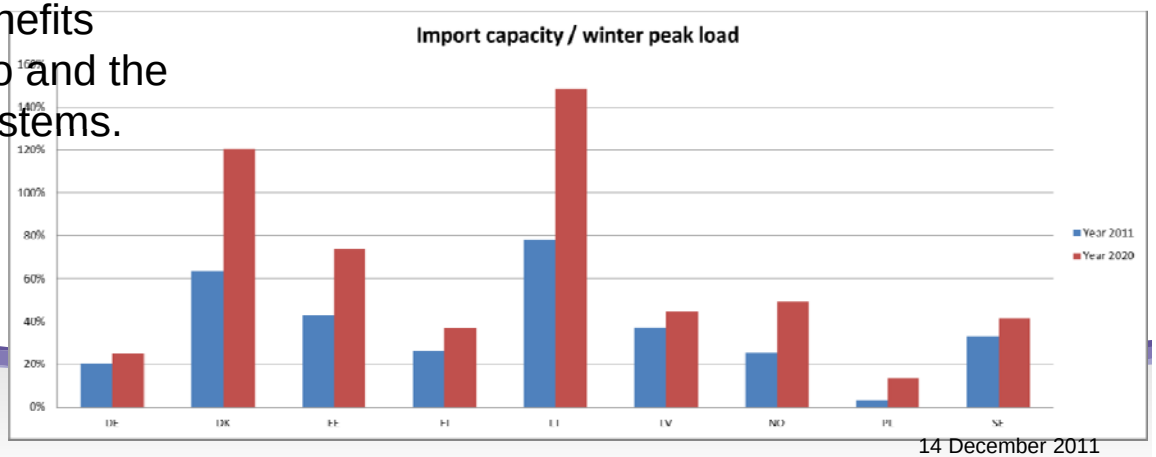
Reliable Sustainable Connected

Features of the Baltic Sea region

- The region consists of 3 different synchronously connected power systems which are linked with HVDC connections or no connection at the moment (Baltic/CE)
- System is well connected. In average in the region the import capacity is 37% of the winter peak load.
- Long distances inside the region between production/consumption areas, transmission capacity restricted by dynamic phenomena
- Hydro-dominated northern part, Thermal/RES dominated southern part. The system has good possibilities of benefits from the diverse production portfolio and the flexibility of the hydro production systems.





Key drivers for Grid development in Baltic Sea region

Security of Supply

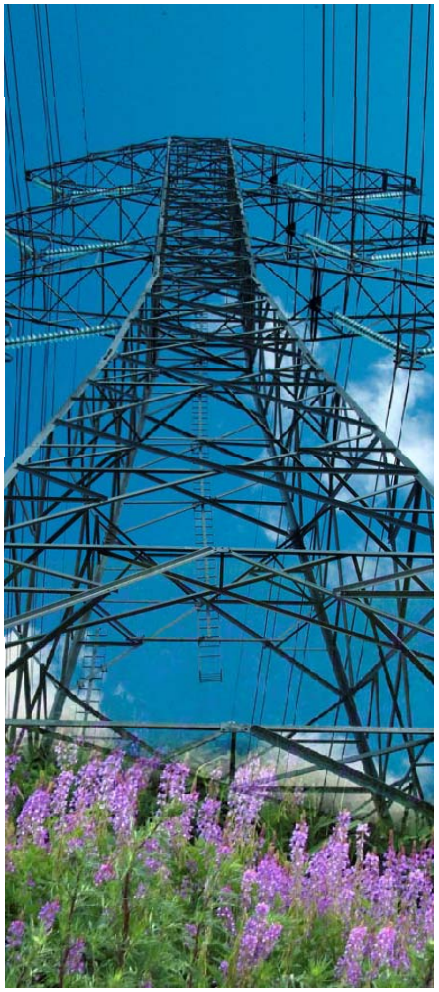
- Arctic region
- Restricted regions in Norway, Baltics

Market integration in the whole Baltic Sea region

- Integration of the Baltic states with the European/Nordic market
- Further integration of the Nordic countries
- New interconnections btw Nordic and continent because of the expected change in transmission patterns due to increasing wind power in Europe
- Changing power balance in Germany

Integration of renewables – (and conventional)

- Regional RES integration and change in the expected flow patterns
- integration of the large units
- continental interconnections and North-South reinforcements



Main messages and challenges from Baltic Sea

- High surplus by 2020 expected in the Nordic countries will need to be transmitted to the Continental Europe
- Grid development may not be in time if RES targets are met as scheduled, due to internal grid reinforcement restrictions
- Uncertainties regarding the market development on the EU-Russian border
- Large uncertainty regarding generator investments is a challenge for grid development
- Baltic area will become more integrated with the rest of EU-area
- North South flow direction in all the Baltic Sea countries
- Changing of power balance in Germany is significant in the short term
- Due to the high wind power integration it is crucial to ensure sufficient regulating power, which could even increase the benefits of the planned investment package

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Other challenges

- Political decisions and targets also have an effect on the challenges regarded in the grid development
- There is a decision in Denmark with further cabling of the grid, In Baltic states there is a clear political drive to integrate the Baltic system with the rest of the EU-system
- The targets for Renewables are agreed on EU-level, but the practical realization of the regime are dealt nationally. This creates different support systems stemming from national startingpoints
- The global environmental concerns (global warming/RES targets) vs local environmental concerns (sensitive nature areas) In grid planning this shows as lenghtening of the permitting process.
- Three 3rd party projects were suggested to be taken in associated with Baltic Sea area. NO-UK, RU-LT, RU-PL. These projects however were not mature enough to be taken in to the 2012 release of TYNDP

ENTSOE Regional Groups

- Baltic Sea regional group under Entso-e tackles these common challenges with cooperation