

ENTSO-E Ten Year Network Development Plan & Regional Investment Plans Elaboration

Towards Energy Infrastructure Package Implementation

3rd November 2011



EC Directive 2009/72 and Regulation 2009/714

- National Development Plans
 - Binding
- Regional Investment Plans
- ENTSOE's **Ten-Year Network Development Plan**
 - A vision for the future European EHV grid
 - A generation adequacy outlook (5/15 years)
 - A modelling of integrated networks
 - *A non-binding plan, updated every 2 years*
 - *National Regulatory Authorities to check consistency with National DP*

Proactive initiatives of TSOs and ENTSOE

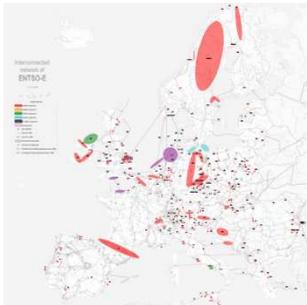
- ENTSOE founded December 2008, fully operational July 2009

↳ 3rd package enforced in March 2011

- **Pilot TYNDP in consultation in March 2010**

- To get stakeholders' feedback for the TYNDP 2012
- To set up organisation framework and methodologies
- To highlight key challenges for grid development
- To launch policy debate (financing, permitting) that used to be taboos,

and thus to pave the way for the **EIP**

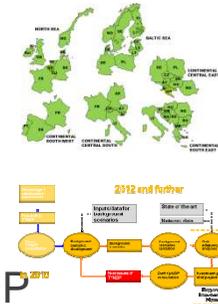


↳ Acknowledged by stakeholders
↳ Still, great expectations for TYNDP 2012 issue that ENTSOE duly addresses

ENTSOE proposals, submitted to consultation and debate

- An organisation framework to elaborate Plans

- Identification of European regions relevant for grid development
- A looping elaboration process, constantly improving
- A public procedure to identify 3rd Party projects
- Consistent approaches for Regional Investment Plans and TYNDP



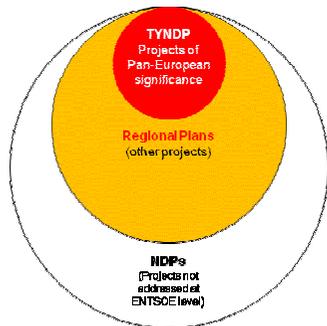
- Bottom-up & top-down scenario development

- Consulted, complying with EC initiatives and MS positions (NREAPS)

- Methodology for project assessment

- Explicit definition of projects of pan-European significance
- Projects identification & standard assessment: **Cost Benefit Analysis**
- **Basis for future Project of Common Interest selection at Regional level**

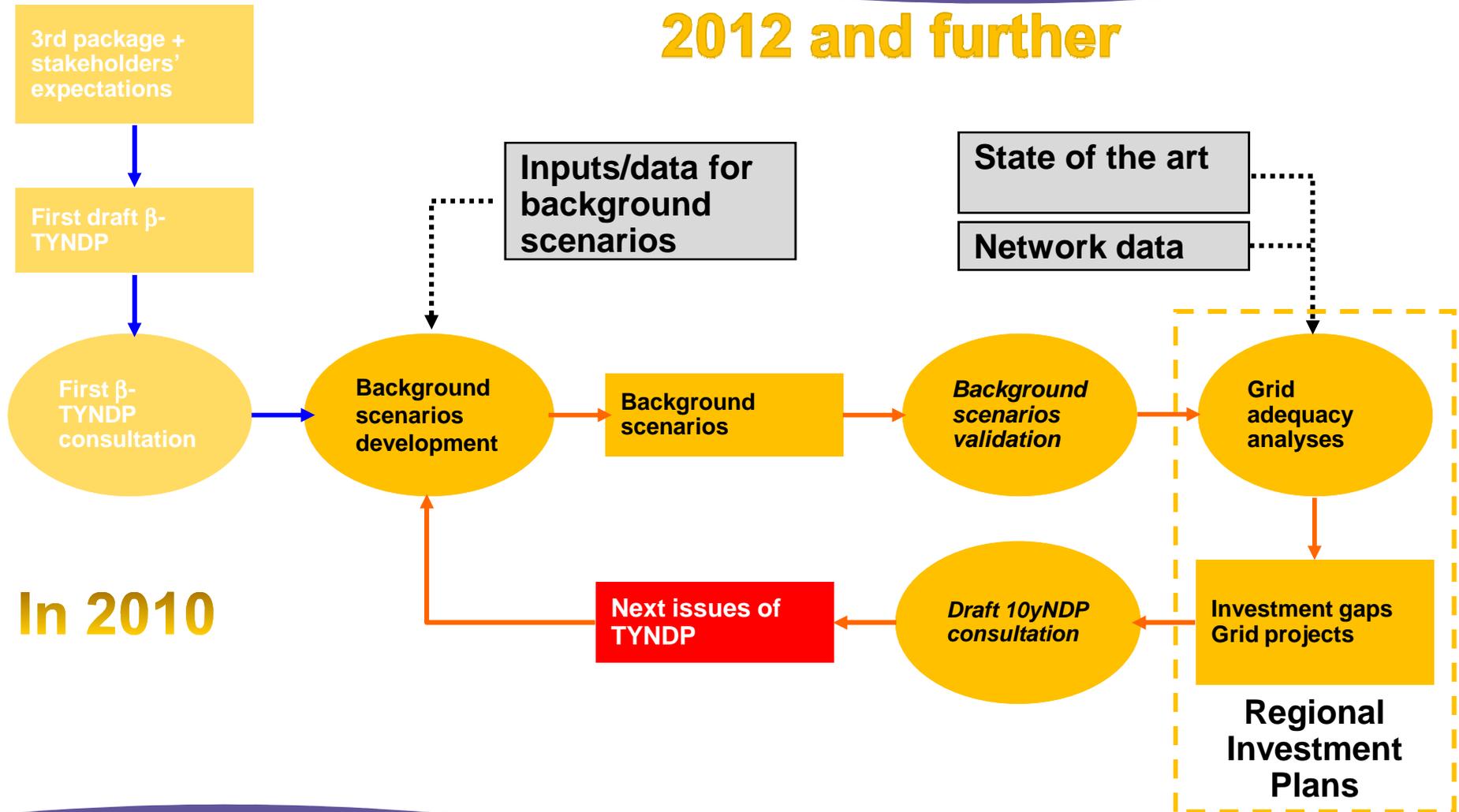
	Grid TC	SO2	SO3	Social Welfare	CO2 mitigation	Energy efficiency	Tech. resilience	Flexibility
(Project A name description) - MW								
(Project B name description) - MW								



↪ Many bilateral meetings, external workshops, consultations

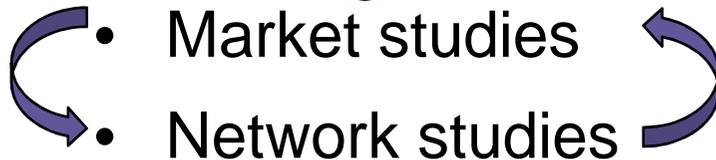
A looping elaboration process, constantly improving

2012 and further



An intensive process throughout 2011-2012

- Scenario elaboration & validation (consultation)



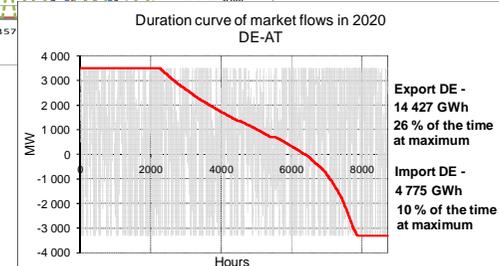
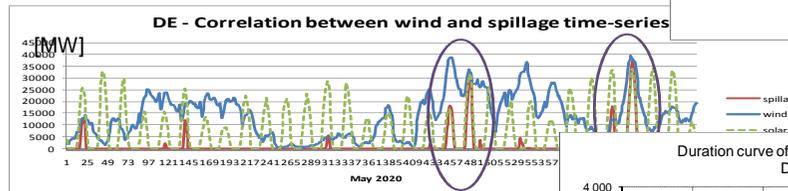
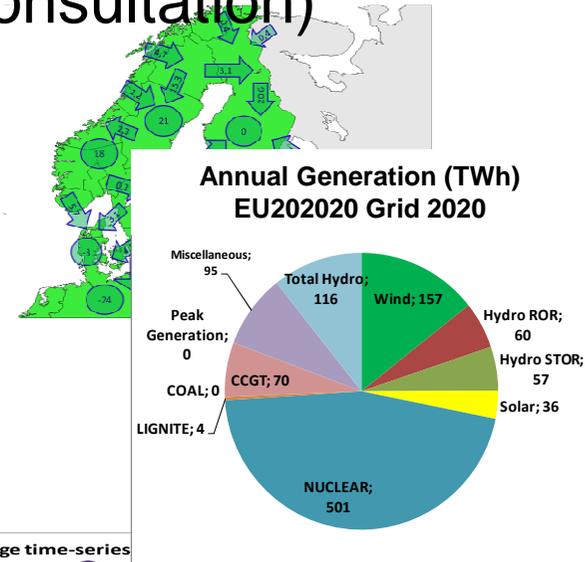
- Project identification & valuation
- Reports compilation

↪ challenges

timely delivery

consistent results

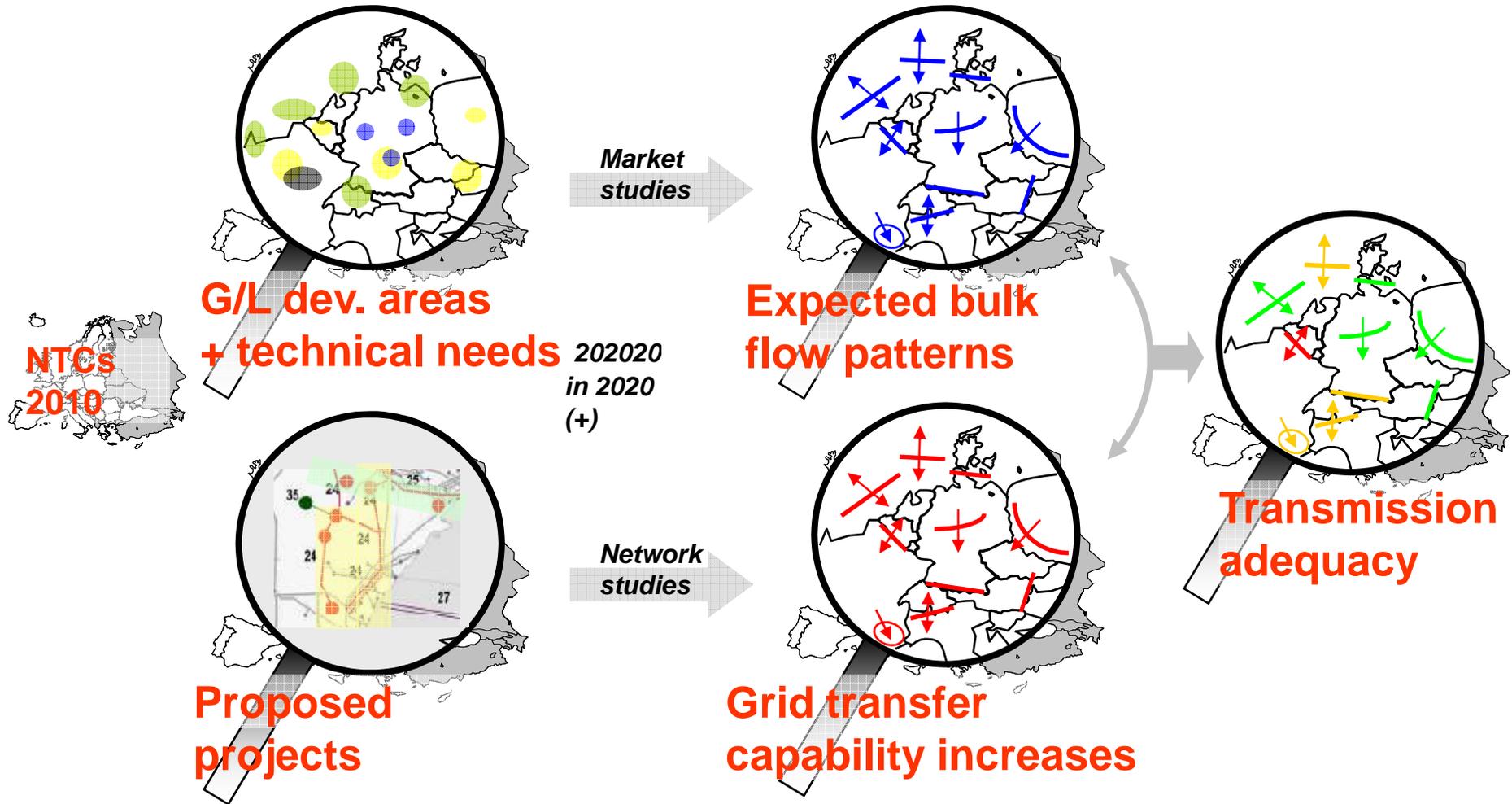
limited resources



Presently being investigated

↪ Subject to adaptations &/o changes

Main deliverables – achieving a proper grid transfer capability



Synthetic, standard project assessment in TYNDP ... towards PCI identification



- Synthetic presentation of projects
- A multi-criteria assessment
 - To implement EIP project selection at regional level

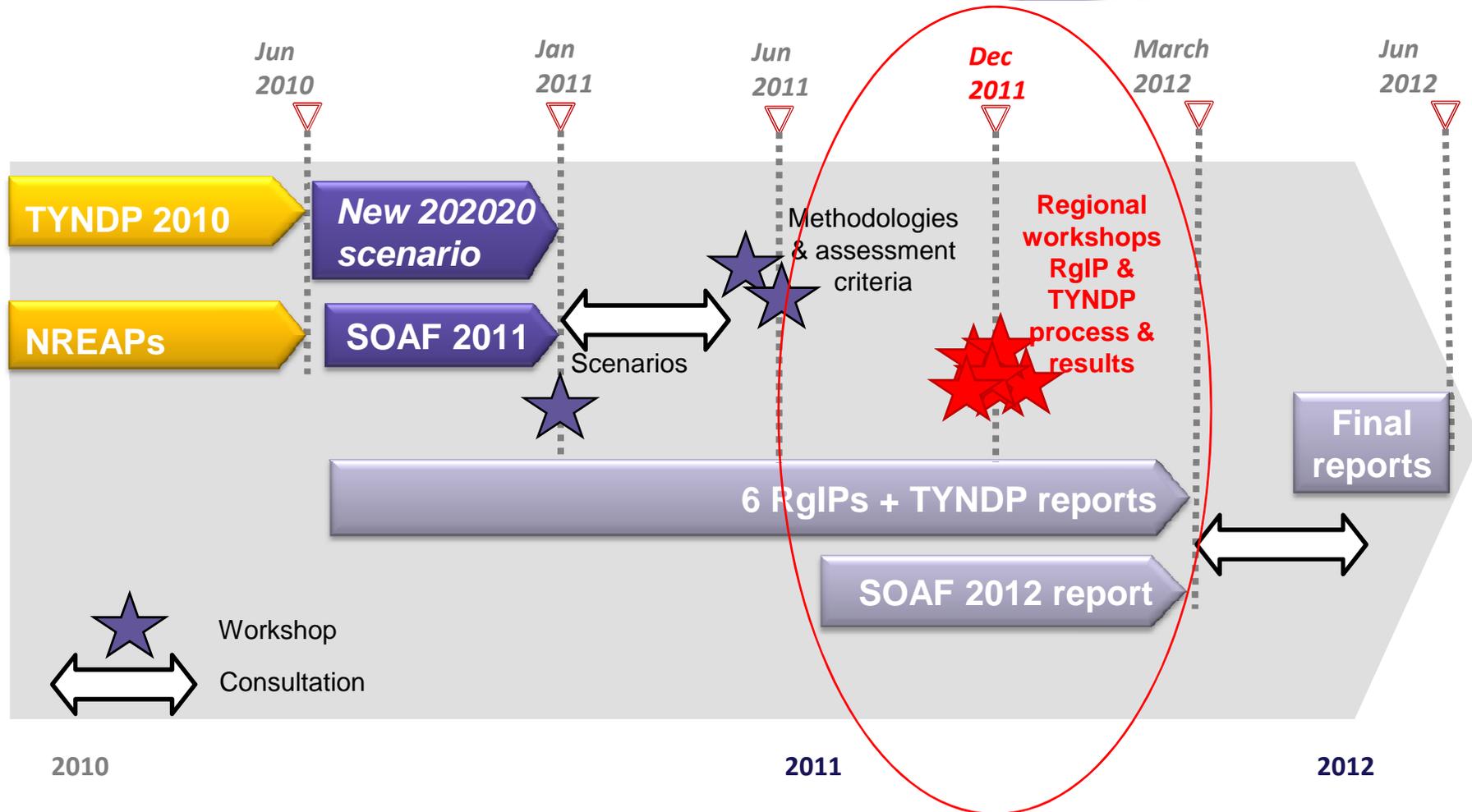
#100 projects

	Grid TC	SoS	RES	Social Welfa	CO2 mitigati	Energy effici	Tech. resilie	Flexibility
(Project A name description)	+ ... MW							
(Project B name description)	+ ... MW							

Quantified assessments synthetically presented as white-to dark green ranges

+ monitoring
+ commissioning date
+ social acceptance risk
+ ...

Overall schedule



Welcome to ENTSO-E RG Continental South West Workshop

As requested last year in IG meeting, regional workshops on TYNDP will be launched

ENTSO-E Workshop with Stakeholders on “TYNDP & RglP 2012 methodologies”

Madrid 29 November 2011

REE premises, 28109 Alcobendas

In preparation for the next release of the Ten-Year Network Development Plan (TYNDP) and the Regional Investment Plans (RglPs) in June 2012, ENTSO-E is holding an open **workshop with stakeholders** on 29 November 2011 in the Continental South West Region. The workshop will focus on the **methodologies for the TYNDP and the RglP 2012 development and the expected results at the regional level.**

The target audience for this workshop is in particular **top-officers of national ministries in charge of the energy sector and National Regulatory Authorities**, any other interested stakeholders are welcome to attend. The aim of this workshop is to introduce and discuss TYNDP and Regional Investment Plans development process and the assessment of regional projects of pan-European relevance as follows:

- TYNDP & Regional Investment Plans development processes;
- Main challenges and specifics for grid development in CSW region;
- Identification and assessment all candidate projects of European relevance;
- Preliminary results of the CSW Regional Grid Investment Plan under the TYNDP
- Anticipation of Energy Infrastructure Package implementation

A detailed Agenda for the Workshop will be finalized and published at a later stage and made available to all the participants.

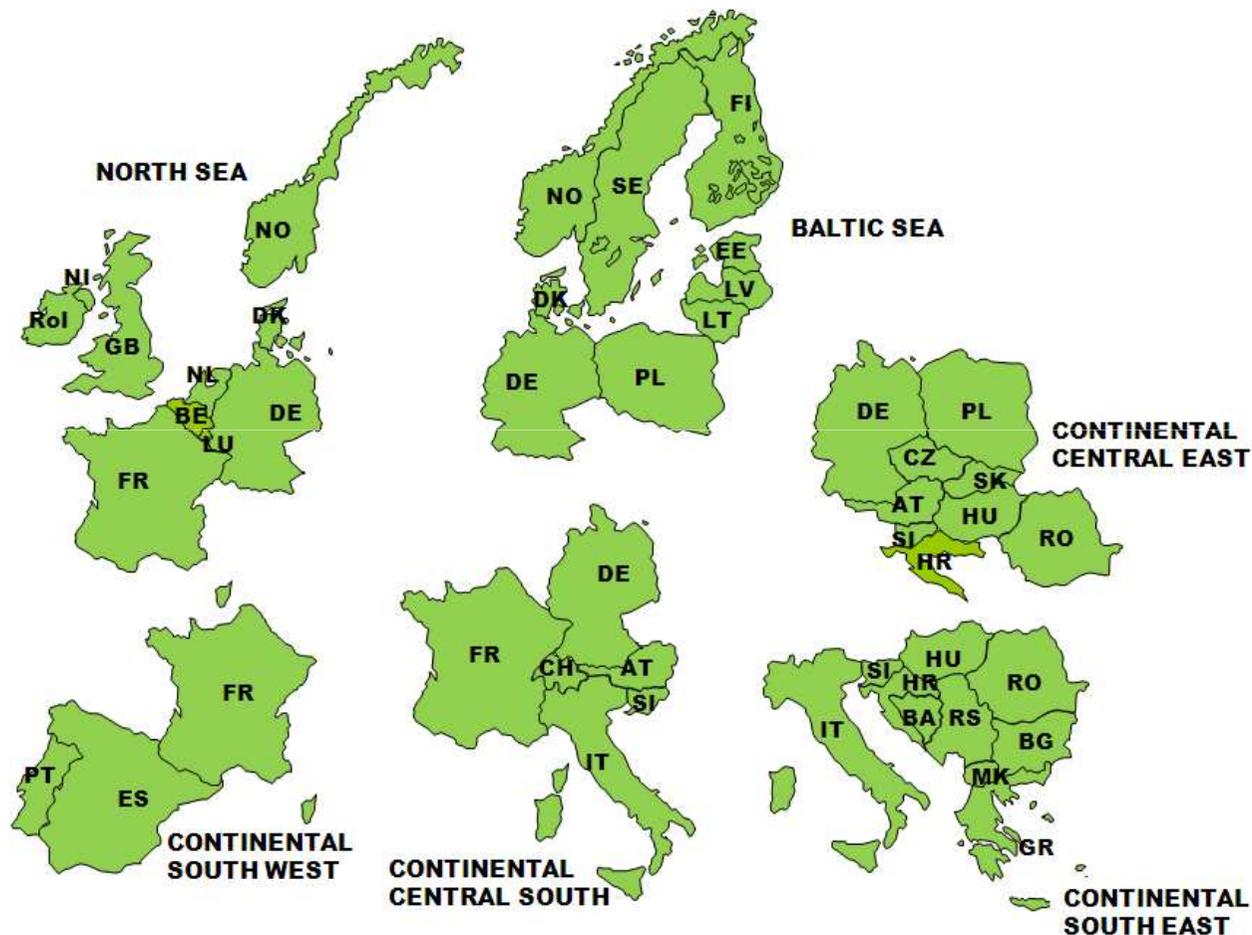
Stakeholders are kindly requested to register for the workshop via email, by indicating their full names, contact details and organization to Mrs. Thanh-Thanh Le Thi (thanh.thanh.lethi@entsoe.eu), **before 21 November 2011.**

Formal announcement is in ENTISOE, REE, REN and RTE websites



Back-up

ENTSOE Regional Groups



The most appropriate framework for grid development in Europe

Every RG gather countries sharing the same common concerns

Overlapping, in order to ensure overall consistency

The 2012 *package*

8 documents

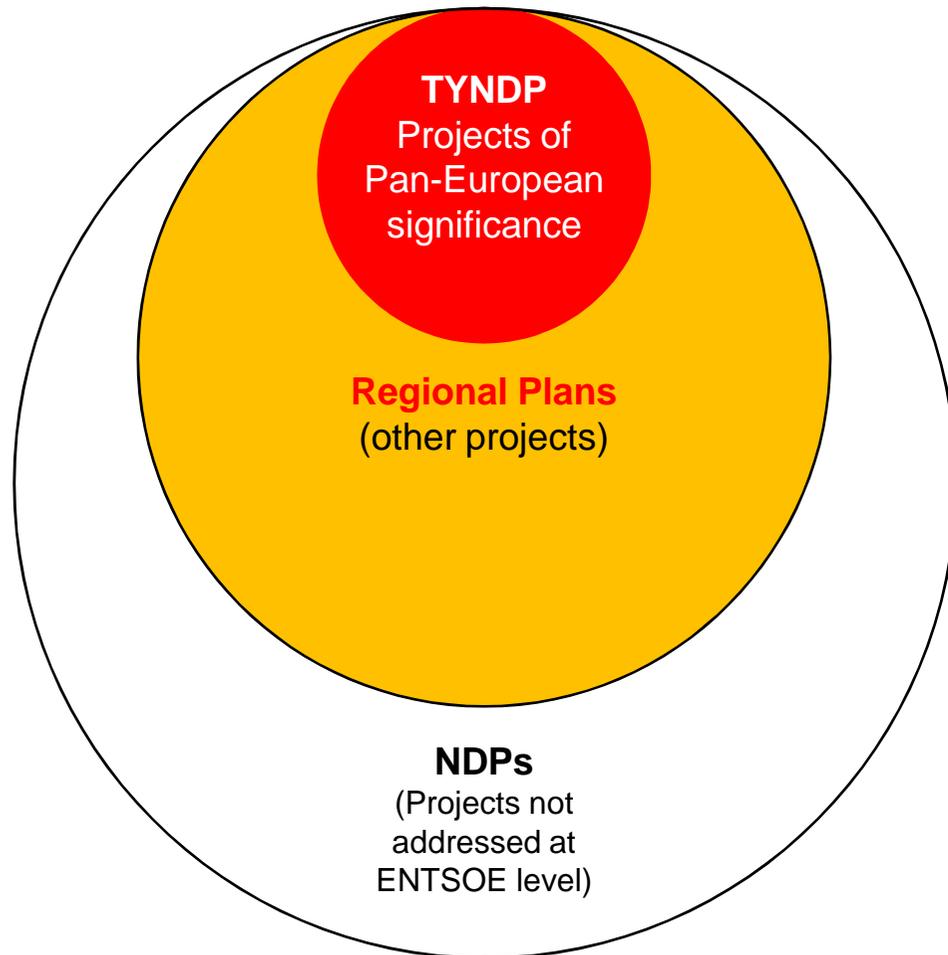
- About 50p each, complementing each other
- Scenario outlook & adequacy forecast report (SOAF)
- 6x Regional Investment Plans reports
 - Detailed grid development issues, reg. level
- 10-year Network Development Plan report
 - Synthetic compilation, pan-European level

A top-down, open and constantly improving process

- ENTSOE SDC Working Groups
 - supply common framework and bases
 - Methodologies (definitions, planning standards...)
 - Data (scenarios, market data, power system models...)
- ENTSOE SDC Regional Groups
 - perform jointly regional analyses
 - TSO experts, sharing views and building jointly solutions
- An open and constantly improving process
 - Internal and stakeholders' workshops and WGs to share concerns & jointly develop more and more harmonised methodologies
 - Efficiency rather than perfection

↙ WG TYNDP,
WG EPS,
WG NMD,
WG SAMM

Projects of Pan-European significance



- Definition of projects of pan-European significance
 - Meeting the 3 EU energy targets
 - RES, SoS, IEM
 - Voltage & capacity thresholds
- From TSOs... or 3rd parties
 - See the non-discriminatory procedure
- ↪ **TYNDP = basis for EIP** projects selection

Projects of European significance – Definitions

- ***A Project of European significance is...***
 - ... a set of EHV assets (with at least one part in Europe);
 - ... all contributing to a same grid transfer capability increase across a grid boundary, valuated in MW;
 - ... matching the following thresholds:
 - main equipment > 220 kV for OHL AC and > 150 kV else
 - Grid Transfer Capability Increase either
 - enabling > 500 MW of additional NTC; or
 - enabling or securing output of > 1 GW/1000 km² of generation (new and/or existing); or
 - securing for > 10-year load growth for an area > 3 TWh/yr.

EC Reg. 2010/617 on notification of infrastructures

EC 2009/72

3rd parties projects in the Plans 1/2 – criteria

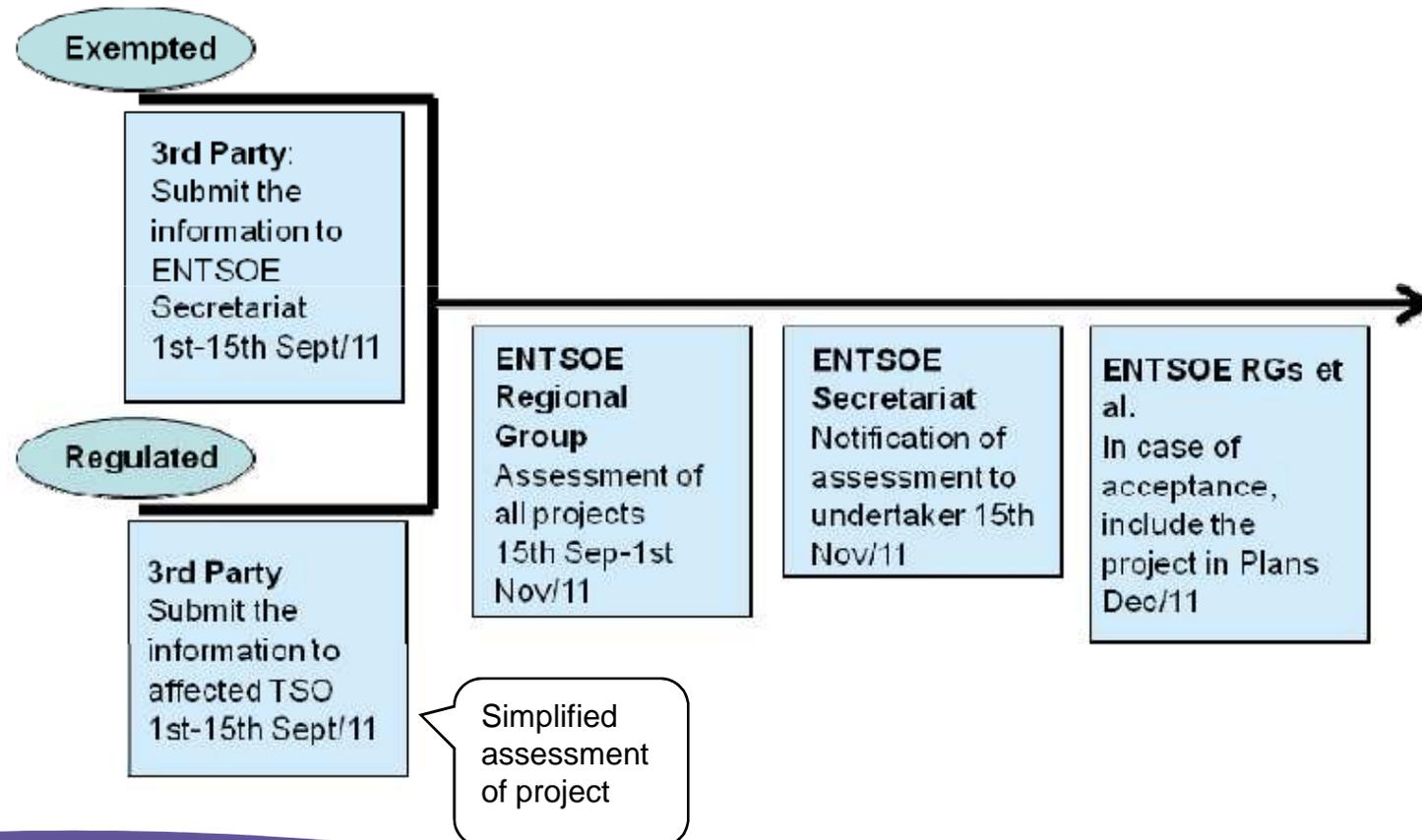
https://www.entsoe.eu/fileadmin/user_upload/library/SDC/TYNDP/2012/3rd_parties_projects_guidance.pdf

- A non-discriminatory process
- Technical criteria
 - The project meets the definition of a project of pan-European significance
- Legal & regulatory criteria
 - The developer has been granted the operation license by relevant authorities

3rd parties projects in the Plans 2/2 – schedule & process

https://www.entsoe.eu/fileadmin/user_upload/library/SDC/TYNDP/2012/3rd_parties_projects_guidance.pdf

- Schedule & process



Anticipation of development concerns by 2020



- 5-6 main development concerns
 - North-South power flows
 - RES (North Seas, South to EU)
 - Load in Italy, South Germany
 - Better integration of Baltic states, British islands, Iberian peninsula
 - East-West flows in S-E Europe
- Probably about 100 projects
 - Increasing the grid transfer capability on specific locations
 - Clustering about 500 investments

RgIP & TYNDP 2012 – The reports' structure

Regional Investment Plan

1. Executive summary
 2. Introduction
 3. Assess TYNDP 2010 (reg. focus)
(+ details / project in appendix)
 4. Specific RG methodologies
 5. Scenarios (regional focus)
 6. Investment needs
Present situation (NTC 2010), G/L dev. & tech. needs + Results of market studies (expected reg. p. flows maps)
 7. Investments projects
of European significance (& others if relevant) mid-term, long-term
Economic assessment (opt.)
 8. Transmission adequacy (map)
 9. Environmental assessment (optional, some macro-indicators)
 10. Resilience assessment
 11. Conclusion
- + Appendices (incl. table of projects)

Common methodologies

Aggregated results

Pan-European consistency checks

Ten Year Development Plan

1. Executive summary
 2. Introduction
 3. Assessment of TYNDP 2010
 4. Methodology
 5. Scenarios (synthesis from SAF)
 6. Investment needs (synthesis)
pan-E NTC 2010, G/L dev. & technical needs + expected power flow maps
 7. Investments projects (synth.)
of European significance only
MT/LT
 8. Transmission adequacy (pan-E map)
 9. Environmental assessment (optional, macro-indicators)
 10. Resilience assessment
 11. Conclusion
- + Appendices (incl. table of projects)