

APPENDIX 2

PRESENTATIONS

Assembly Meeting - 8 March 2016



1. REVIEW OF STRATEGIC GOALS SET BY THE BOARD

ACTIONS

Goal 2: DA market coupling

- The Board asks MRC Chair to ensure completion of the plan by 7 April.

Goal 3: ID market

- Observe closely!

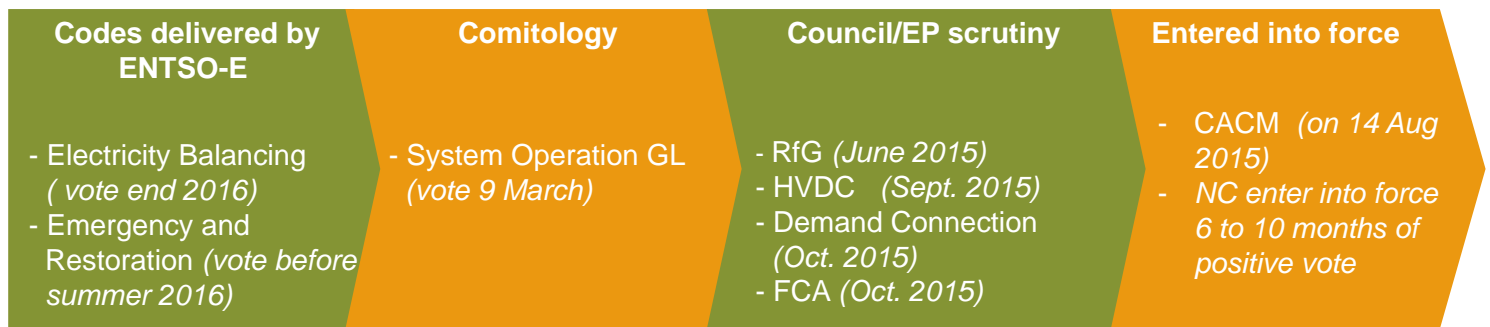
Goal 7: SoS Directive

- TF SoS proposes to update the formulation of this strategic goal in line with the Vision Paper.
- New legislation should ensure that ENTSO-E's new adequacy methodology become the basis for development of the market design, security of supply at regional and European levels.

Goal 9: Advisory Council

- ENTSO-E policy statement is late but can be drafted based on 8 March Assembly decision.

2. STATUS NETWORK CODE (i)

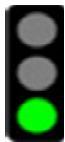


Highlights from implementation of Network Codes

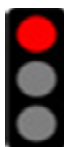
- Highly positive feedback on stakeholder committees
- Bidding zone review – postponed until mid-2017
- Long list of monitoring information for ACER – dispute between ACER/EC and ENTSO-E
- Common Grid Model Exchange Standard implementation, separate slides

2. STATUS NETWORK CODE (ii)

Common Grid Model Exchange Standard (CGMES) implementation



All TSOs are equipped with tools to export/import network models in the format



However,

- some of the vendors did not pass ENTSO-E Conformity process
- some TSOs still do not put the priority high enough to accomplish the objective
- Only 15 % covered

TSOs need to urge vendors for fast resolution, and have expert resources themselves to work on implementation and testing

• 3. VISION PACKAGE IN LINE WITH EC LEGISLATIVE PLANS

ENTSO-E's most substantial proposals – distributed flexibility, adequacy, regional cooperation – may point the way to realistic compromises

EC's legislative blocks	ENTSO-E's contributions/proposals
Market design capacity mechanisms: Electricity Directive	<ul style="list-style-type: none"> • New adequacy method/results as foundation • Regional MS discussions to avoid market distortions
Market design RES supports: RE Directive	<ul style="list-style-type: none"> • New adequacy: Flexibility results as foundation • Regional MS discussions to avoid market distortions
Market design retail market: RE Directive + possible guideline drafted by ENTSO-E and new single DSO representation	<ul style="list-style-type: none"> • Distributed flexibility work building on TSO/DSO cooperation incl. data management • New ENTSO-E project will scope guideline contents • Vision package dynamic pricing proposals
Risk preparedness regulation	<ul style="list-style-type: none"> • Builds on ENTSO-E's and national adequacy forecasts • No duplication of NCs • RP plans drafted by TSOs but focus on institutions

30th Florence Forum took place on 3-4 March 2016

1. Opening session
2. Market design and balancing
3. Regional cooperation of TSOs
4. Coordinating State intervention in generation adequacy
5. Risk preparedness
6. NC/GL implementation

Retail issues: postponed to June



Opening session

Dominique Ristori, (director general EC),
Guido Bortoni (president of the Italian NRA)
Alberto Pototschnig (ACER director)
Miguel Arias Cañete (Commissioner for Energy and Climate Action)



Statements:

- National interests still prevail over regional or European ones.
- Scarcity pricing is required to attract adequate level of investments.
- Demand side participation with adequate tariffs is needed.
- EC to propose a European framework for capacity remuneration mechanisms including adequacy assessments.
- A better integrated system operation is required.

Market design and balancing EC's original proposal

- 5 COBAs for frequency restoration reserves.
- Single marginal pricing.
- Common procurement rules, harmonised imbalance settlement periods if proven by CBAs.

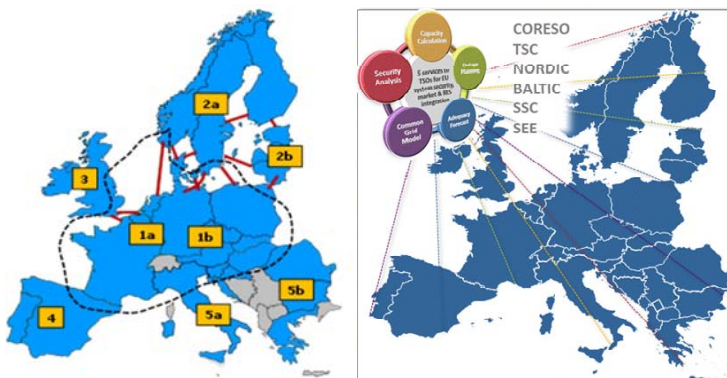
Conclusion: further assessment needed

30th Florence Forum

Regional cooperation of TSOs

EC: increasing level of RES (up to 50% by 2030) required closer TSO coordination.

Functions: sizing of reserves, system restoration and network planning and training.



Conclusions: to be further assessed

Coordinating state intervention in generation adequacy

Debated points:

- Role of ENTSO-E vs other stakeholders
- National vs regional decision making

Conclusion: common adequacy approach is required supplemented by national/regional ones.

Independent Advisory Council

- *Approved by Board. Adds Value to ENTSO-E's brand as increasing transparency*
- Name changed from "Board" to "Council": as to avoid any confusion with an executive role
- Objective: Independent, and legally non-binding advice to Board and Assembly
- Composition: Societal perspective to be ensured. Invitations for nominations to be send to selected associations, plus EP and EC
- Timing: Invitations to be send in March, start at latest in September 2016

Breakout Sessions

Context

- Regional cooperation is perceived by EC as one of the cornerstones of delivering the Energy Union objectives. There are strong signals of this policy manifesting itself in the forthcoming "winter package".
- A holistic strategic view is needed on how to proceed with regions and their governance and the convergence of regions (across functions and across geographical areas).

Objective of the session

Provide strategic guidance to further develop a coherent framework on regional cooperation and governance – after finalisation by the 4 MOH and approval by Assembly this will be published on ENTSO-E website and sent to EC by mid April 2016.

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Reliable Sustainable Connected



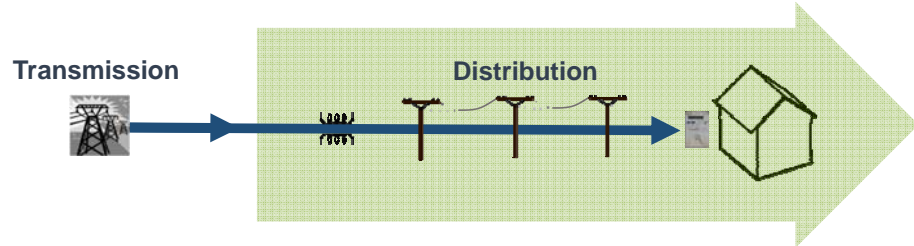
Prospects for an upgraded TSO/DSO cooperation

ENTSO-E General Assembly
8th March 2016

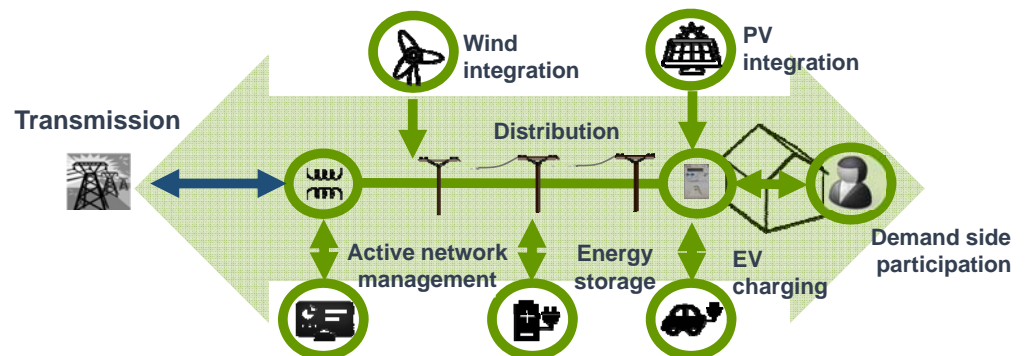
Christian Buchel
Vice-President of
EDSO for Smart Grids

The power system has changed a lot

BEFORE:



NOW:



DSOs have a strong and unique identity

- 2400 DSOs in Europe
- DSOs are **engrained in the territories** under the dominant concessionary regime
- DSOs are the **connecting link of end-users** to the electric system
- Cumulative CAPEX by DSOs expected to reach **€215 billion EU-wide** by 2030
- **240 000 people employed** by DSOs across Europe

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And so did DSOs' image and responsibilities...

Germs!



Dinosaurs!



Fortress!



Sleepy Utility!



Minitel!



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And so did DSOs' image and responsibilities...

"Grid expansion and optimal grid management is also needed at the distribution level as **distribution grids are instrumental** for integrating decentralised, locally produced renewable energies."

"In this context the role of DSOs needs reconsidering. **DSOs should be neutral market facilitators** to enable the development of market-based services to consumers by third parties."

...says the European Commission in the Energy Market Design communication...

(July 2015)

"New procedures will have to be introduced to **incentivise DSOs to use local flexibility** and respond to those new challenges in a cost effective manner."

"It might also be necessary to reflect if DSOs are sufficiently **involved in European regulatory bodies and in the effective governance of the Energy Union**"

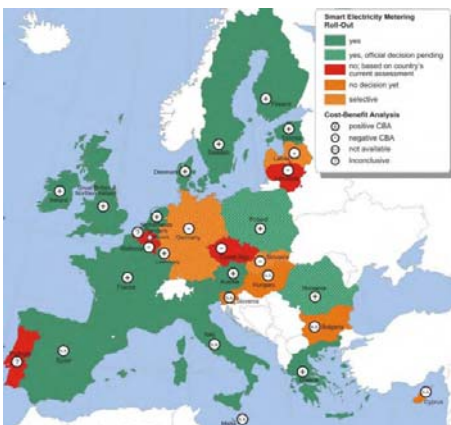
...that may be translated into legislation in the Market Design initiative – end 2016?

(To be continued...)

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DSOs are already investing in smart solutions

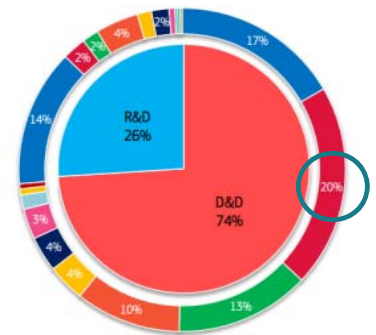
- European DSOs are rolling out smart meters, the first step towards smart grids
- DSOs are the largest investors in Smart Grid demonstration and deployment projects



Number of projects per stage of development and country



Distribution of investment by stage of development



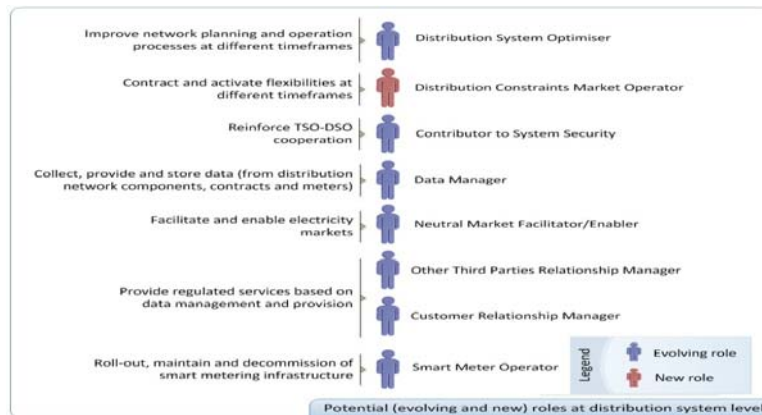
Source: EU Joint Research Centre (2014), Smart Grid Projects Outlook (http://ses.jrc.ec.europa.eu/sites/sep.ec.europa.eu/files/u24/2014/report/ld-na-26609-en-smart_grid_projects_outlook_2014_-_online.pdf).



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DSOs have become active System Operators and neutral market facilitators...

- The new power system **increase DSOs existing responsibilities** and emphasize their role as **neutral market facilitator**.
- In a European energy transition context, DSOs have stopped to be passive and are now **active system operators**.
- Regulation should be clarified to allow DSOs to fully assume their responsibilities



Source:  evolvDSO European-funded project

...but regulation and market design must change accordingly

Due to this evolving environment, the DSO should:

Be able to **actively manage its grid**, thanks to:

- New tools for monitoring electricity players' actions on all voltage levels;
- Direct access to grid users's data relevant for system planning and operation;
- Procurement of flexibility services from grid users;

Be **incentivised to invest in smart solutions**, through adequate network tariffs:

- Reflecting the cost structure (more capacity-based);
- Taking into account digitalisation (OPEX vs. CAPEX).

Be recognised as a **neutral market facilitator** managing/storing/protecting metering data

Be placed **on an equal footing with TSOs** for drafting future regulations

The changing role of DSO: Delivering better services to all players



Through smart grids, DSOs can deliver better services and facilitate market parties activities:

- **For consumers:** Accurate information on energy consumption, helping to lower bills
- **For TSOs:** constant flow of information for accurate grid balancing
- **For suppliers and energy services providers:** data delivery and analytics to help develop new products and services
- **For local authorities:** information on district energy consumption / communal building energy consumption and **advice**.
- **For all:** increased reliability and quality of supply
- **In some countries** - support to the electric vehicles market by deploying the first charging spots.

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TSOs and DSOs are both driven towards the future

- **Common challenges** : security of supply, high CAPEX, IT and cybersecurity...
- **Common opportunities:** digitalization, new technologies...
- **Common threats** : data handled by players coming from other industries

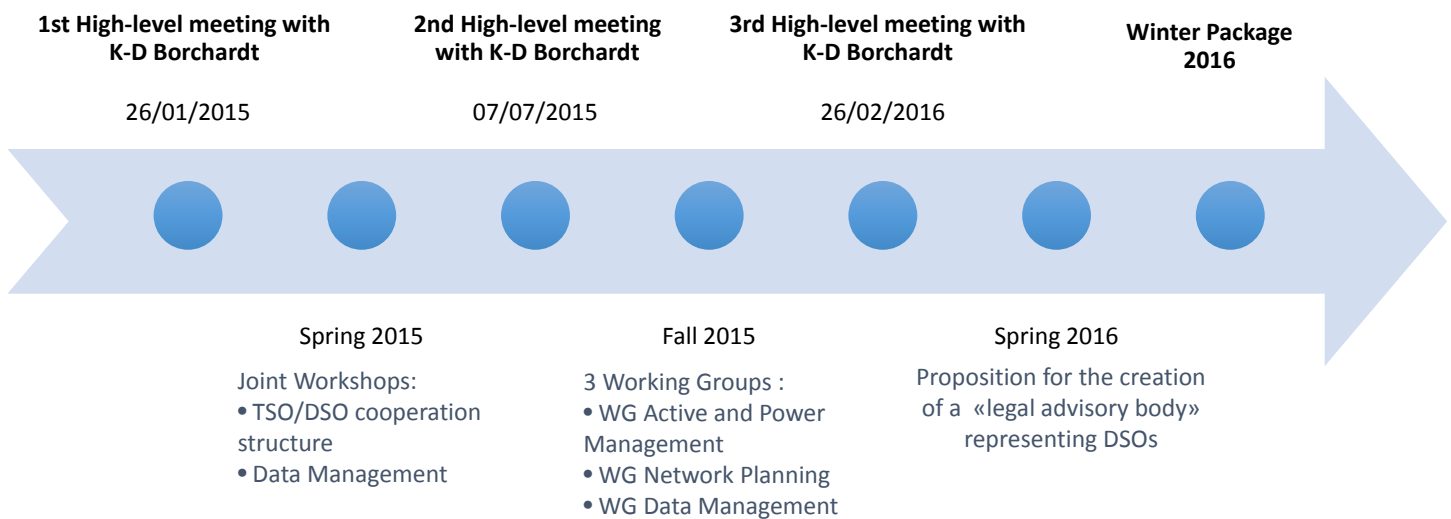
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The DSO/TSO Cooperation Platform: an opportunity for enhanced dialogue between System Operators

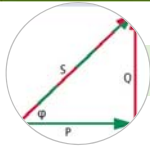


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TSO/DSO cooperation platform's milestones



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Reactive Power Management

- The DSO should be able to monitor generators providing reactive power services, when they are connected to its networks
- Joint DSO-TSO analysis are needed to assess reactive power issues and to identify the best remedial actions
- Developing joint network models of the T/D connection should become a common practice at national level



Network Planning

- Network development at nation level should be based on joint analysis and common scenarios
- DSO and TSO should agree on the data required for an optimal network planning

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WG Data Management

Balanced approach : both top-down and bottom-up

Detailed technical work on 5 use cases : congestion management, Balancing, Real time control & supervision, Use of flexibility, Network planning

Main achievements:

- 35 transmission and distribution experts working;
- First time TSOs and DSOs experts talk in-depth, over several months, about data needs and requirements related to their tasks and the market
- TSO-DSO cooperation has become a key topic at the top level of the 5 associations

Outcome : a single report with 9 recommendations - *"You are stating the obvious"* (K-D Borchardt)

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What we agree upon

- **Grid users' data** should be collected and managed by a neutral entity
- TSOs and DSOs should have access to all relevant data for **system planning** and operation
- **Security of supply** is our core mission, working together is key
- Direct and fast **communication** must be established between the TSO control centre and the DSO control centre to manage RES=

Where we agree to disagree (so far)

DSO point of view

- **Balancing** – DSOs should supervise the use of ancillary services involving distributed generation to prevent a congestion at local level
- **Congestion management** – DSOs should be allowed to curtail renewables (in emergency) or use energy storage to solve their operational issues
- **Local markets** could be an option for procuring services at local level

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How can we improve cooperation between us ?

- **Building trust**, both at European and national levels, through a continued dialogue between ENTSO-E and DSOs
- A quicker and more flexible decision-making process on ENTSO-E side => ENTSO-E dedicated project group is welcome by DSOs
- A new DSOs' representation at the EU level entrusted to be a « **legal advisory body** » (network codes, etc.)
- A closer collaboration for the **implementation of network codes** and other technical regulations

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**Thank you for
your attention!**

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Examples of existing TSO/DSO cooperation

- **In Ireland:** ESB networks and Eirgrid plan grid development together, and find the most cost-efficient solutions for grid reinforcement together. The regulator then makes sure each system operator recover costs in a timely manner.
- **In France:** RTE and ERDF jointly assess reactive power flows, and where problems are identified, a joint technical solution is designed.
- **In Germany:** 50Hertz and its connected DSOs have set up a joint IT system that enable each of them to monitor his own grids, and the neighbouring grids.
- **In the Netherlands:** TSO and DSO have created a joint industry association, “Netbeheer Nederlands”.
- **At European level:** annual Innogrid conference organised by ENTSO-E and EDSO