



ENTSO-E

Ten-Year Network Development Plan in the European Policy context

Dimitrios Chaniotis

Senior Advisor System Development

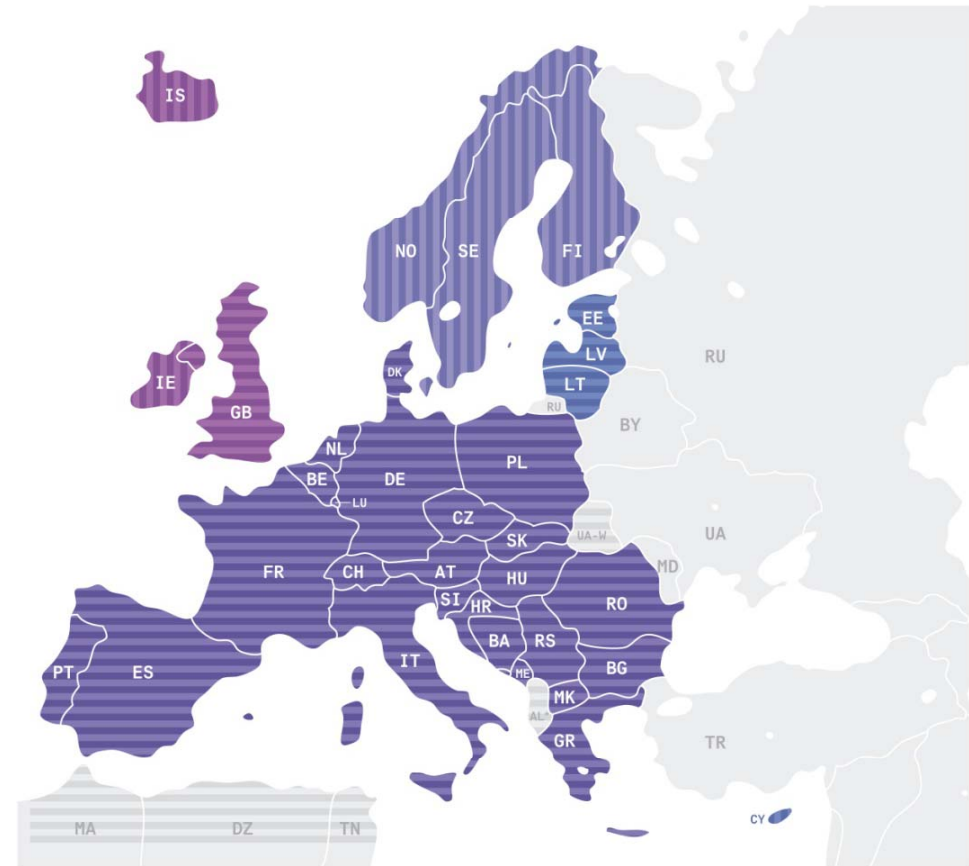
ENTSO-E

**2nd ENTSO-E Baltic Sea Regional Stakeholder Workshop
Stockholm 24 March 2011**

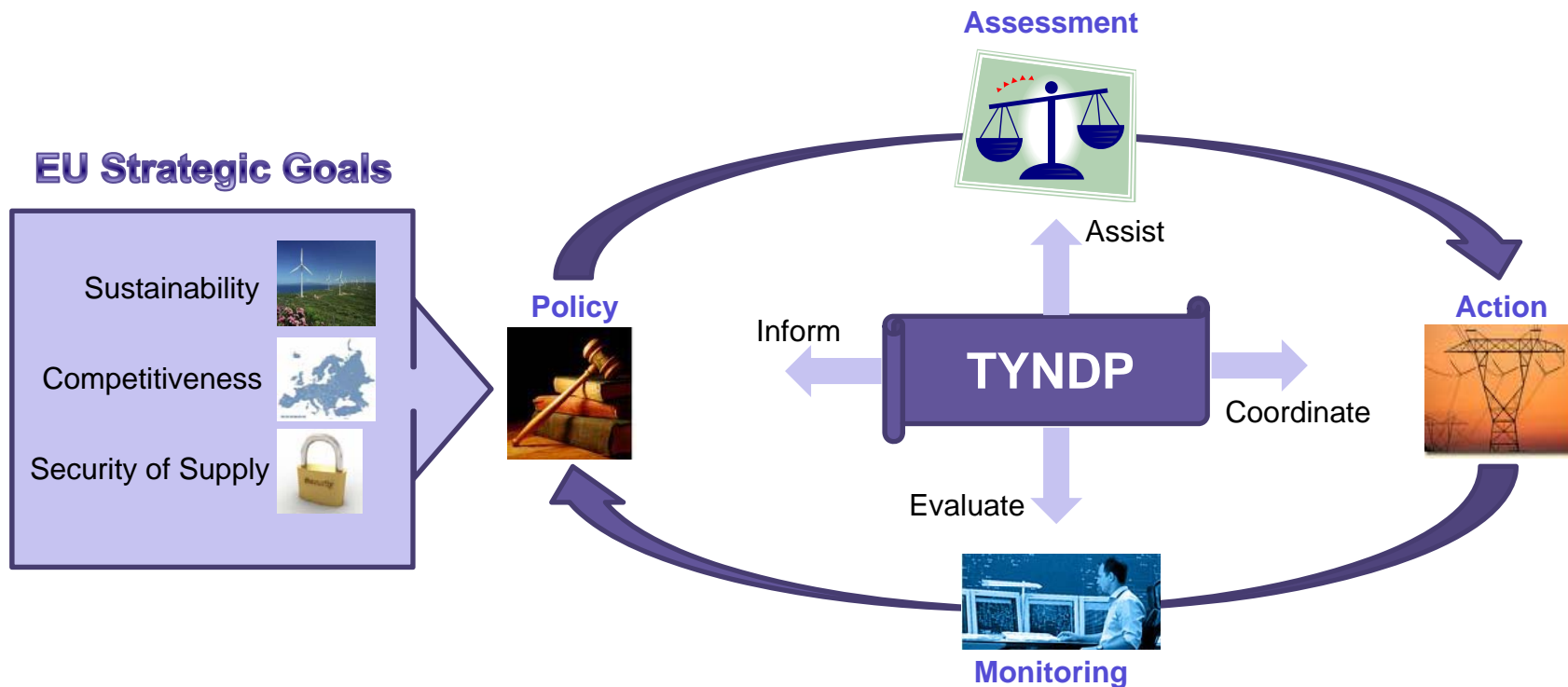
entsoe
Reliable Sustainable Connected

TSO international cooperation = ENTSO-E

- 41 TSOs from 34 countries
- 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
- Replaces former TSO organisations: ATSOI, BALTSO, RTSO, NORDEL, UCTE, UKTSOA



What is the Ten-Year Network Development Plan



"ENTSO-E shall adopt a non-binding Community-wide ten-year network development plan"

- Transparency
- Decision making process
- Networks/scenarios/Generation outlook/resilience

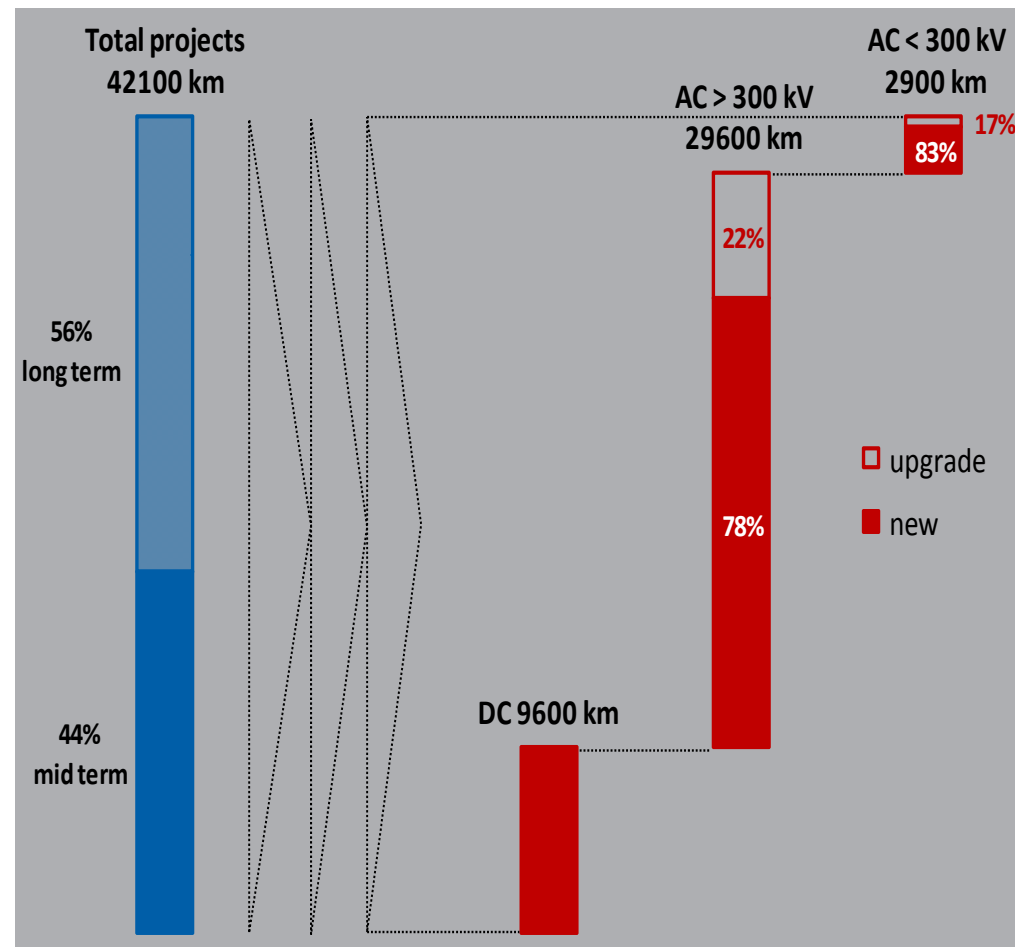
Results of the Pilot TYNDP 2010

The TYNDP projects represent
~14% of existing lines



€ 23 to 28 billion

for the first five years !



The debate has now started

- “The first 10-year network development plan (TYNDP) forms a solid basis to identify priorities in the electricity infrastructure sector”

*EC Communication
Energy infrastructure priorities for 2020 and beyond
28 February 2011*

- “Future infrastructure and non-binding TYNDPs should be consistent”.

*Council conclusions on
Energy 2020: A Strategy for competitive, sustainable and secure energy
28 February 2011*

- “Now, the TYNDP - elaborated by ENTSO-E - is an important first tool [for a clear vision for the development of integrated EU energy grids], which might need to be complemented by other instruments”.

*working document
on Energy infrastructure priorities for 2020 and beyond
Committee on Industry, Research and Energy
Rapporteur: Francisco Sosa Wagner*

And « taboos » are dropping in view of the Energy Infrastructure Package



- “It is important to **streamline and improve authorisation procedures**, while respecting national competences and procedures, for the building of new infrastructure; the European Council looks forward to the forthcoming proposal from the Commission in that respect.”
- “The bulk of the **important financing costs for infrastructure investments** will have to be delivered by the market, with costs recovered through tariffs. It is vital to promote a regulatory framework attractive to investment”.

Conclusions of the European Council
4 February 2011

Time to table proposals

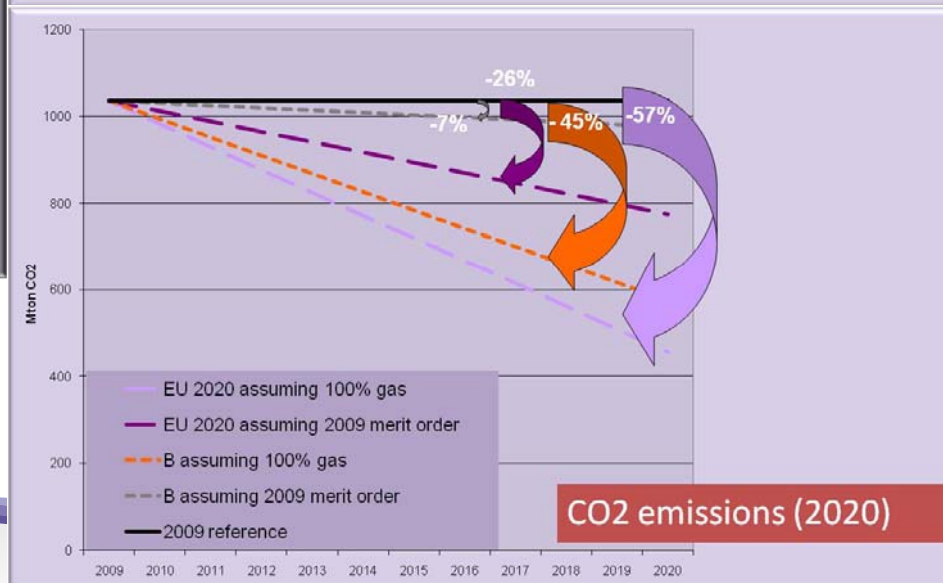
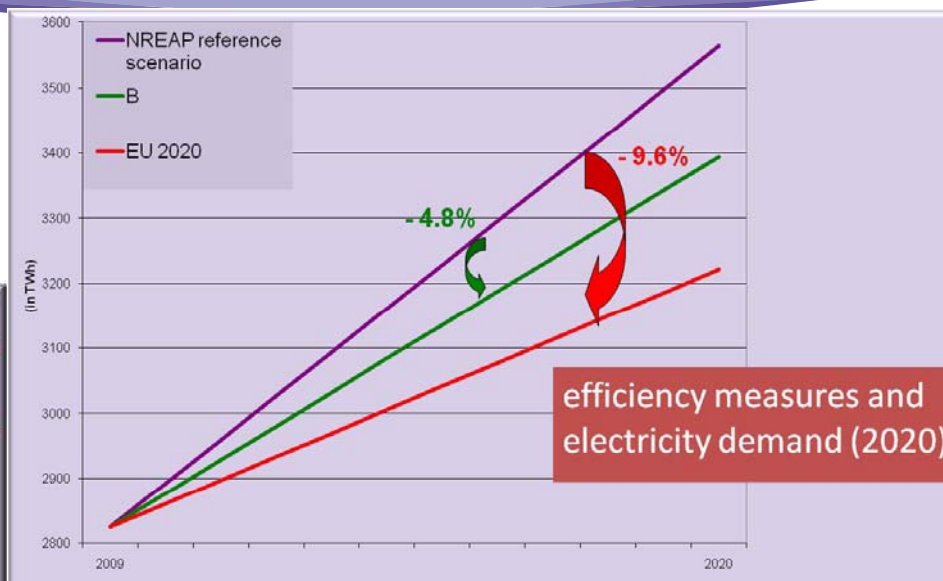
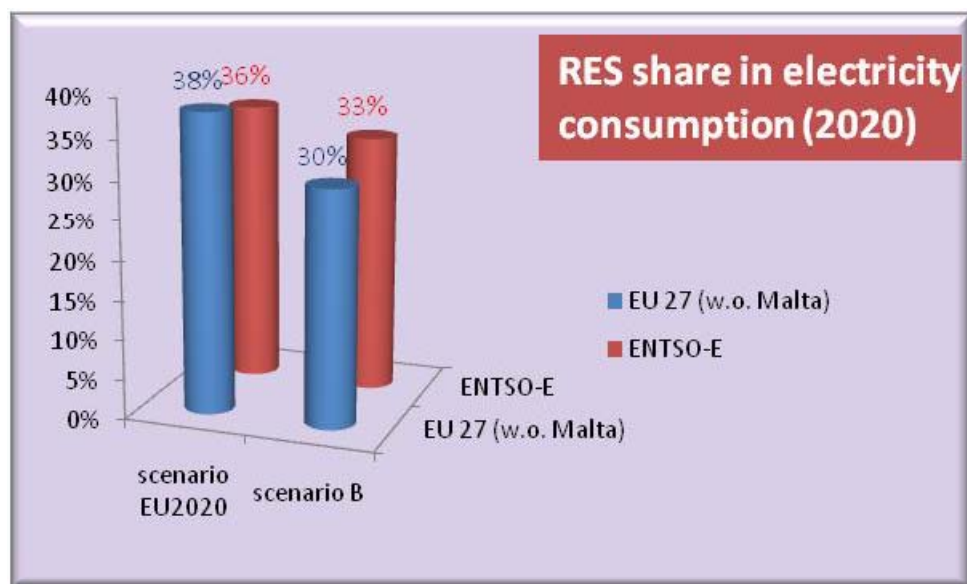
- **Permitting/public acceptance**

- Avoid undue burden on TSOs: 3 - 5 year limit for final decision
- One-stop shops
- Compensation for municipalities?
- Communication : debate “Champions”
- Improvements and streamlining for ALL projects

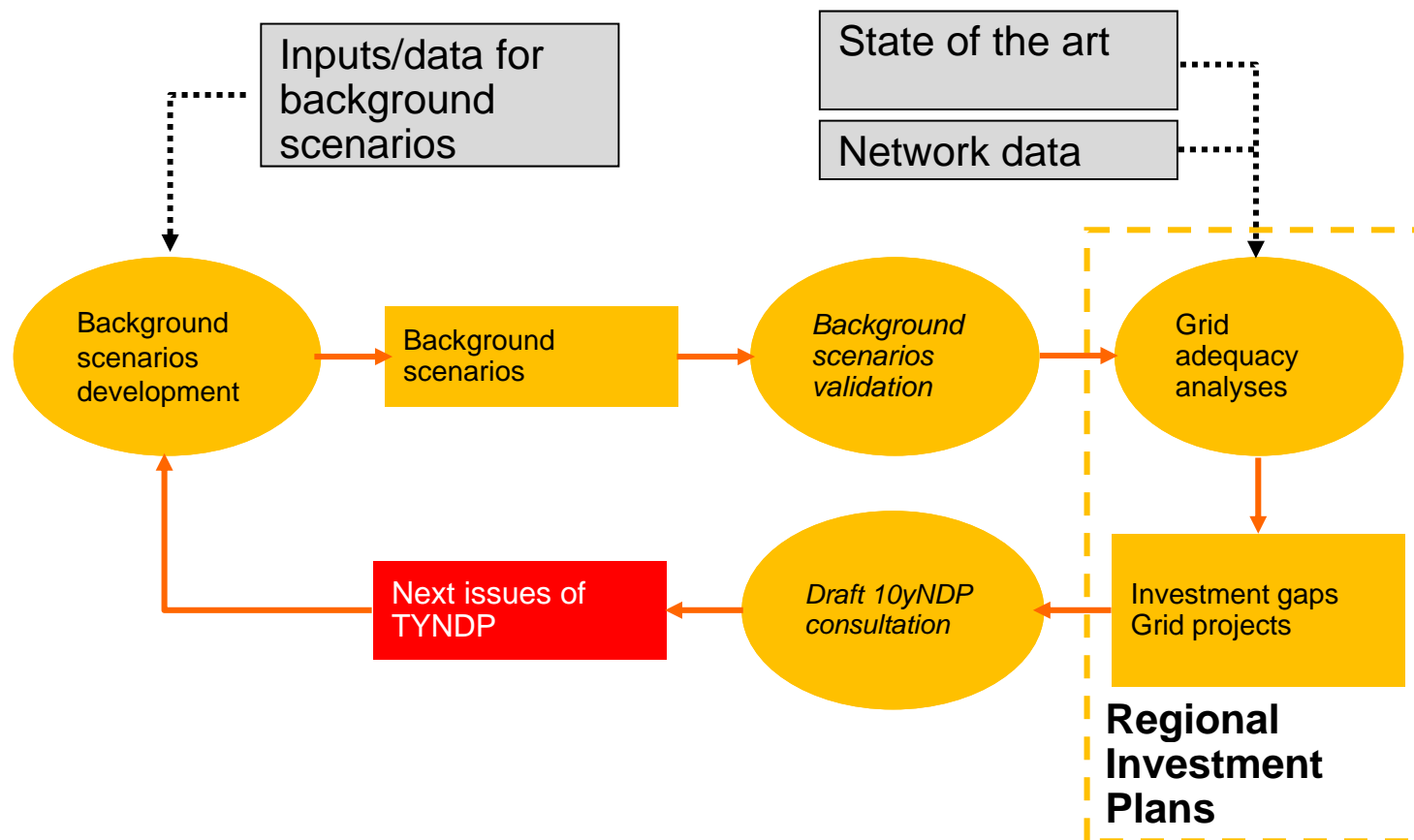
- **Investments**

- Business case for expansion investment often not stable and attractive enough
- International cost allocation !
- Innovative financing aids, partly to overcome regulatory blockages

Way forward – TYNDP 2012 with top down scenarios



Way forward – TYNDP 2012 built on regional plans



Working towards a longer term

- **Transmission Grid infrastructures peculiarities:**

- Long life cycle: Decision today - Commissioning 2020 - Economic value 2020 – 2050 +

**Changing the structure of the grid is a slow process
Longer term approach (20 to 30 years) also needed**

- **Target Year 2050 :**

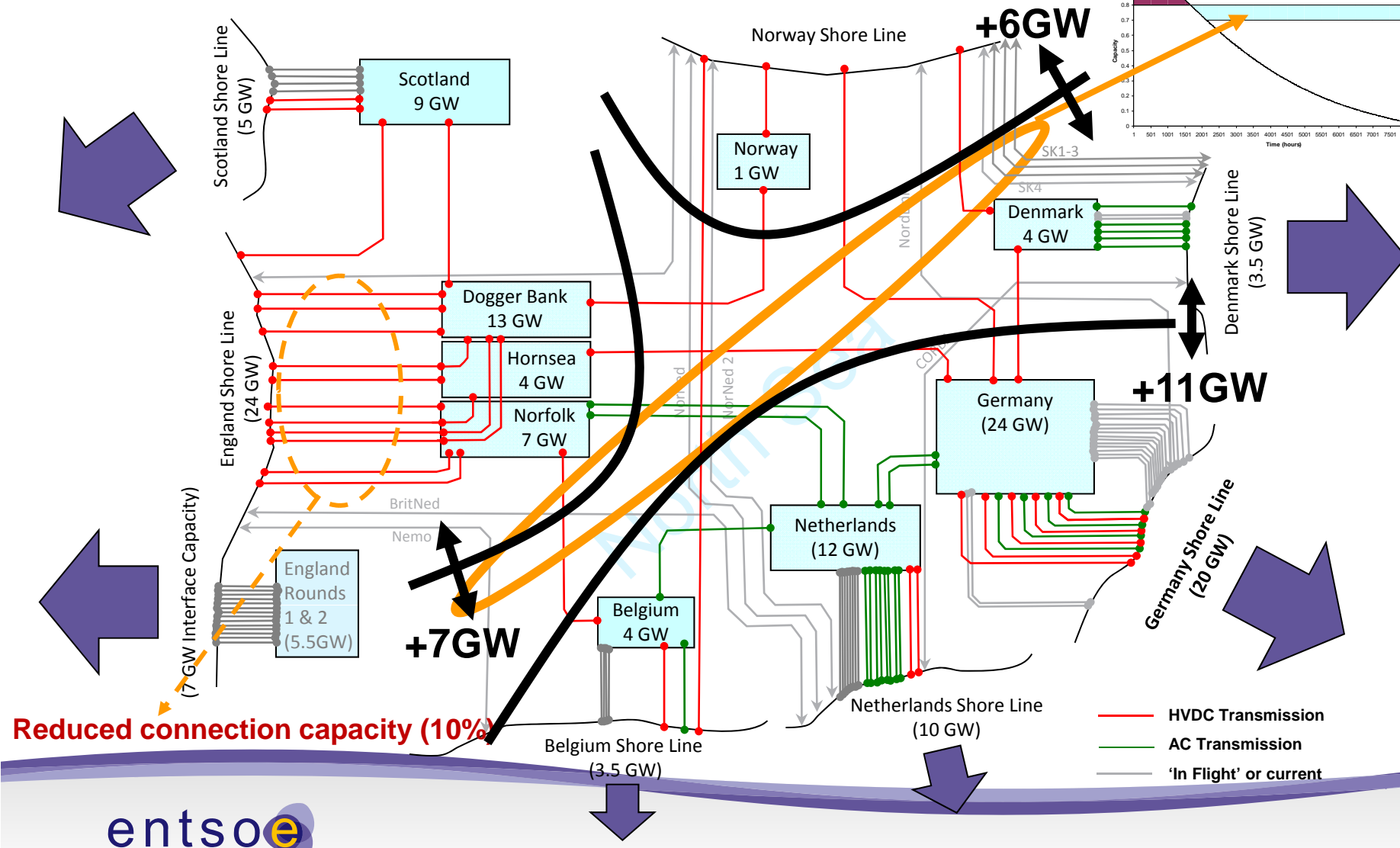
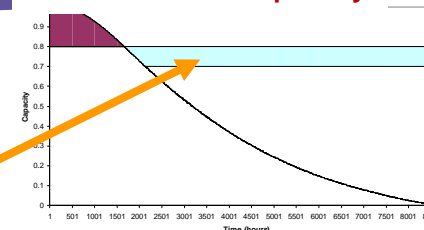
- define policy targets, underlying scenarios,
- identify candidate technologies, grid structures, R&D efforts

- **Intermediate Target Year (2030...)**

- ensure a viable path between present and long term,
- avoid short term decisions leading to stranded investment

Optimised integrated offshore grid development

Efficient use of
Transmission Capability



Towards 2050 pan European System : the ENTSO-E study roadmap

- An ENTSO-E Study Roadmap will be available by July 2011 (after a consultation process)
- Describe a comprehensive study package covering all relevant Electricity highways issues:

Technological
issues

Economical/financial
issues

Political/sociopolitical
issues

- In context of SET Plan, the realization of study package will be done by a large consortium (T.Os, DSOs, universities, institutes, manufacturers, ...).
- First comprehensive concept on **Electricity Highways System** (also showing important corridors) is intended to be available by end 2014.

Conclusions

- SoS and RES development taken by EU policy call for massive development of transmission grids, both between and within countries
- ENTSO-E's first Ten-Year Network Development Plan has been a timely initiative that has enabled the policy debate
- Seamless integration of Electricity Highways into the 400kV grids demands that TSOs operate and have strong ownership stakes
- **Permitting and public acceptance is the key issue ;** without radical changes policy objectives will not be met
- A huge financial effort requires new financing tools and regulatory stability