# General presentation on ENTSO-E, Ten Year Network Development Plan and Regional Investment Plan

Dimitrios Chaniotis
*Manager, System Development*

RG Baltic Sea Workshop

Stockholm, 14 December 2011

entsoe

Reliable Sustainable Connected

# Content

## 1. ENTSO-E under the EU 3rd Energy Package

- ✓ organization
- ✓ roles and deliverables

## 2. Ten Year network development plan & Regional investment plans:

- ✓ Drivers
- ✓ Process
- ✓ Improvements compared to the pilot TYNDP 2010
- ✓ Expected results

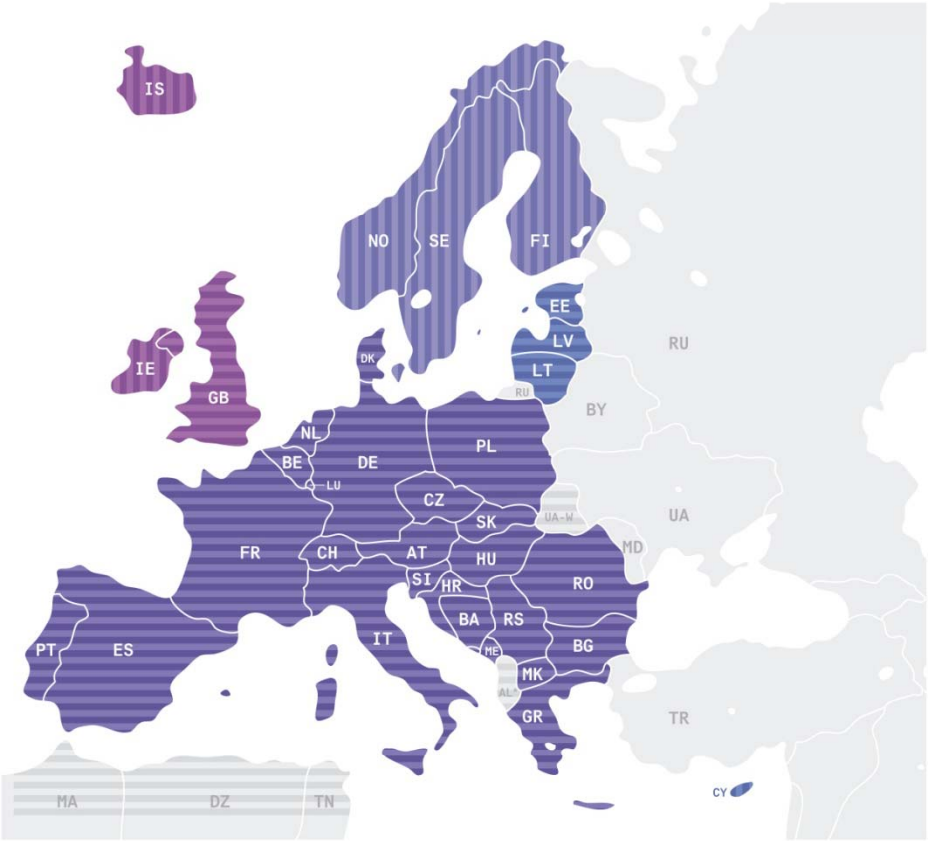
# Regulation 714/2009– an important raison d'être for ENTSO-E

- **Article 4: European network of transmission system operators for electricity**
  - **Completion and functioning** of the internal market in electricity and cross-border trade
  - **Optimal management, coordinated operation and sound technical evolution** of the European electricity transmission network
- **Article 6: Establishment of network codes**
- **Article 8: Tasks of the ENTSO for Electricity**
  - **Network codes**
  - **Common network operation tools**
  - **Non-binding Community-wide 10-year network development plan**, including a European generation adequacy outlook, every two years
  - Work programme, annual report, **summer/winter outlooks, monitoring**

**ENTSO-E operational much earlier because a fully developed IEM and the integration of RES demand urgent TSO action**

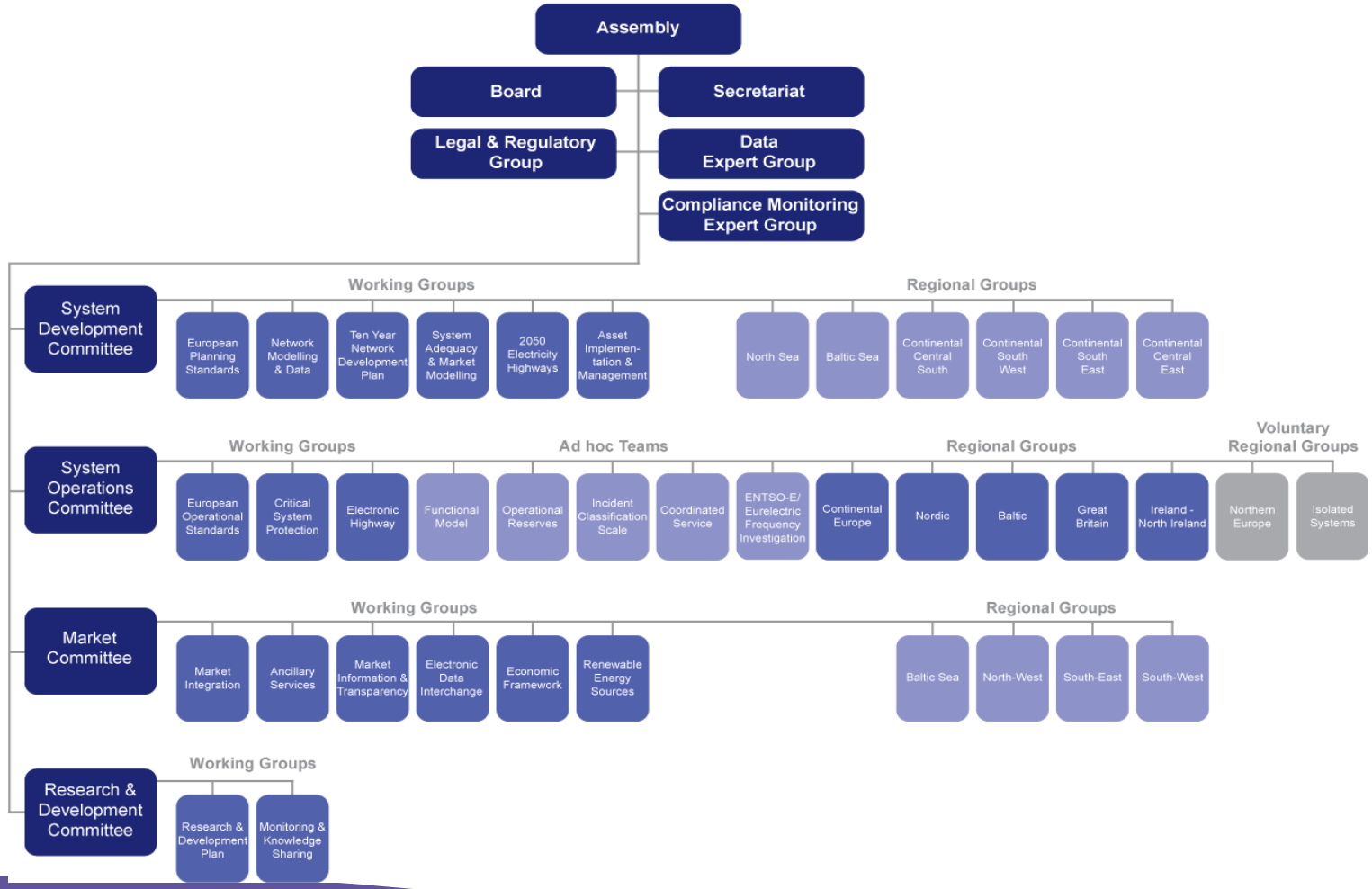
# ENTSO-E: a trans-European network

- Fully operational since **July 2009**
- Represents **41** TSOs from **34** countries
  - **525** million citizens served
  - **828** GW generation
  - **305,000** Km of transition lines managed by the TSOs
  - **3,400** TWh/year demand
  - **400** TWh/year exchanges
- Replaces former TSO organisations: ATSOI, BALTSO, ETSO, NORDEL, UCTE, UKTSOA



# ENTSO-E structure reflects the tasks given to ENTSO-E under the 3rd Energy Package

**ENTSO-E organizational structure**



# European transmission grid – key role in reaching the EU policy goals

## 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 !**

# Main drivers

- **Massive integration of renewable energy sources**
  - in Northern Europe
  - in Southern Europe
- **Important East-West and North-South energy flows in South-East and Central-South regions**
- **Baltic States integration**
- **Connection of new conventional power plants**
- **Power supply of some large European cities and regions**

# The 3rd Package defines the TYNDP

**Non binding**
**Every 2 years**

## EU-TYNDP

- Generation adequacy outlook 5 yr up to 15yr (→ 2025!)
- modelling integrated networks
- Scenario development
- Assessment of resilience
- Based on reasonable needs of system users
- Identify investments gaps
- Review barriers to increase cross border capacities arising from approval procedures

Regulators check consistency

**Binding**
**Every year**

## Nat. TYNDPs

- Existing and forecast supply demand
- Efficient measures to guarantee adequacy & SoS
- Indicate main transmission infrastructure to be built
- Based on reasonable assumptions about evolution of generation
- Supply consumption and exchanges

Build on nat. gen. adequacy outlooks and invest. plans

Take into account

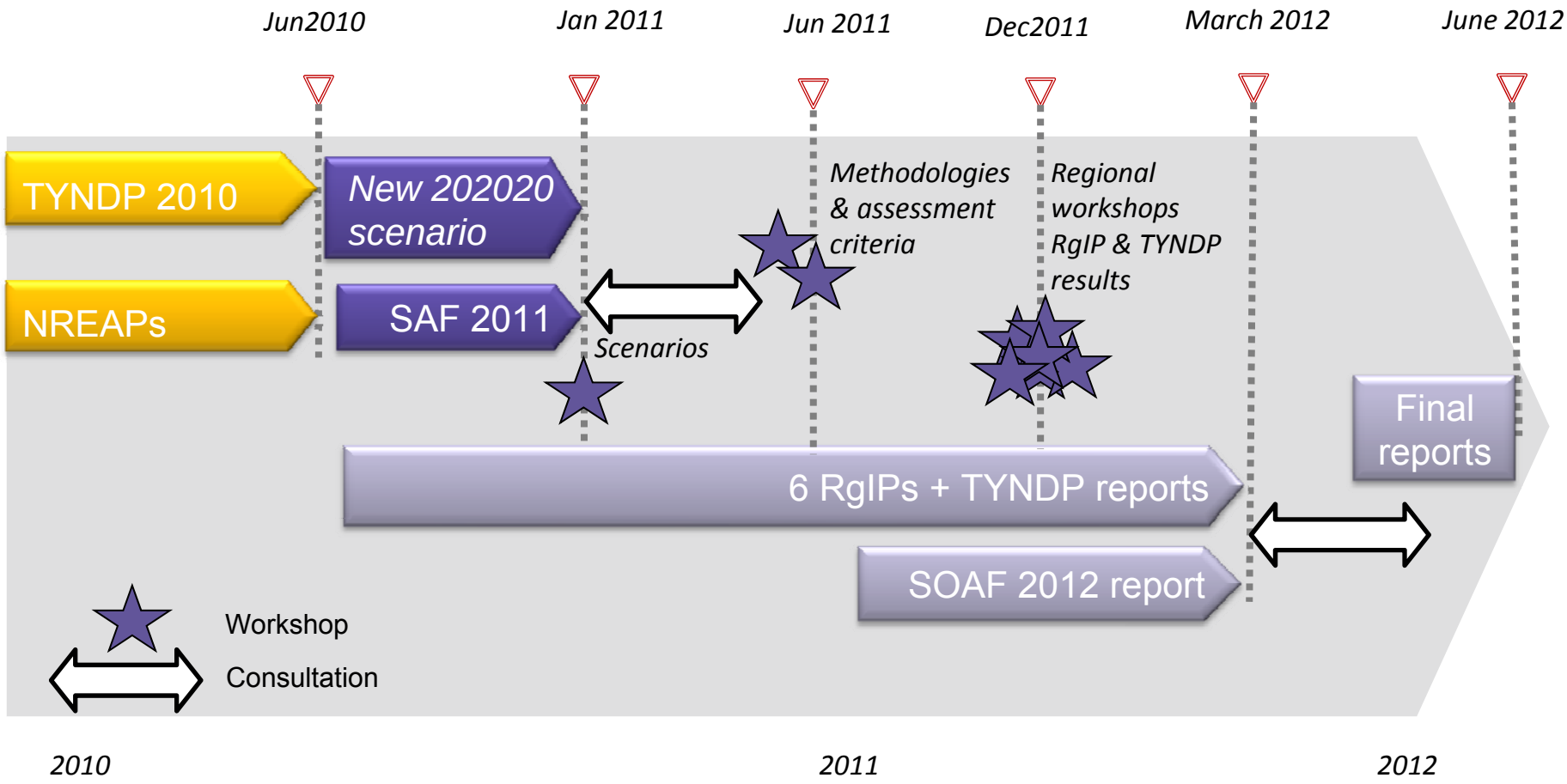
**Non binding**
**Every 2 years**

## Regional Investment Plans

Take into account

Take into account

# Overall schedule TYNDP 2012



# TYNDP 2012 package improved

- **Explicit definition of projects of pan-European significance**
- **Public procedure to identify the 3rd party projects**
- **More scenarios : top down + bottom up scenarios + Nuclear phase-out sensitivity analysis**
- **Regional market & network studies – based on the common set of data**
- **Project assessment based on a set of clear indicators**
- **More compact reports easy to understand**

# The TYNDP 2012 package

## 8 documents

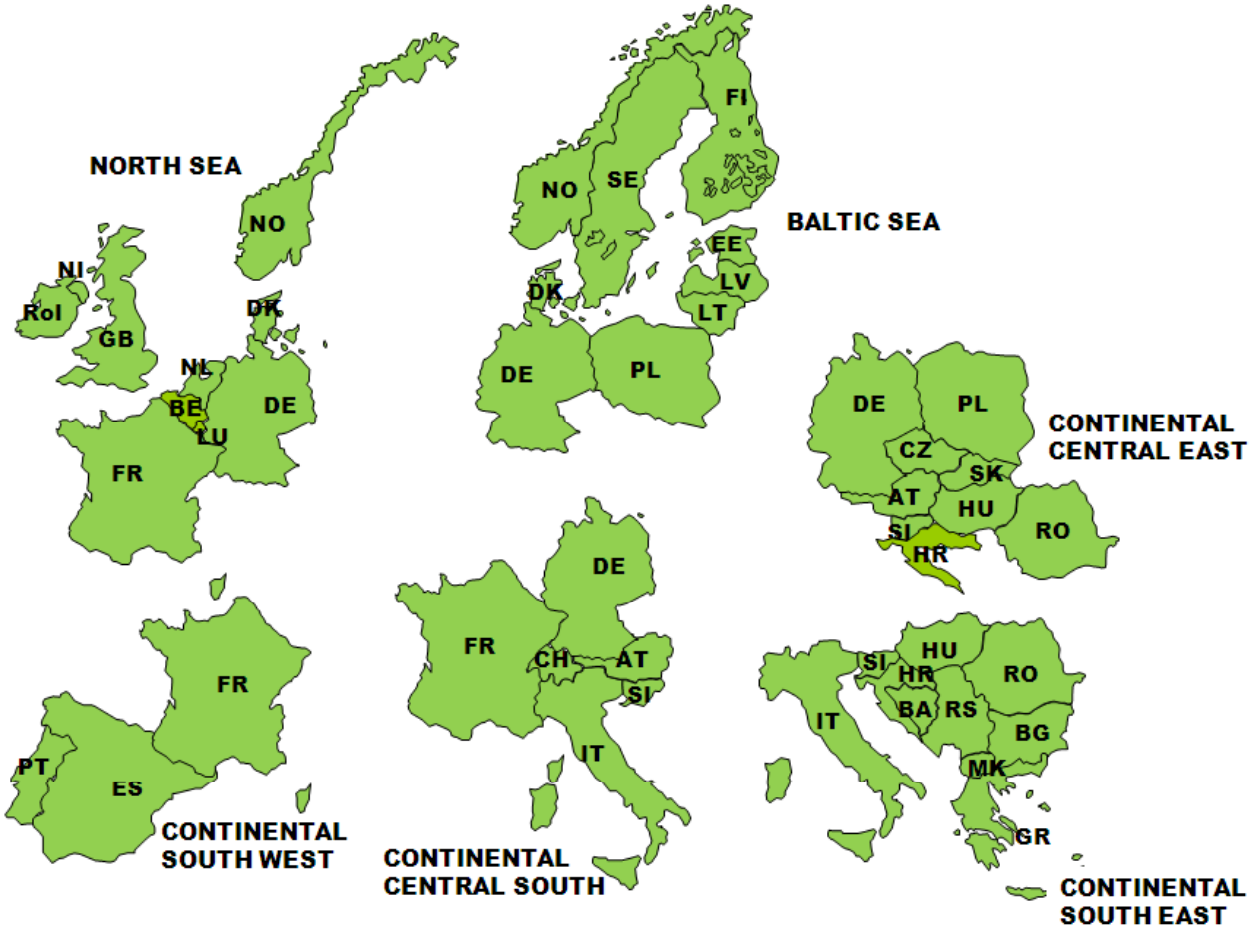
- About 50p each, complementing each other

- **Scenario outlook & adequacy forecast report (SOAF)**

- **6x Regional Investment Plans reports**
  - Detailed grid development issues, reg. level

- **10-year Network Development Plan report**
  - Synthetic compilation, pan-European level

# ENTSOE Regional Groups

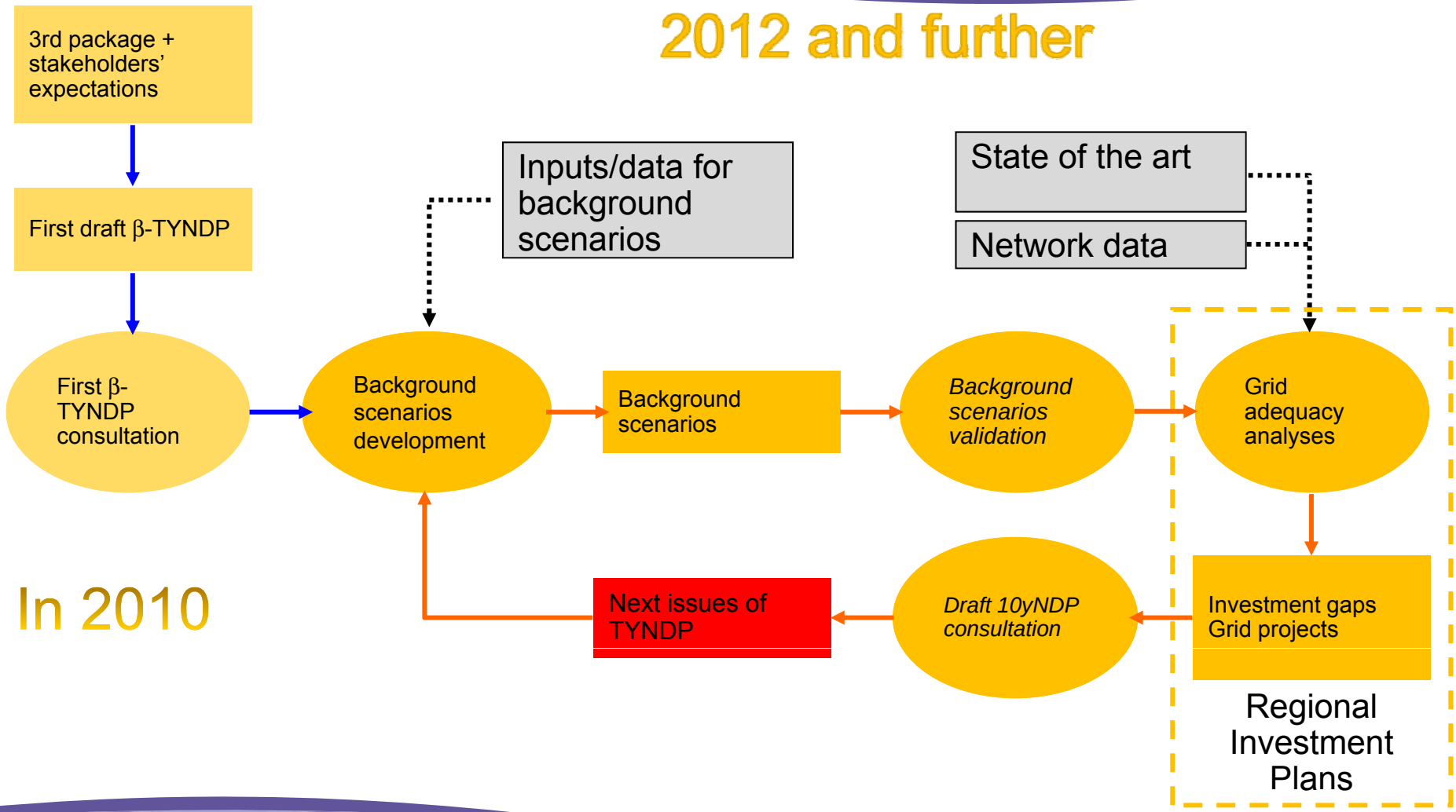



The most appropriate framework for grid development in Europe

Every RG gather countries sharing the same common concerns

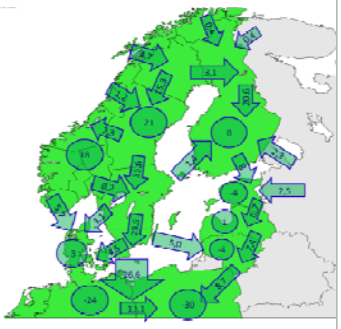
Overlaping, in order to ensure overall consistency

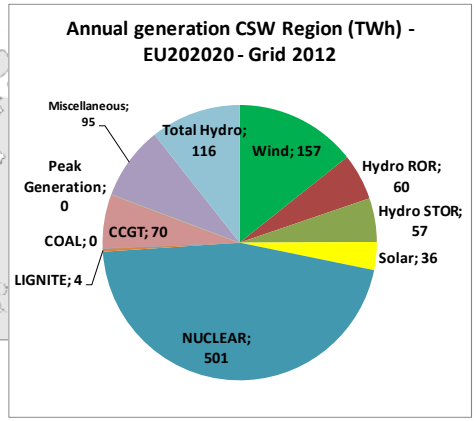
# RgIP & TYNDP 2012 elaboration process



# A dense study process all over 2012

- Scenario elaboration & validation
- Market studies
- Network studies
- Project identification & valuation
- Report compilation



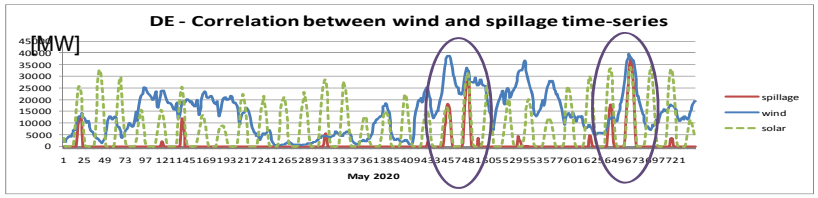


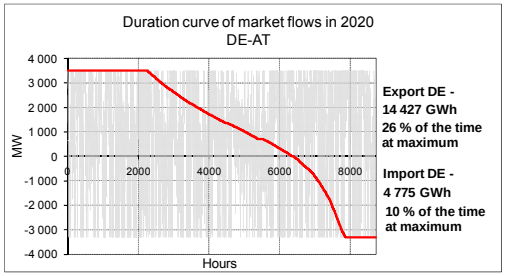

↳ at stake

*timely* delivery

*consistent* results

*limited* resources

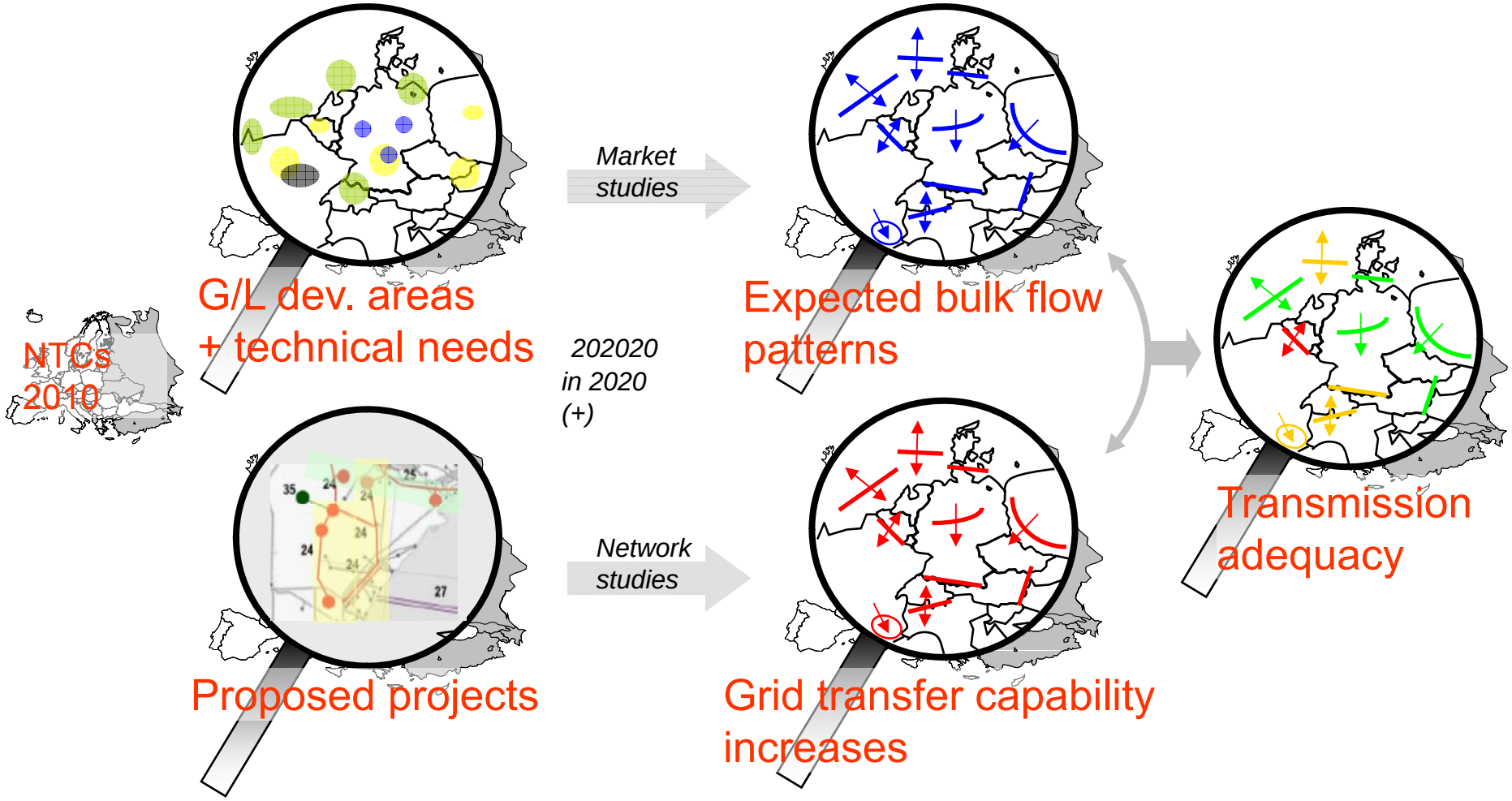



*Presently being investigated*

↳ *Subject to adaptations &/o changes*

# Main deliverables TYNDP 2012



# Conclusions

-The pilot TYNDP in 2010- first overview of the needs, drivers and the necessary European infrastructure

-TYNDP 2012: more comprehensive, common studies(market, network), top down approach (based on NREAPS)

-TYNDP open to the 3rd party projects

-The TYNDP as the factual and methodological basis for key policy and investment decisions.

-Coherency with longer term plans – 2050 Modular Development Plan for Electricity Highways System, North-Sea grid, Mediterranean ring, System Extension Project (Ukraine/Moldavia, ..)

# Thank you for your attention

Irina Minciuna
irina.minciuna@entsoe.eu
www.entsoe.eu