

Energy Transition: A Multifaceted Challenge for Europe

High-Level Energy Conference

The impact of the new EU electricity market design: how will the different pieces of the puzzle fit together?

6 December 2016, 9:00 to 13:00, Egmont Palace, Brussels

#ETseries2016

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Looking forward – how can the European electricity market meet both its flexibility and security objectives

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Secretary-General, ENTSO-E

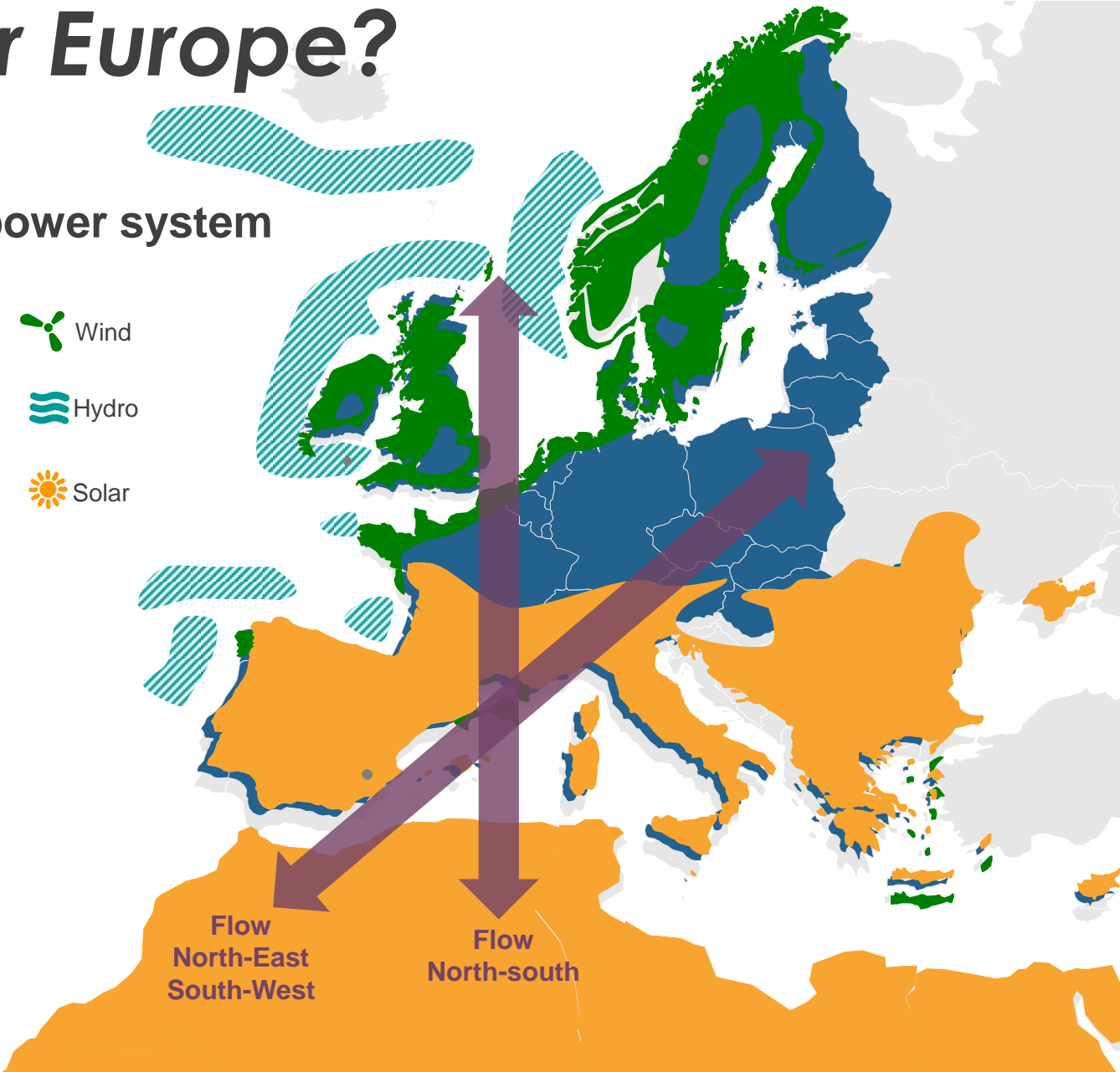
High-Level Energy Conference: The impact of the new EU electricity market design: how will the different pieces of the puzzle fit together?
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The Energy Transition: *What does it mean for Europe?*

27% renewables by 2030 = +/- 45% for the power system

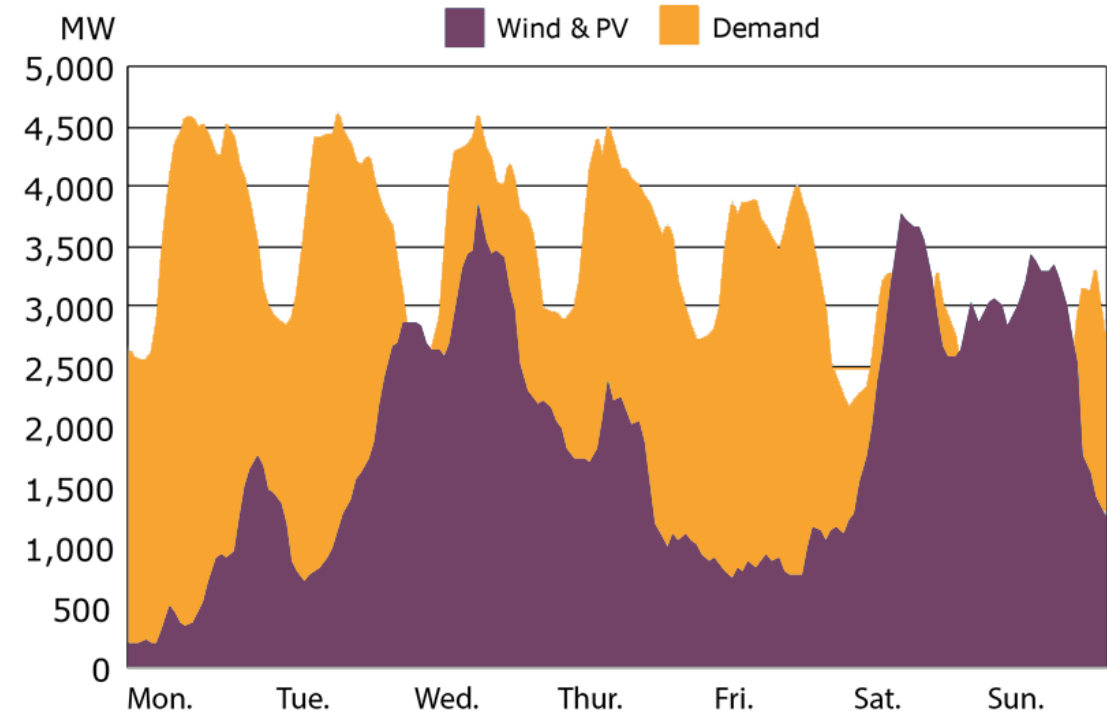
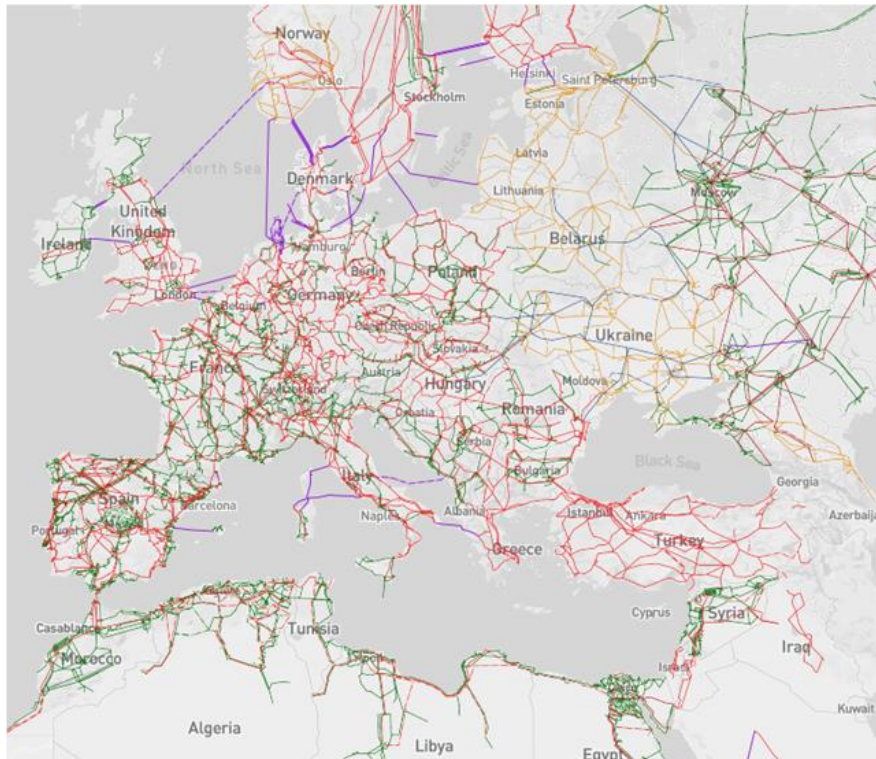
NEW CHALLENGES

- System stability
- Resource variability
- New connections
- Changed power flows
- Integrating demand-side resources
- Empowering consumers & managing data
- Unlocking flexibility



The FLEXIBILITY challenge: The changing role of our networks and customers

From asset.....to smart optimization of generation and load



September 2016 in Denmark, one week
(source Energinet.dk)

How to meet the flexibility challenge?

Improve price signals

- Enable scarcity pricing in all timeframes
- Integrate RES into the market by removing priority dispatch & make them balance responsible
- Complete integration of ID and balancing markets to increase liquidity

Enhance Demand Response

- Open participation to all markets directly, via supplier or via aggregator
- Dynamic pricing and hedging opportunities
- Easy to switch suppliers
- Data management, smart meters and hubs

Stronger cooperation

- Regional TSO cooperation
- Stronger NRAs' and MSs' cooperation
- Policy regions
- DSO-TSO coordinated use of distributed flexibilities
- "EU Framework" for CRM
 - Adequacy-based
 - Cross border participation

Stronger and more interconnected European grid realising investments of TYNDP

Does the Clean Energy Package address this challenge?

Improve price signals

- Positive removal of price caps unless set at VOLL
- RES integration: provisions on priority dispatch and balancing responsibility will have limited positive effects on markets and operations as they do not apply to existing installations.
- ID and balancing markets: some requirements are not consistent with Balancing Guideline implementation (e.g. regional reserve sizing)

Enhance Demand Response

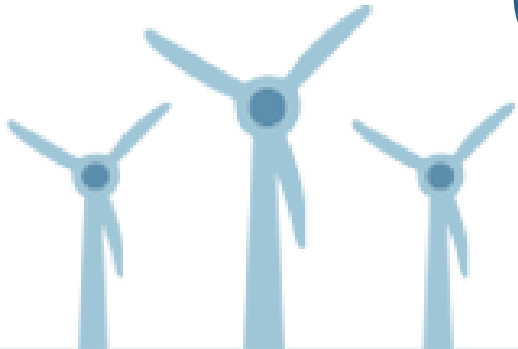
- Consumers right to participate to all markets directly or via 3rd party
- Dynamic pricing
- Easier supplier switching
- Role of BRPs in balancing markets to be preserved: aggregators compensation to BRPs should be the rule.
- Rules on DSR and data management, to be further developed via NC/GL

Stronger cooperation

- Regional TSO cooperation disregards subsidiarity and TSOs' liabilities
- Lack of stronger NRAs' and MS cooperation
- Acknowledges TSO-DSO cooperation, but distributed flexibilities to be pooled not segregated in local markets
- Bureaucracy and micromanagement in regulating TSOs
- EU Adequacy assessment to be complemented by regional + national studies

What steps forward to improve RES integration into the market?

- 1** Phase out of the priority dispatch for RES (including existing installations) unless it does not increase (re)dispatching costs
- 2** Expose 'mature' renewable energy sources to the market
- 3** RES need to have balancing responsibilities (including existing installations)
- 4** RES support needs to be market-based
- 5** Create conditions for regional and European framework for RES support



Getting it right: Price signals reflecting the real cost of electricity



Prices should **drive power usage, dispatch and investments**

Prices should **reflect the actual situation** of the system, pricing scarcities and valuing system services

Market **processes and products** should allow all market participants to contribute to system needs

Enable scarcity prices in all market timeframes (DA, ID, Balancing)

Imbalance prices to be more cost-reflective (up to VOLL in times of scarcity)

Introduce dynamic pricing at retail level

Markets to value flexibility and all system services

Allow development of risk-hedging products to protect oneself against price volatility

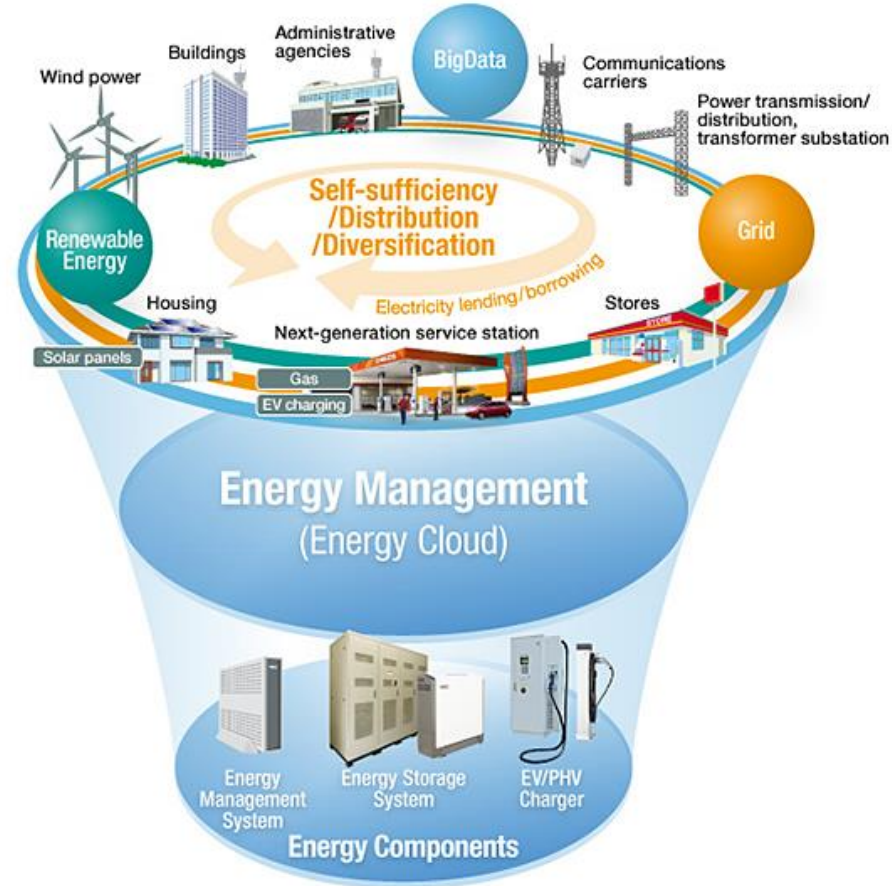
Empowering the consumer

Dynamic pricing in some countries

Implementation of:

- Europe-wide market coupling (CACM)
 - Balancing guideline as a facilitator of demand response
-

Data privacy and security



Dynamic retail pricing in EU legislation

- **Demand response** for balancing and other markets
 - **Smart apps, data hubs, non-discriminatory access**, integrated with DSOs/TSOs' software
 - Compliance with **data protection regulation**
-

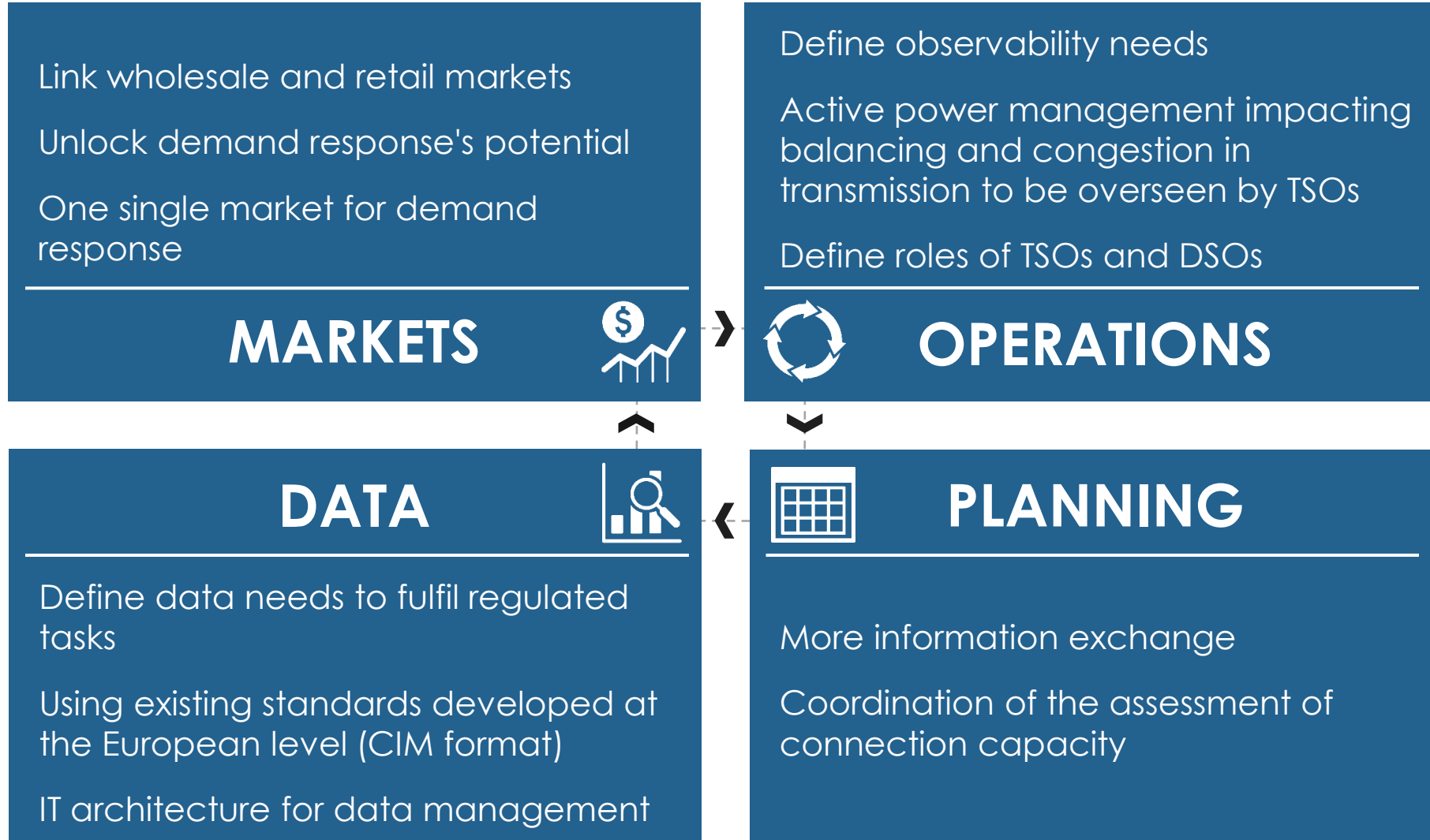
2020

INNOVATION

2025

entsoe

An integrated approach to flexibility: enhanced TSO-DSO cooperation



Enhanced regional cooperation of TSOs within ENTSO-E

Market integration

Internal Energy Market developed voluntarily & regionally: day-ahead, intraday, balancing. Shifting towards a legal framework under network codes.



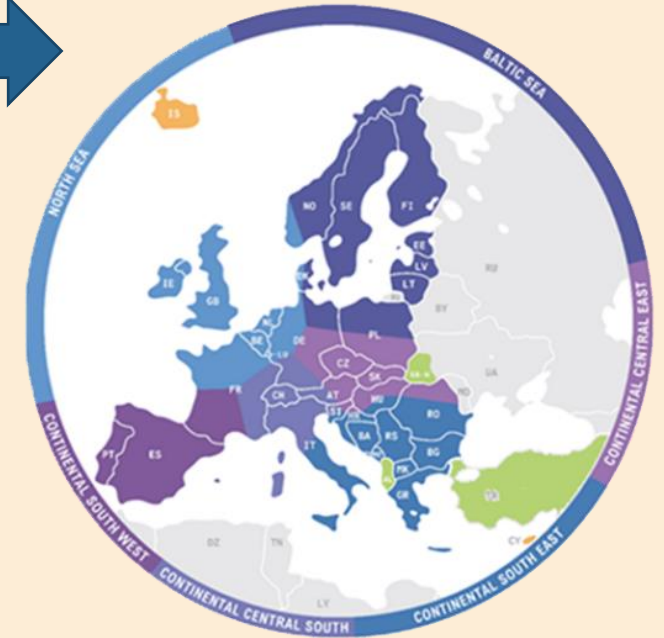
System operations

Regional security coordinators (RSCs) created on a voluntary basis through TSO cooperation under ENTSO-E's umbrella.



System planning

Ten-Year Network Development Plans and 6 Regional Investment Plans. Mid-Term Adequacy Forecast



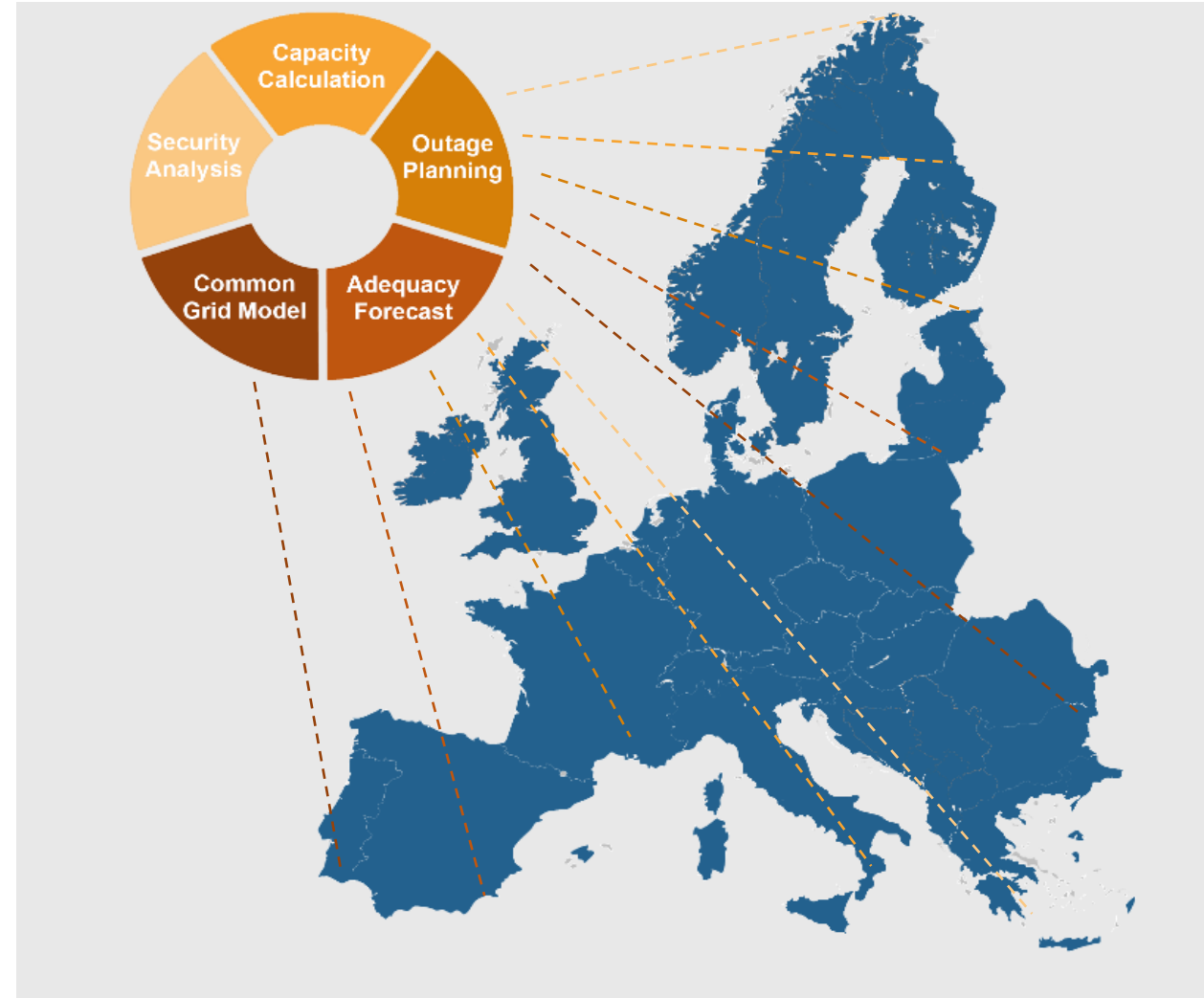
EU Regional Security Coordinators (RSCs):

A dynamic and efficient approach to realise the benefits of regionalisation

- Flexible structures for bridging borders
- Support TSOs in maintaining system security and optimisation of operations
- Delivery of 5 standard services by end-2017 to all TSOs
- ENTSO-E ensures interoperability

➔ ***Setting up the contractual and operational platform for the long-term evolution of the European electricity sector.***

➔ ***Stronger Member States' and NRAs' regional cooperation is crucial.***



Ambitious new governance needed: Policy Regions to deliver the benefits of the Energy Union

- Coordinate energy mix & RES integration & interconnectors
- Coordinate policy on market development to speed up market integration
- Coordinate adequacy and risk preparedness
- Establish **regional governance structures with Member States, regulators, TSOs, and stakeholders**

✓ Develop Policy Regions to promote progress and speed



✓ Ensure consistency and balance between national, regional and pan-European levels



✓ Ensure regional and pan-European cooperation through the contribution and commitment of all parties: *Governments, regulators, TSOs, stakeholders and citizens*



THANK YOU

FOR YOUR ATTENTION



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BACK-UP SLIDES

CONSISTENTLY ASSESS HOW MARKETS CAN DELIVER SECURITY OF SUPPLY. COORDINATE IN CRISIS SITUATIONS



Common adequacy methodology to be used for pan-European, regional and national assessments



Common adequacy indicators on which regionally coordinated national security of supply standards can be based



Member States to agree on coordinated management of simultaneous scarcity situations in all timeframes

Regional TSO cooperation through RSCs and stronger NRAs' and Member States' cooperation

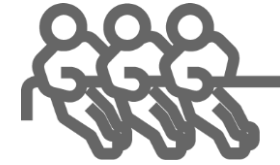
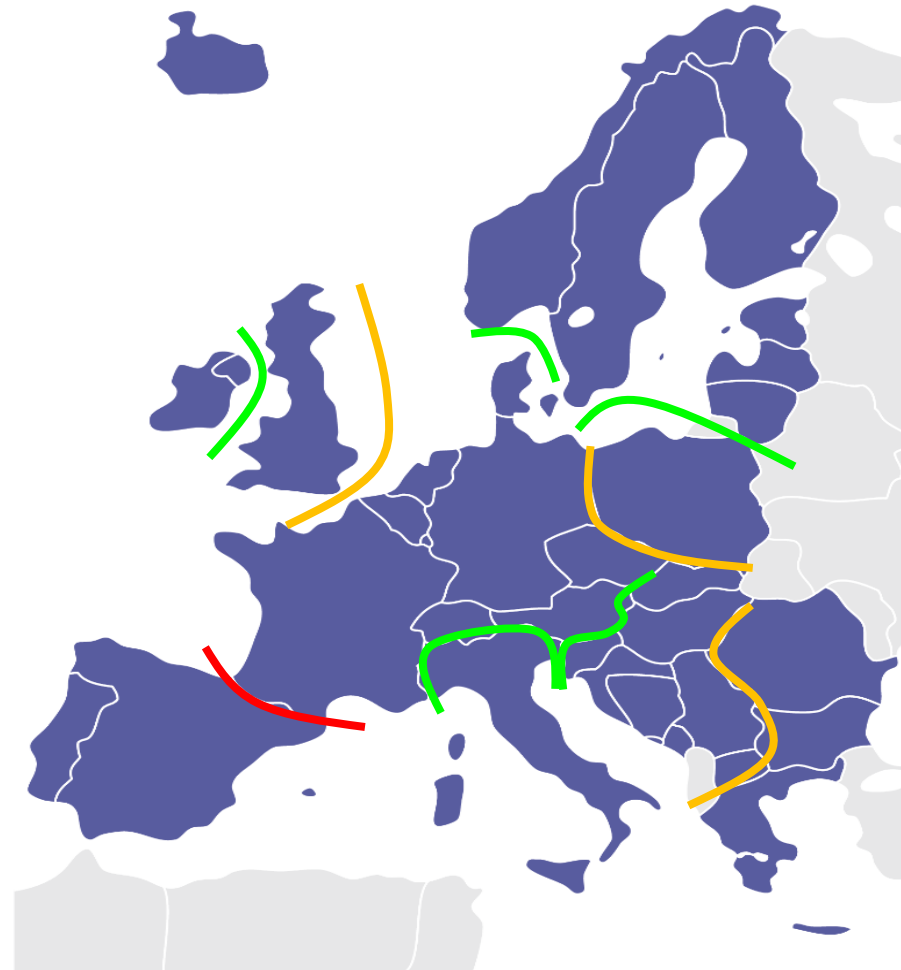
TYNDP 2016 – putting the right infrastructure in place to integrate renewables



2x more
interconnection
capacities by 2030

Integrating up to 60%
renewable energy
sources

Up to 5 €/Megawatt
hour reduction on
bulk power prices



1% increase in the
total consumer bill

€150 billion
investment

50 – 80%
emissions down

30 – 90 TWh
reduced RES
spillage

ENCOURAGE DEMAND RESPONSE by:

Allowing customers to play their part in supporting the system and therefore reducing the need for additional expensive and often polluting generation capacities



HOW?

Moving from **flat rates** to **dynamic pricing**

Avoiding the **price-blunting effect** of some taxes and levies put on electricity

Offering customers different types of **power contracts/options** to make profit of their flexibility potential

Allowing customers to **value this flexibility** in all markets and regardless of which grid they are connected to or which supplier they have a contract with

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