

ENTSO-E – Regional Group North Sea

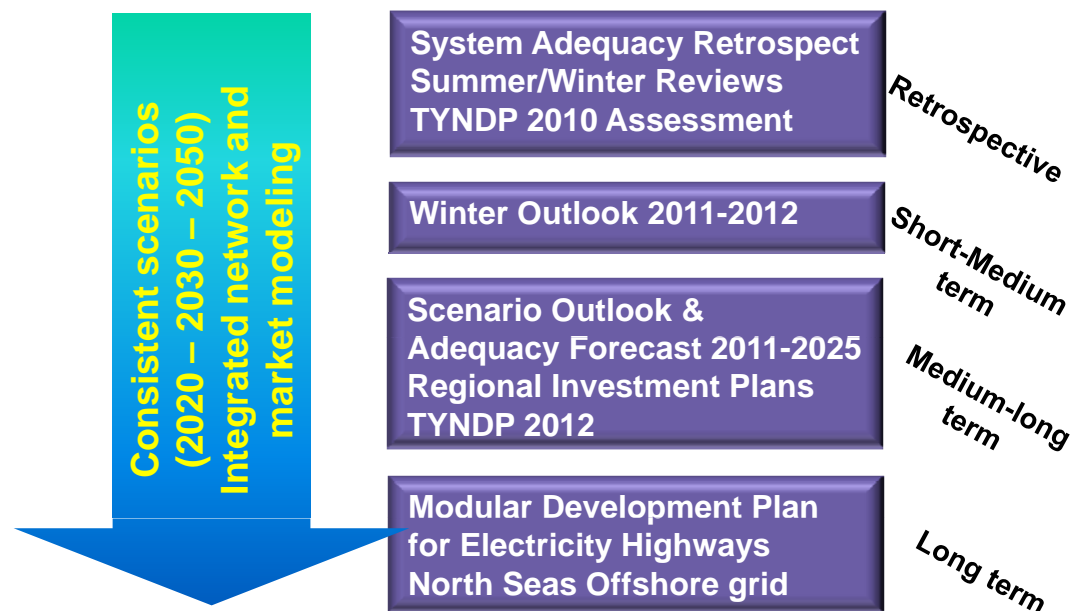
Regional Investment Plan Ways forward

Brussels, 15 December 2011



Reliable Sustainable Connected

TSO Cooperation to inform EU policies and investment decisions



- An ambitious and comprehensive work program looking at all time horizons
- TSO expertise and experience under a common working framework
- Transparency and stakeholder involvement

Impact of nuclear shutdown in the short-term

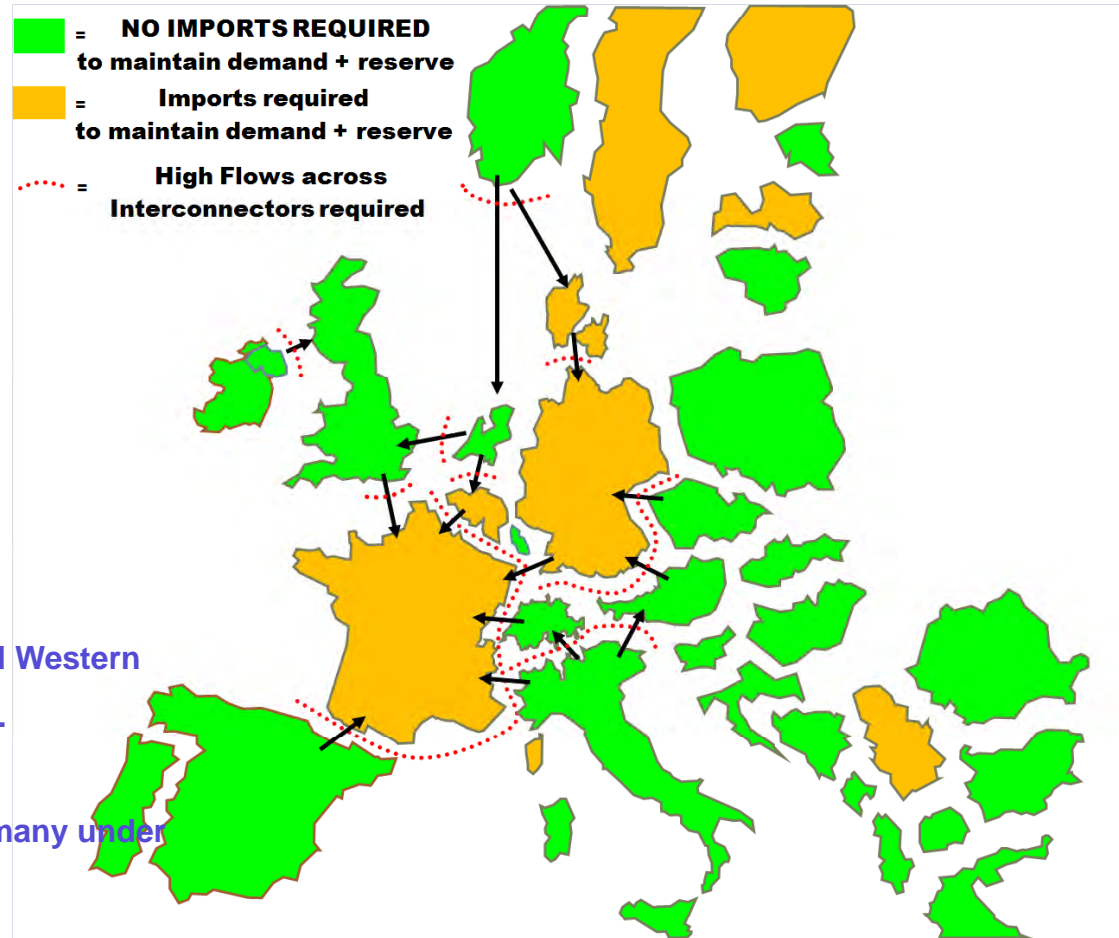
System Adequacy Retrospect
Summer/Winter Reviews
TYNDP 2010 Assessment

Winter Outlook 2011-2012

Scenario Outlook &
Adequacy Forecast 2011-2025
Regional Investment Plans
TYNDP 2012

Modular Development Plan
for Electricity Highways
North Seas Offshore grid

Under severe conditions:



- 8300 MW nuclear capacity shut down in Germany
- Highly overloaded transmission lines Northern and Western Germany to South, e.g. under high-wind conditions.
- Low voltage level in some areas, e.g. in North Germany under low-wind conditions.

Long-term Scenarios for shaping a new vision

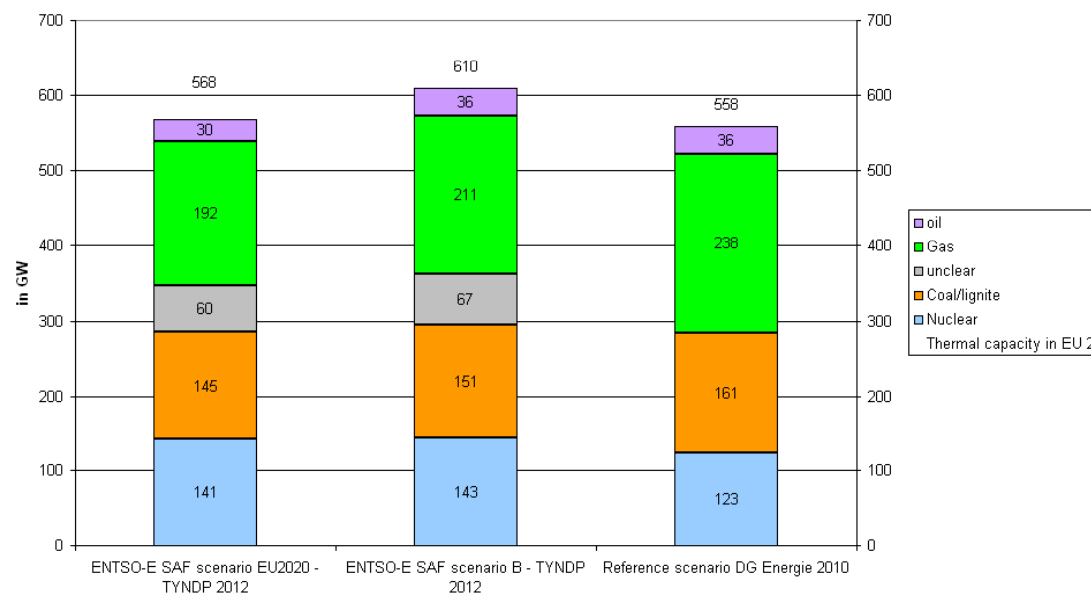
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Thermal capacity in EU27



- Scenarios are utilized in the Ten-Year Network Development Plan 2012
- Data do not take into account nuclear phase-out – sensitivity analyses to check robustness of solutions
- SO&AF higher estimations on nuclear as a result of political decisions at that time

Transparency in identifying European priorities

System Adequacy Retrospect
Summer/Winter Reviews
TYNDP 2010 Assessment

Retrospective

Winter Outlook 2011-2012

Short-Medium
term

Scenario Outlook &
Adequacy Forecast 2011-2025
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Medium-long
term

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Long term

- 100 projects, 50000 km, € 70 billions investments
 - Notwithstanding non pan-European significance projects
- Enabling about € 5 billion/yr savings in 2020
 - Connection of 125 GW of RES
 - 170 MtCO2 savings
- Accomodating wider, stronger, more volatile power flows
 - North South, East West

of Bulk Power Flow Scenario 20 20
14th November 2011

**Preliminary
draft results
14.11.11**

Legend

Bulk_Power_Flow_202020

<2000MW

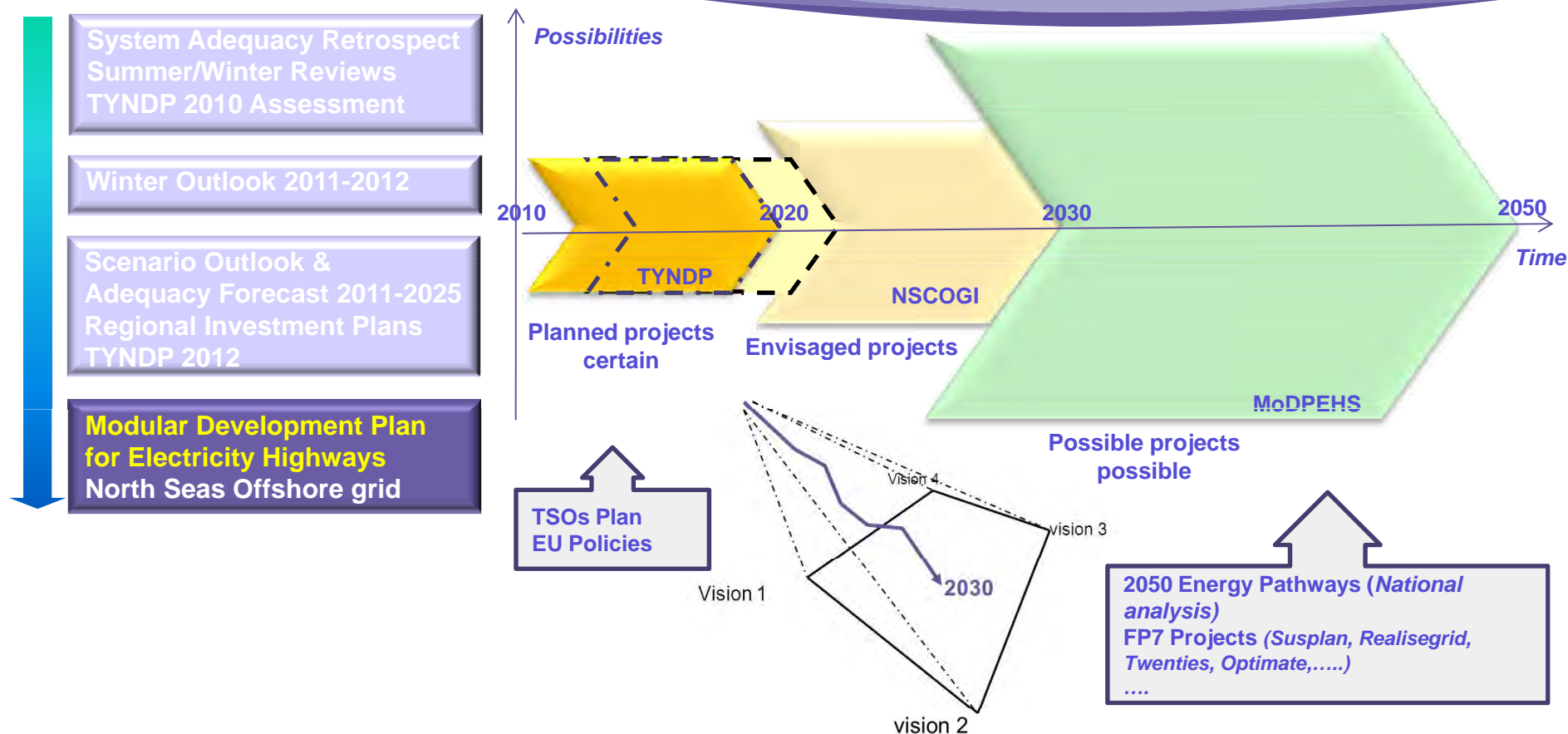
2000<=Bulk Power Flows<4500

4500<=Bulk Power Flows<10000

10000MW=>Bulk Power Flows



Looking further



- Develop the foundations of a modular and robust expansion of the pan-European network from 2020 to 2050 which will be required to be in line with the three European energy policy pillar



Fact

Energy policy goals

- **Sustainability/GHG:**
 - More renewables, further from the loads
 - More heating and mobility with electricity
- **Competitiveness/market integration:**
 - More long-distance flows
- **Security of supply**
 - More optimal resources sharing

all
require
Grid
capacity !

RGNS: 2 Key numbers

56%

~21 B€

Main obstacles for grid development



- The TYNDP 2010 identified the major issues hindering the development of the network
 - Long, complex, and uncoordinated permitting procedures
 - Unattractive regulatory schemes limiting TSO access to debt and equity
 - Uncertainty in future generation investments and lack of long-term pan-EU shared vision

The Energy Infrastructure Package

- A timely legislative initiative addressing the most urgent issues
 - Huge step forward to **streamline permitting procedures**
 - Positive but **unfocused effort to facilitate investments** on the transmission grid
 - Cost-allocation is just part of the overall picture – cost-benefit analysis not a panacea
 - **Incentivizing** TSOs to deliver on time should be the priority
 - Regional approach for decision making with **TYNDP as the main starting point** – Projects of Common Interest. **NSCOGI** forum is adequate to develop in transparent and collaborative way longer term scenarios
- TSOs commitment to develop appropriate **CBA methods** and to extend the common analysis on a **longer time horizon**
- **EIP is a positive step and ENTSO-E is ready to further inform the legislative proposal and undertake the roles assigned to it**