

ENTSO-E Regional Grid planning

BASREC Workshop

Development of the electricity market and strengthening of
electricity grid in the High North Region

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Maarit Uusitalo

Member, Working Group Ten Year Network Development,

Member, Regional Group Baltic Sea



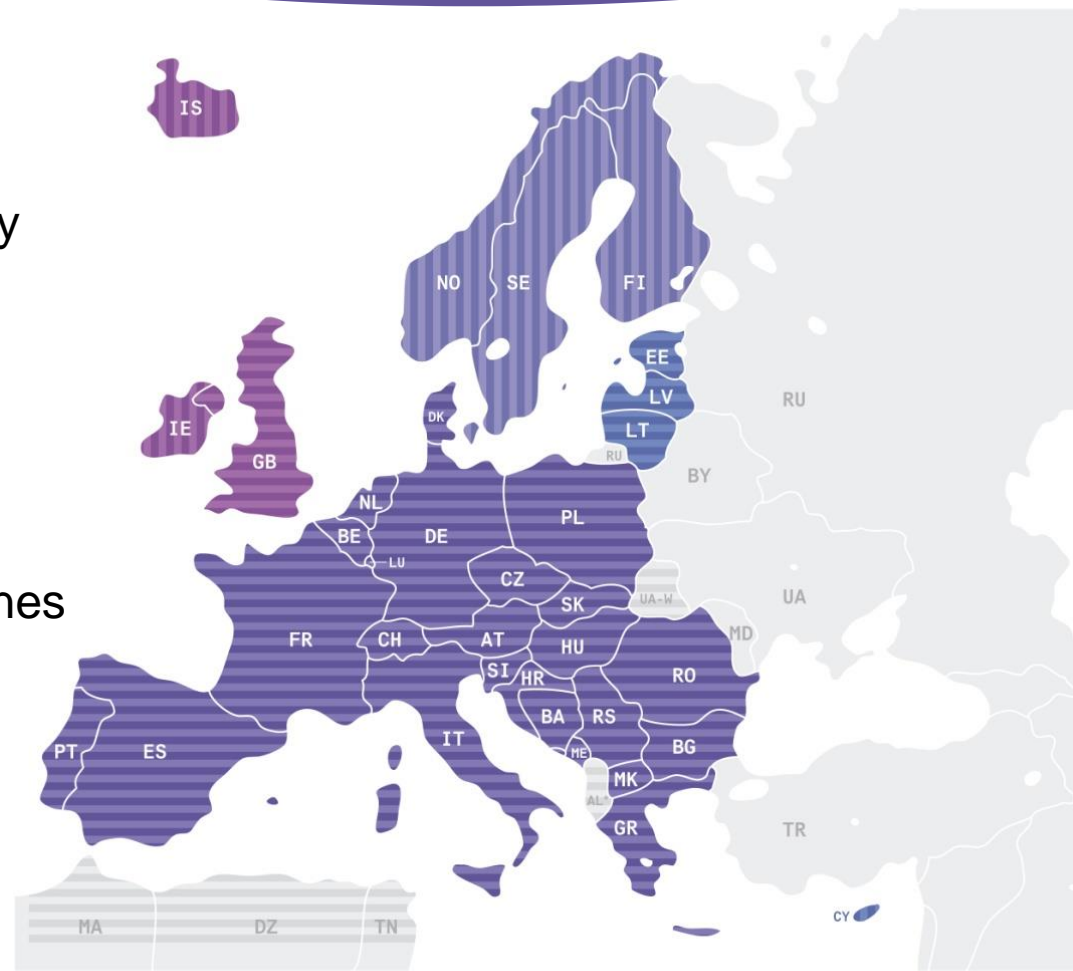
Reliable Sustainable Connected

Content

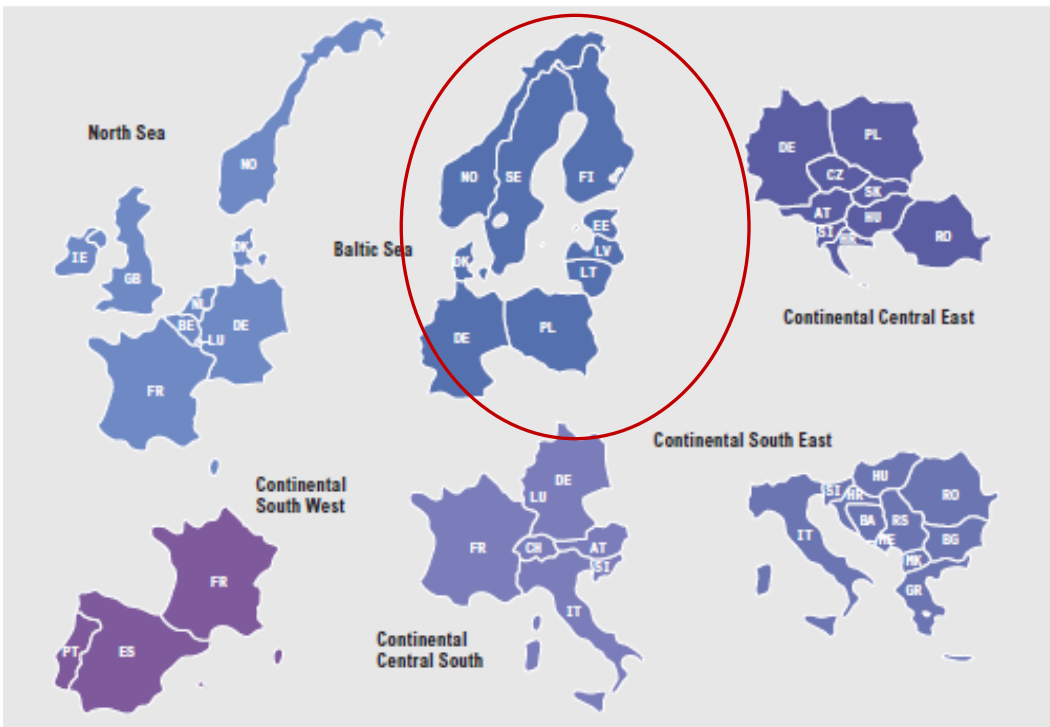
- What is ENTSO-E
- Grid planning at ENTSO-E – TYNDP process
- Regional Grid planning at Baltic Sea region

We are ENTSO-E

- 41 TSOs from 34 countries
- Founded on 19 Dec 2008 and fully operational since July 2009
- A trans-European network
 - 525 million citizens served
 - 828 GW generation
 - 305,000 Km of transmission lines
 - 3,400 TWh/year demand
 - 400 TWh/year exchanges
- Legal mandate, among which TYNDPs, based on Reg. (EC)714/2009



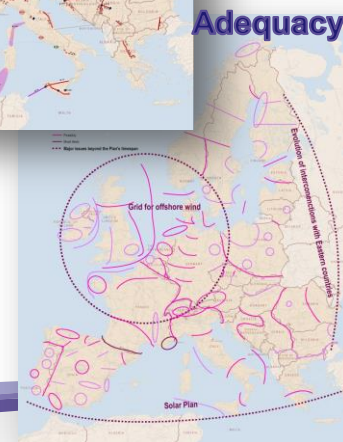
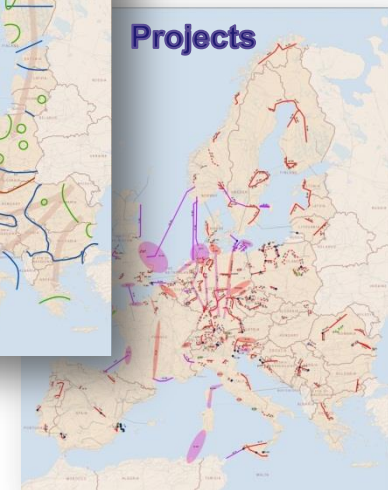
Entso-e regional groups for system development



- Baltic Sea group consists of 9 TSO's: Fingrid, Svenska Kraftnät, Statnett, Energinet.dk, Elering, Litgrid, Augstsprieguma tikls, PSE Operator, 50Hertz Transmission
- Energinet.dk and Statnett also belong to the North Sea group, while PSE Operator and 50Hertz also belongs to the Continental Central East group
- Intentional overlapping of the six regional groups is intended to promote information sharing

Why a Ten-Year Network Development Plan?

Regulation (EC) 714/2009 – “In order to ensure greater transparency regarding the entire electricity transmission network in the [Union], the ENTSO for Electricity should draw up, publish and regularly update a non-binding [Union]-wide ten-year network development plan”



Transparency

TSO cooperation platform

Stakeholder involvement

Inform EU policy and investment decisions

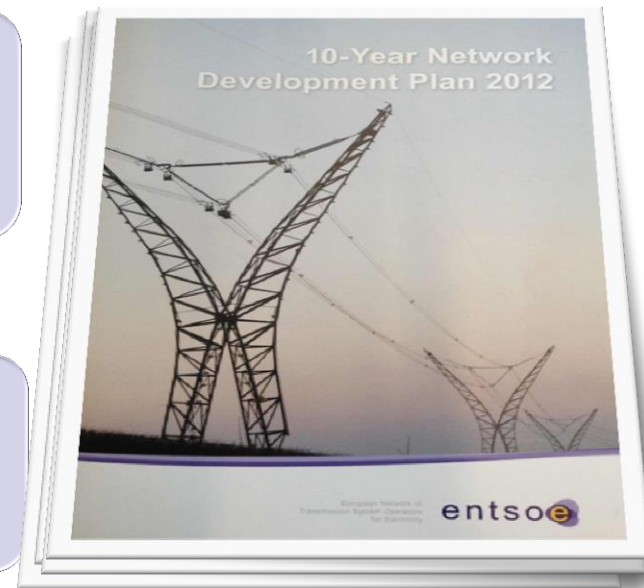
The TYNDP 2012 package

a vision for the European extra high voltage grid

- non-binding
- updated every 2 years
- based on common market and network studies
- generation adequacy outlook

a comprehensive document suite that includes

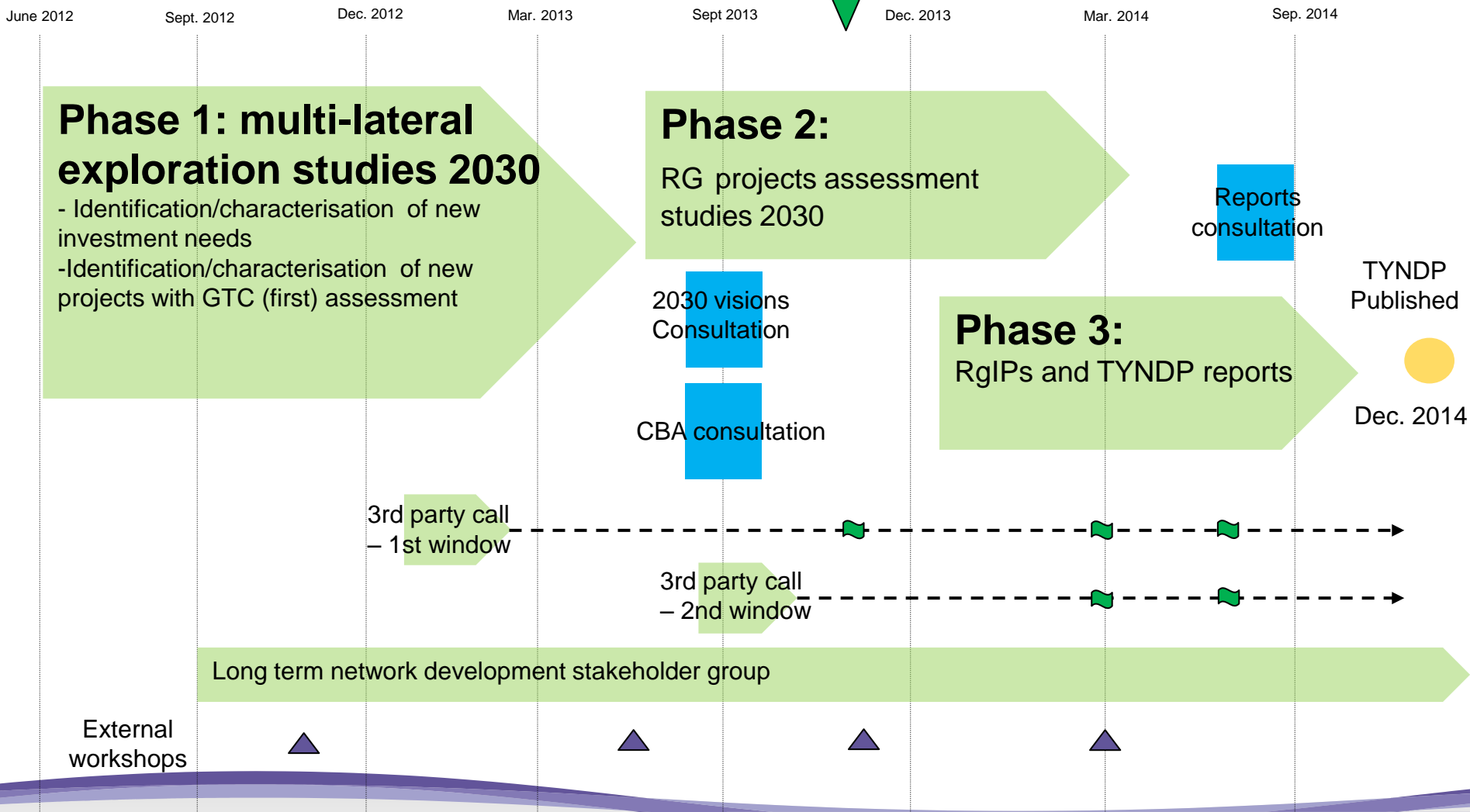
- Ten-Year Network Development Plan
- Scenario Outlook and Adequacy Report
- 6 Regional Investment Plans



[Final release: 5 July 2012](#)

www.entsoe.eu

TYNDP 2014 looks ahead to 2030, open to stakeholders



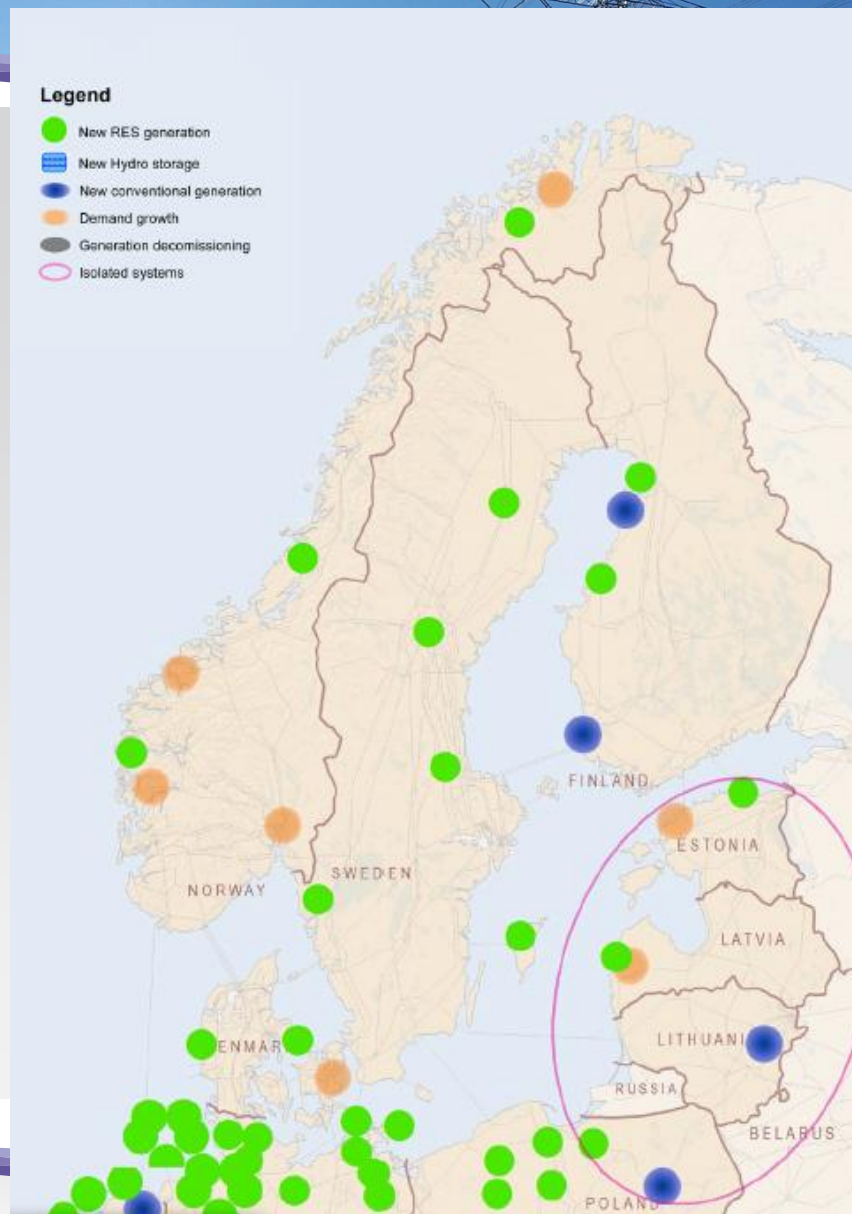


Perspectives for grid development towards 2030

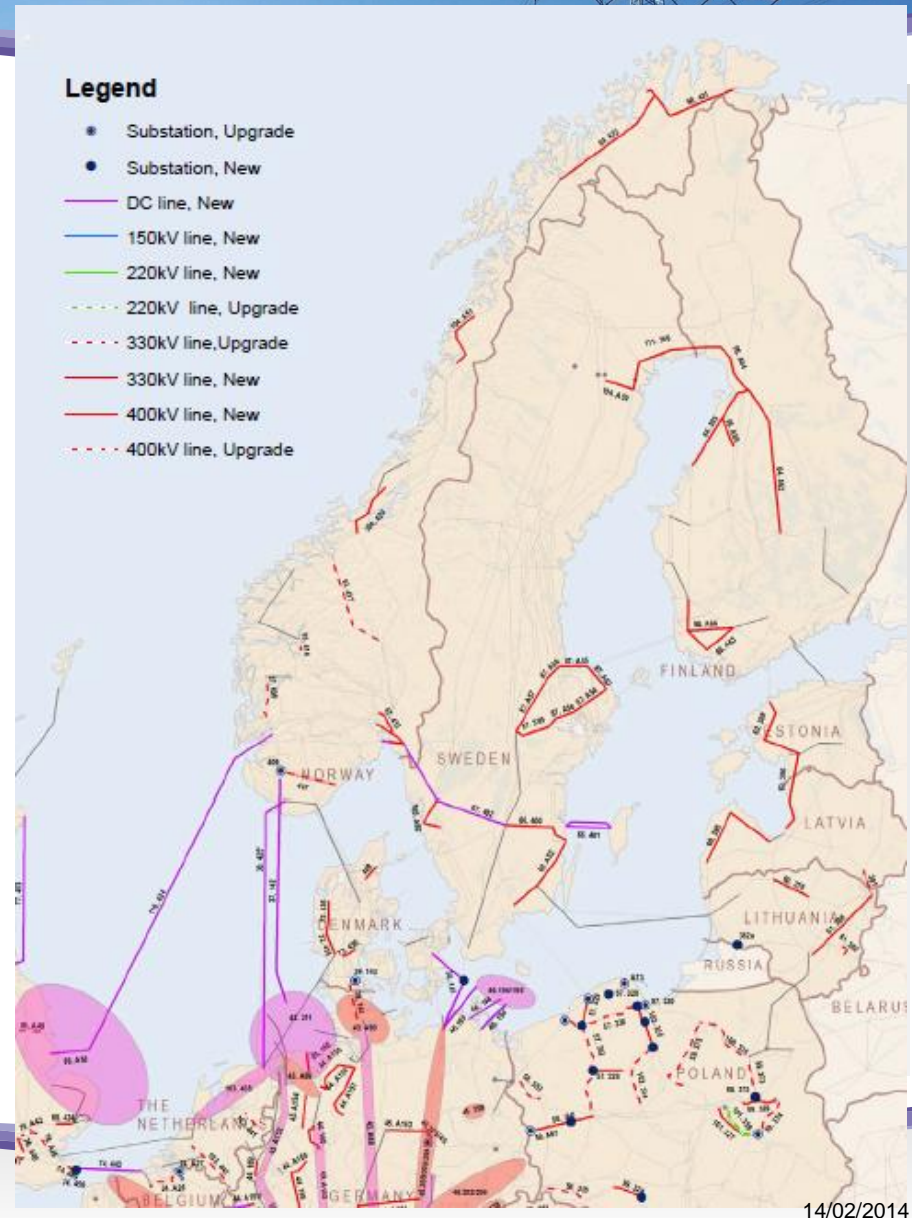
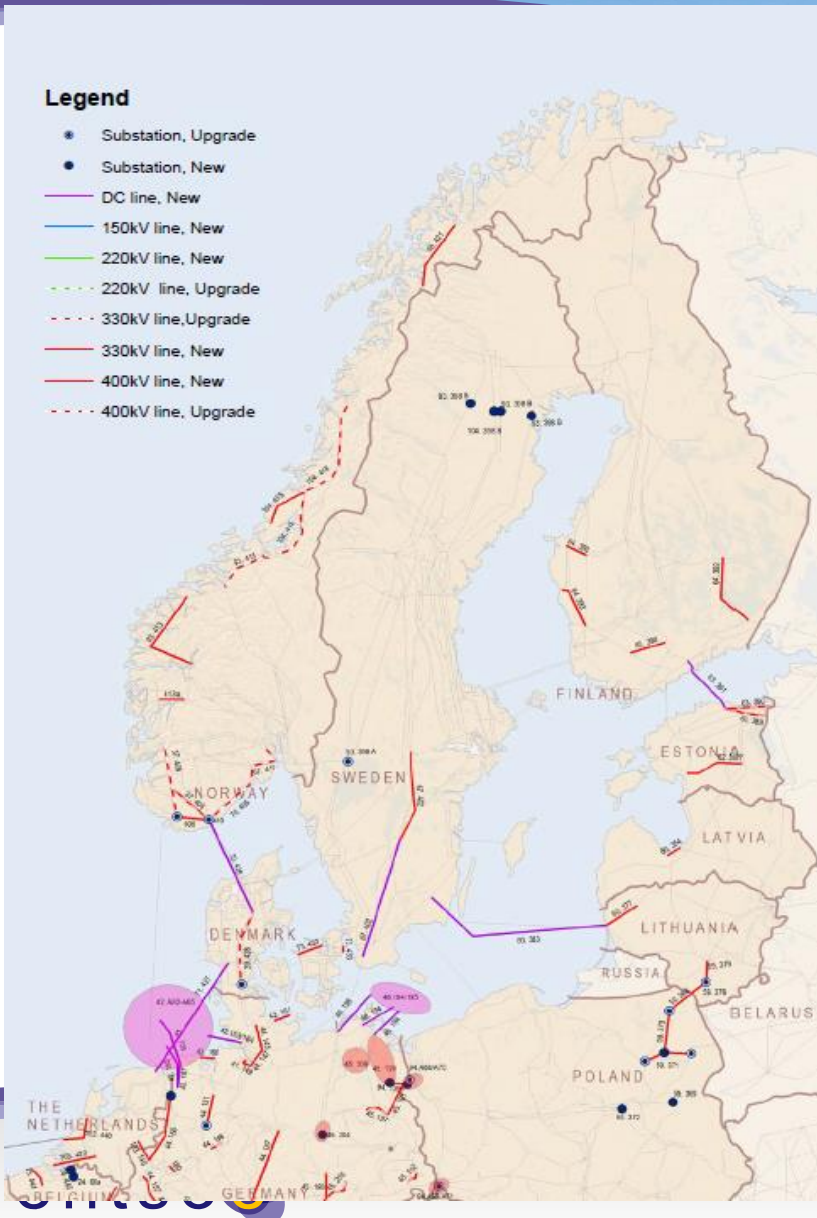
- Regional view

From TYNDP 2012: Drivers for grid development towards 2020

- Increased market integration within Nordic area and towards Baltics and continental Europe/UK
- Integration of new generation (RES and conventional)
- Security of supply and accommodate demand growth



Projects from TYNDP 2012 – mid term and long term



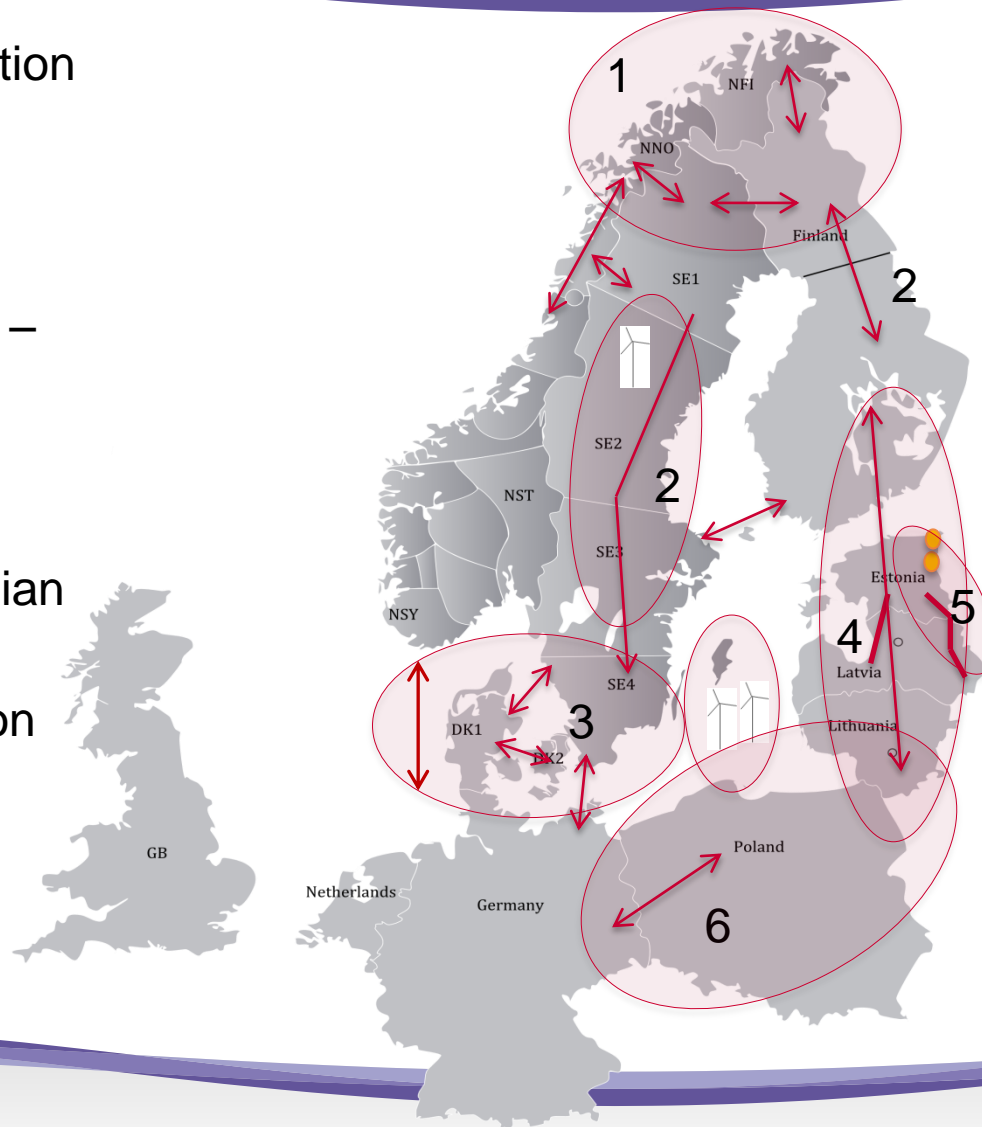
Regional perspectives towards 2030



- Integration of renewables continues – at what pace?
 - More RES generation
 - Less conventional generation
 - Increased need for balancing power
 - Energy transmission over long distances
 - Security of supply in a system with more intermittent generation (solar and wind)
- Market integration
 - Further development of the internal energy market (IEM)
 - Baltic states in synchronous operation with Continental Europe
 - Russian market developments unclear

Identified areas of interest for 2020-2030 horizon

1. Arctic area – new consumption and RES
2. North-south flow through Norway/Sweden/Finland
3. Increased capacity Nordics – Continental Europe/UK
4. North-South through Baltic states
5. Power flow control on Russian border
6. Baltic synchronous operation with Continental Europe



Next step: Assessment phase and drafting

- Identified areas of interest will be analysed further, and concrete projects will be identified
- Possible new projects will be subject to Cost-Benefit-Analysis (CBA) according to Entso-e guidelines
- New projects for TYNDP 2014 will be selected based on CBA analysis and considerations from the involved TSOs
- TYNDP projects list is non-binding, and projects can be taken out of the list in later plans, if no longer considered beneficial



Finalization of TYNDP 2014 and Regional plan 2014

- Final assessment of projects is ongoing
- Regional stakeholder seminar on 18th March, Stockholm
- Reports for public consultation, June 2014
- Final reports published by Dec 2014



Thank you for your attention!

maarit.uusitalo@fingrid.fi



Additional slides of the 2030 Visions

2030 Visions: a Bridge between the European Energy Targets for 2020 and 2050

On track for energy roadmap 2050

VISION 3:
“GREEN
TRANSITION”

VISION 4:
“GREEN
REVOLUTION”

VISION 1:
“SLOW
PROGRESS”

VISION 2:
“MONEY
RULES”

High degree of integration of the internal electricity market

What is in the Visions? (1)

On track for
Energy Roadmap 2050

Vision 3: "Green Transition"

- Favourable economic and financial conditions
- Reinforced national energy politics
- Parallel national R&D research schemes
- High CO₂ prices and low primary energy prices (IEA – WEO 2010 450 scenario)

Vision 4: "Green Revolution"

- Favourable economic and financial conditions
- European energy policy
- European R&D research scheme
- High CO₂ prices and low primary energy prices (IEA – WEO 2010 450 scenario)

Low degree
of integration
of the internal
electricity
market

Vision 1: "Slow Progress"

- Less favourable economic and financial conditions
- Reinforced national energy politics
- Parallel national R&D research schemes
- Low CO₂ prices and high primary energy prices (IEA – WEO 2010 current policies scenario)

Vision 2: "Money Rules"

- Less favourable economic and financial conditions
- European energy policy
- European R&D research scheme
- Low CO₂ prices and high primary energy prices (IEA – WEO 2010 current policies scenario)

High degree
of integration
of the internal
electricity
market

Delay of
Energy Roadmap 2050

What is in the Visions? (2)

