

# EU and Energy Community TSOs

## *Regional Cooperation under ENTSO-E - Bridging the Gap*

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24<sup>th</sup> Athens Forum Electricity – 28 May 2019

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# The **Challenge** – Energy Transition

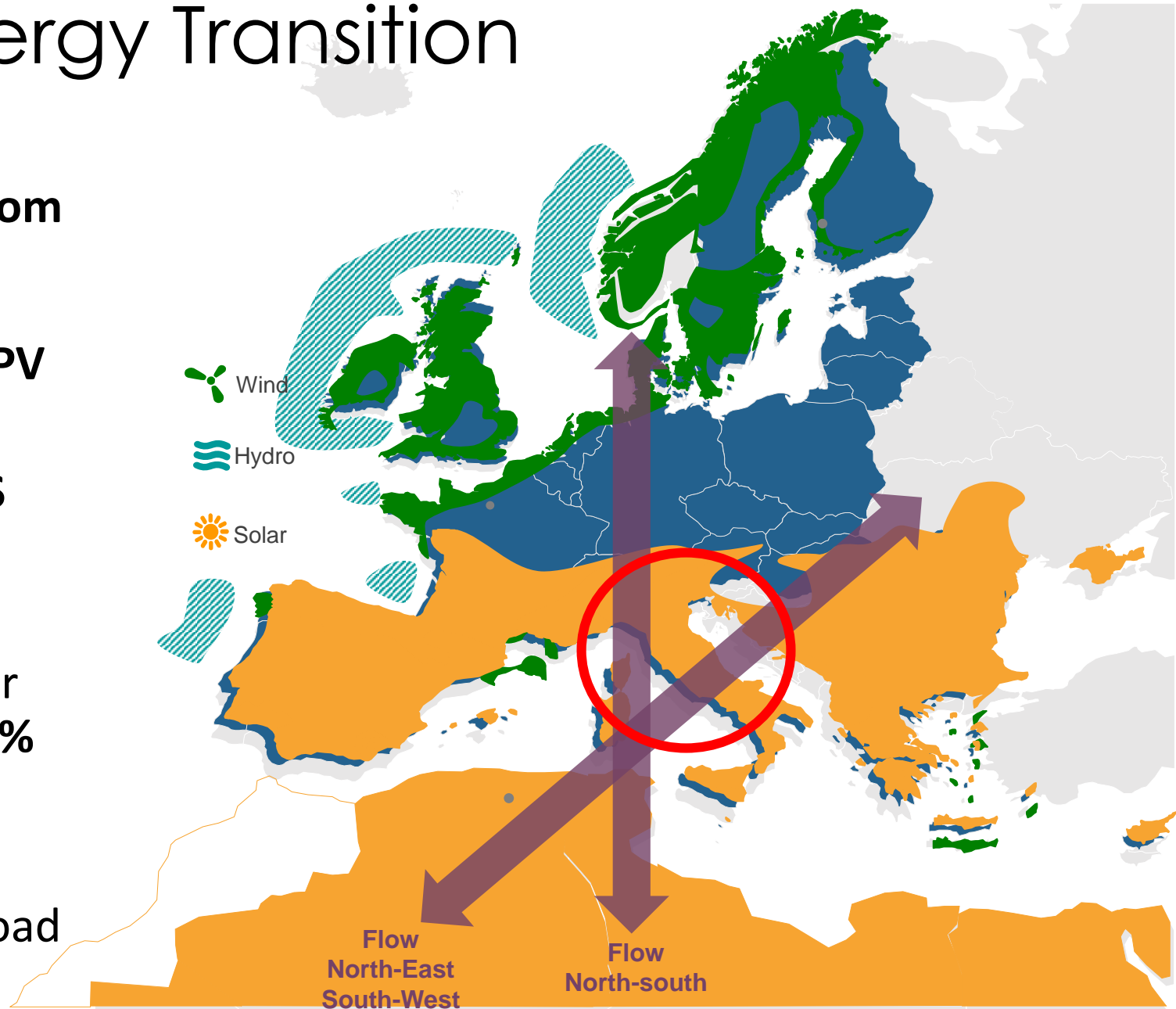
**50%** Of the **generating capacity from variable RES** by 2030

**350** Additional **GW of wind and PV** to be connected by 2030

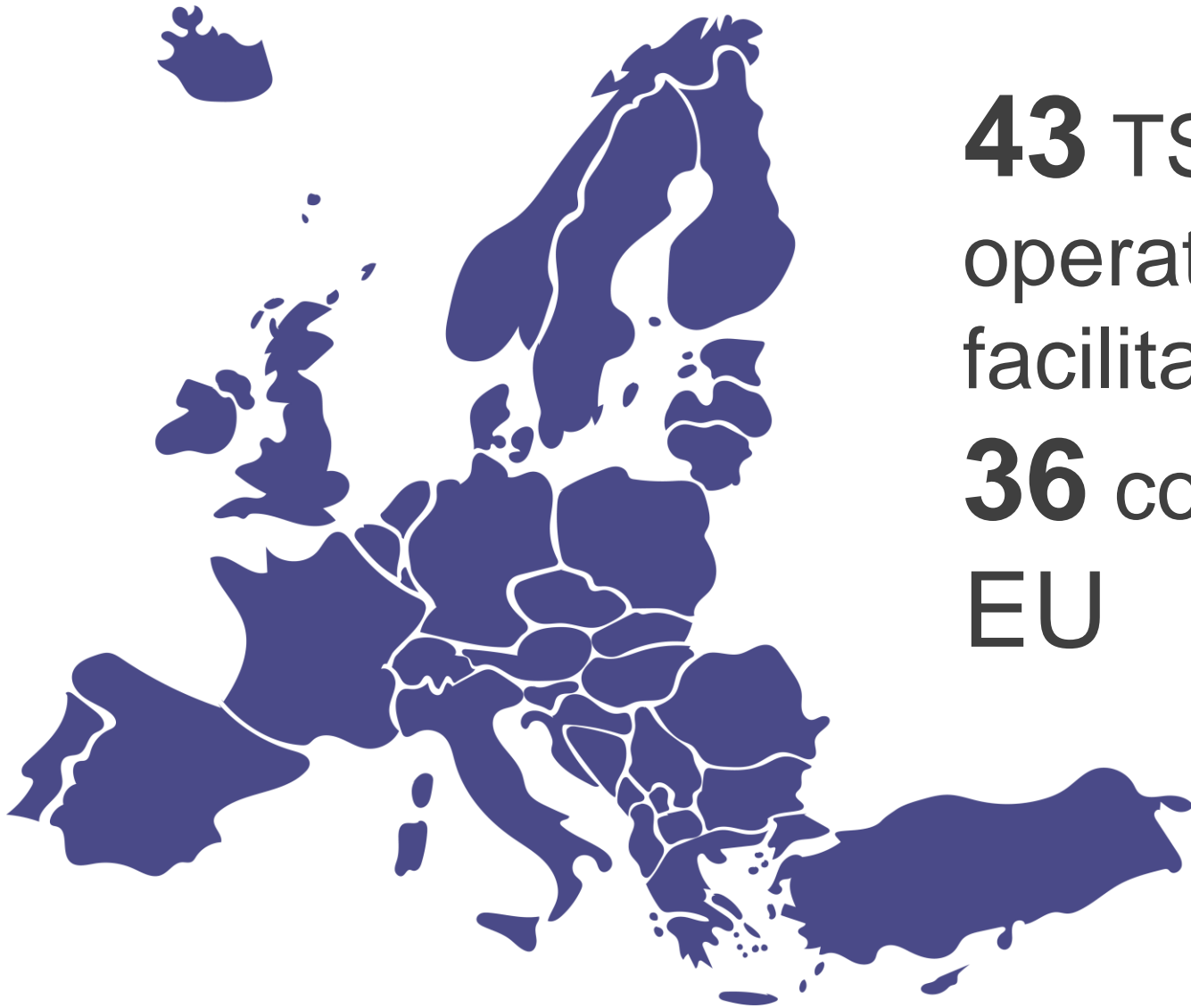
**20%** Higher installed **variable RES capacity compared to peak demand**

**14** Countries with wind and solar outputs likely **higher than 80% demand** already in 2025

**20%** Reduction of **dispatchable capacity margin over peak load**



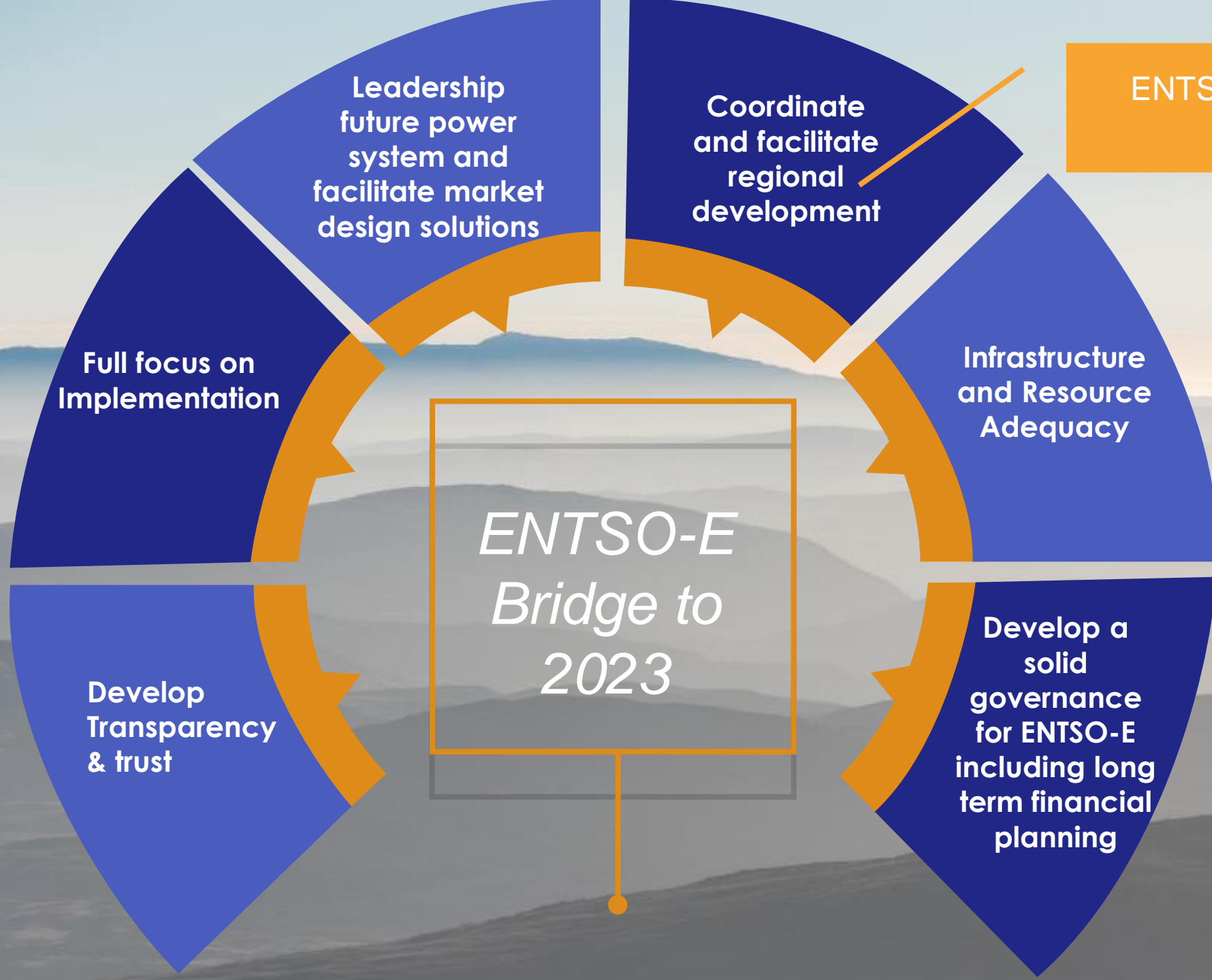
# ENTSO-E represents



**43** TSOs  
operating electricity systems &  
facilitating power markets in  
**36** countries incl. 8 Non  
EU

# EU network codes: Rulebook for the smart system of the future





# How to facilitate the Energy Transition?

## Implement the EU codes - EU and EnC Countries

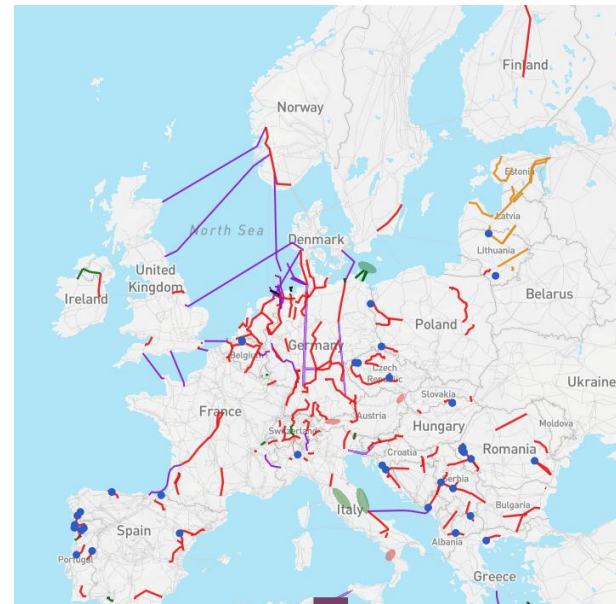


Enabling more RES & demand response connections

flow based bidding zones review

Regional security coordinators

## Strengthen the grid



Including links inside countries

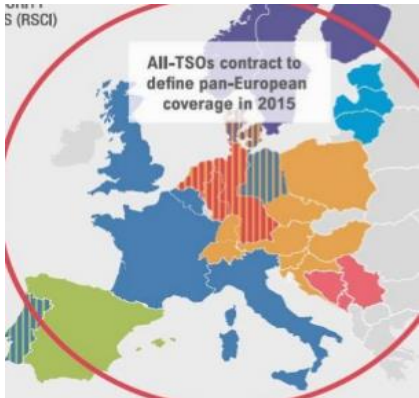
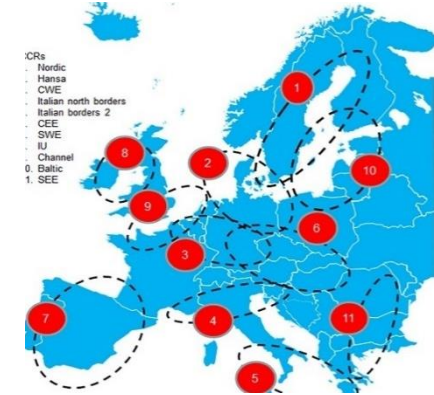
## Enhance existing cooperation at all levels



# European Regional Developments

## MARKET

Internal Energy Market started regional: DA, ID, FCA, CCRs, Balancing. Voluntary projects now CACM implementation  
CCRs are important for implementation of all three market Codes and SO GL

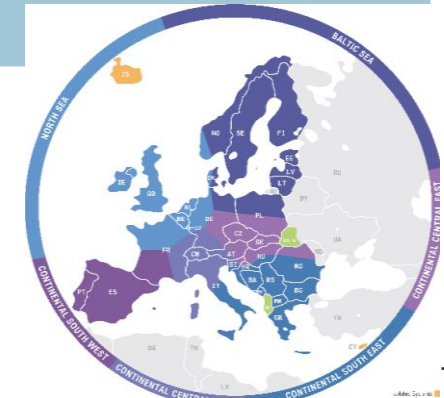


## OPERATIONS

Regional Security Coordinators already existing with established or about to be established functions

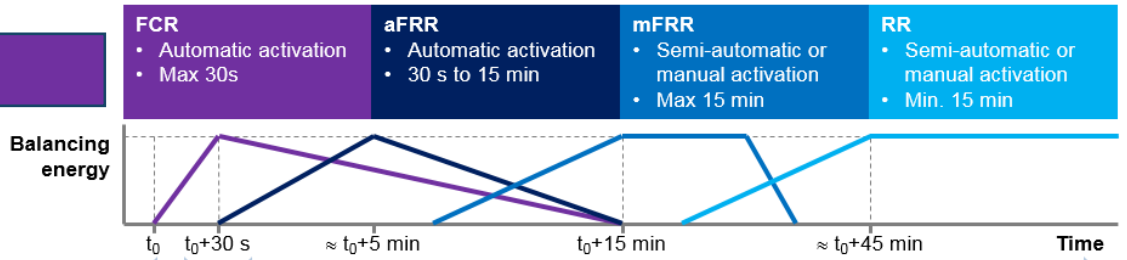
## PLANNING

Regional investment plans in the 10 year network development plan



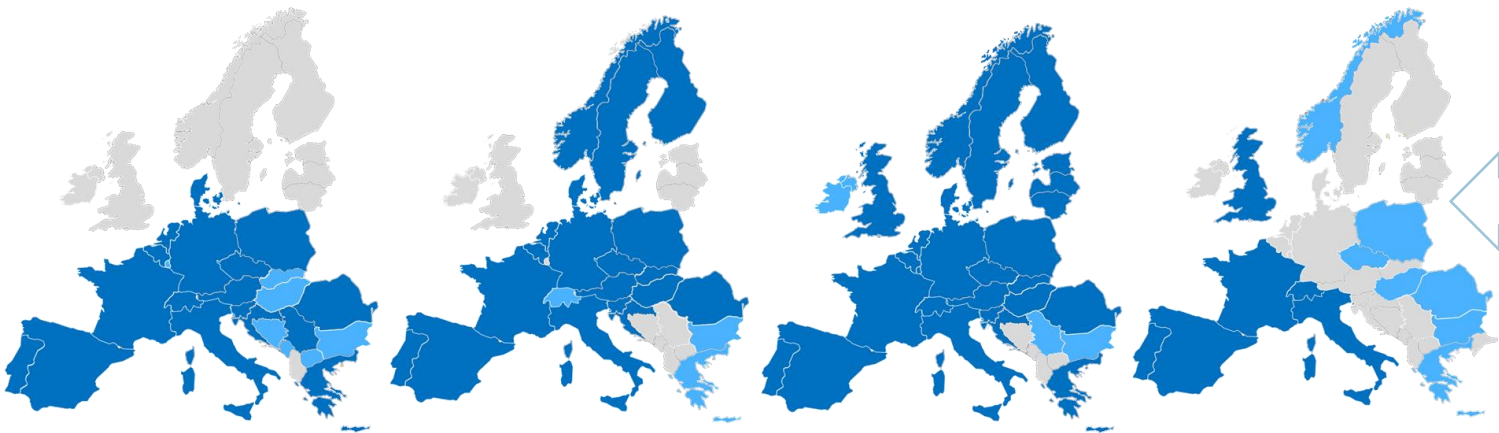
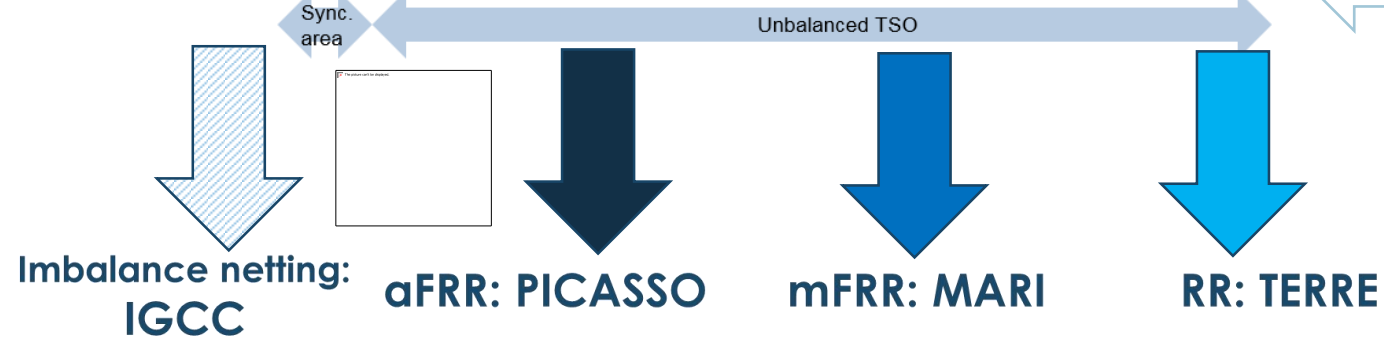
# Balancing platforms per product/process

No common platform for FCR foreseen in EB GL



Each process has different specifications

Each process has different timing

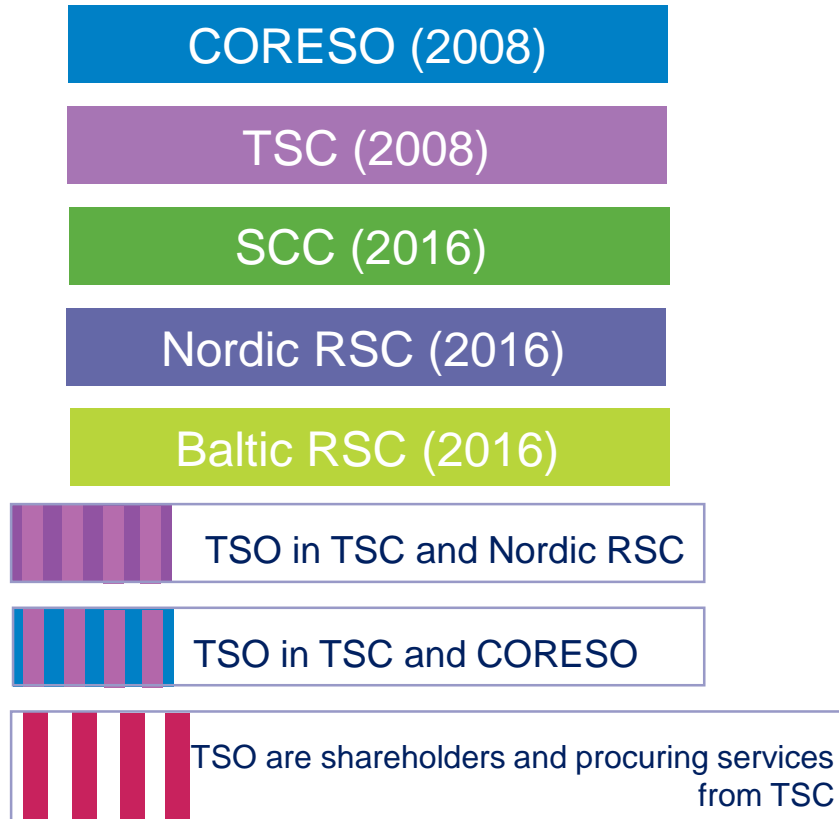


Each process has different geographical scope

Member Observer



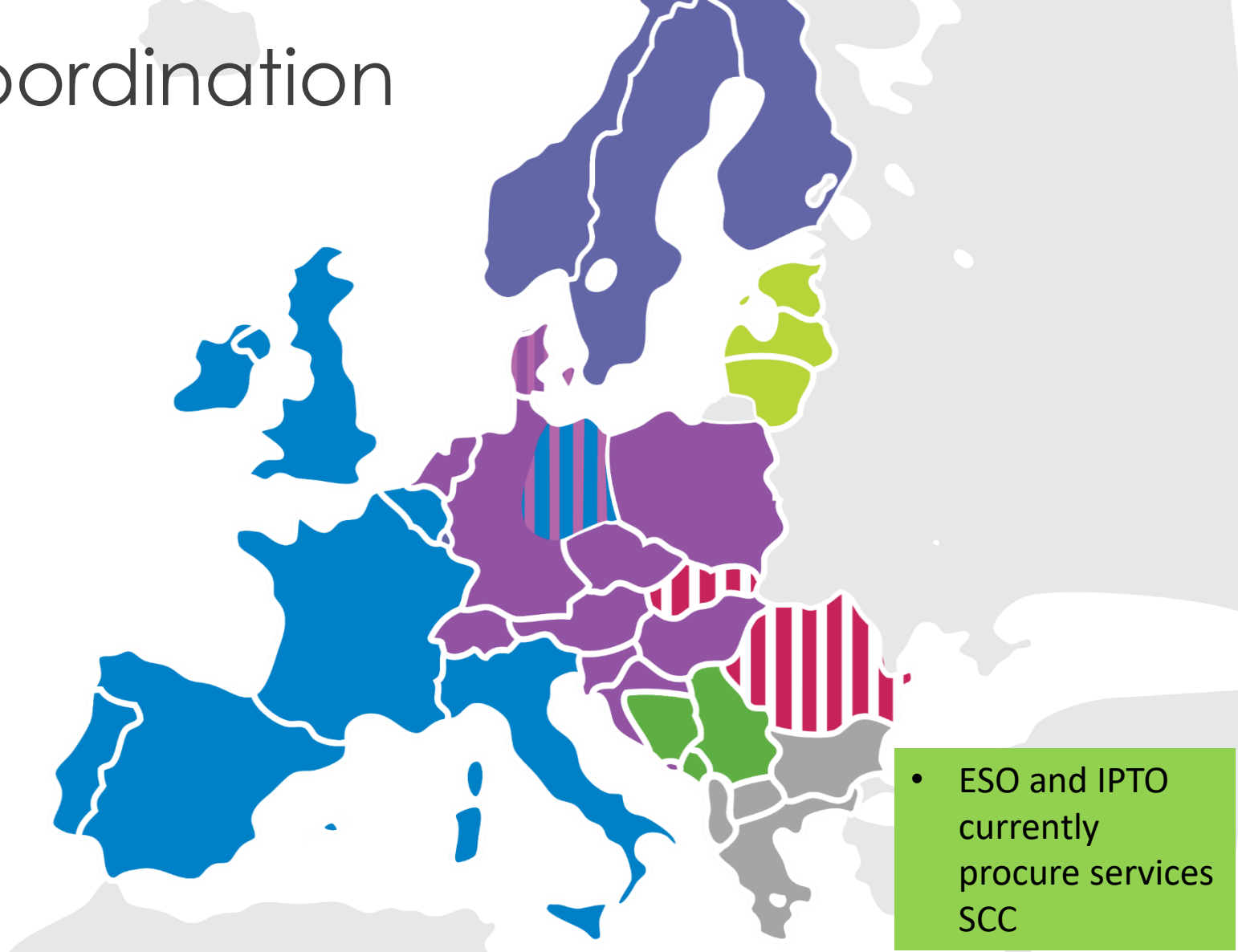
# Regional Security Coordination



Started voluntarily in 2008

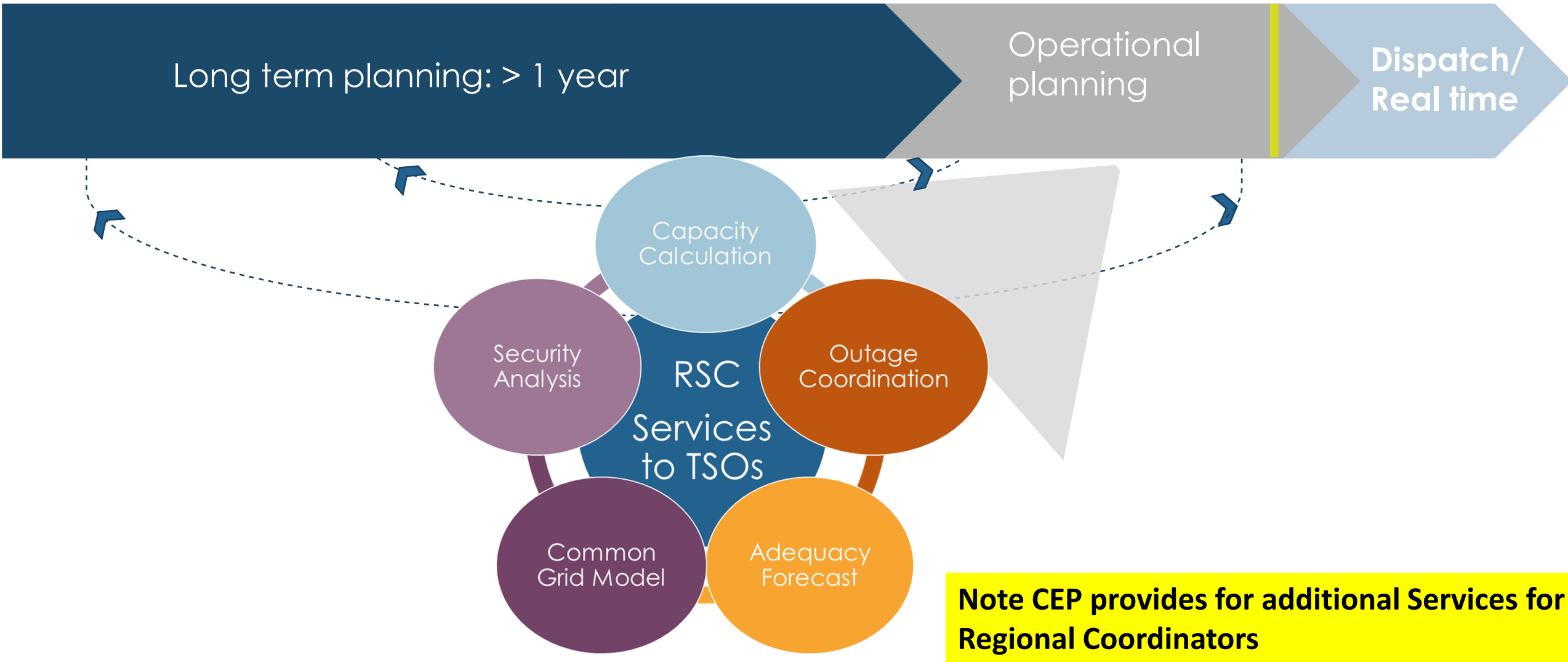
Extended voluntarily in all Europe as of 2015

Mandatory through EU Network Codes Sep 2017



• ESO and IPTO currently procure services SCC

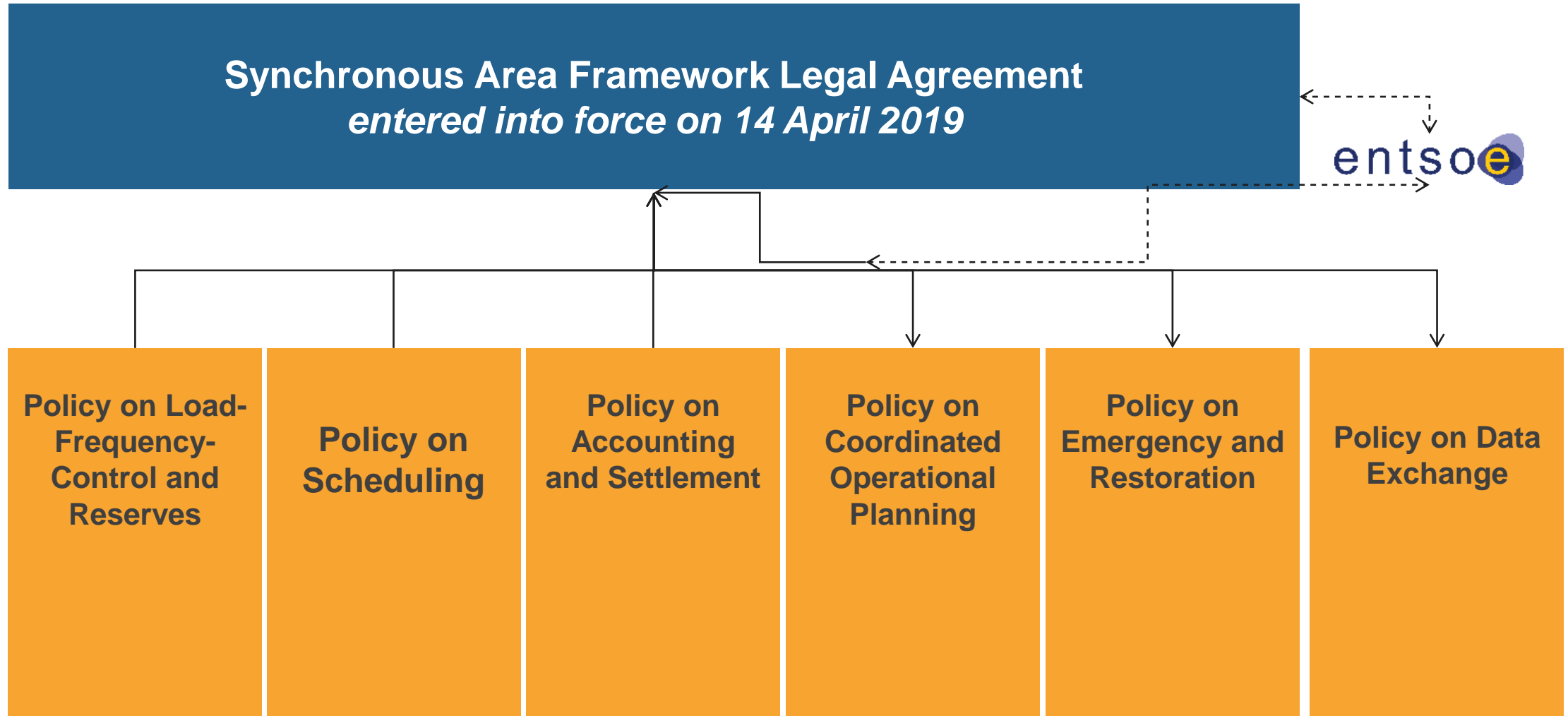
# RSCs Supports TSOs in Operational Planning Time-Frames



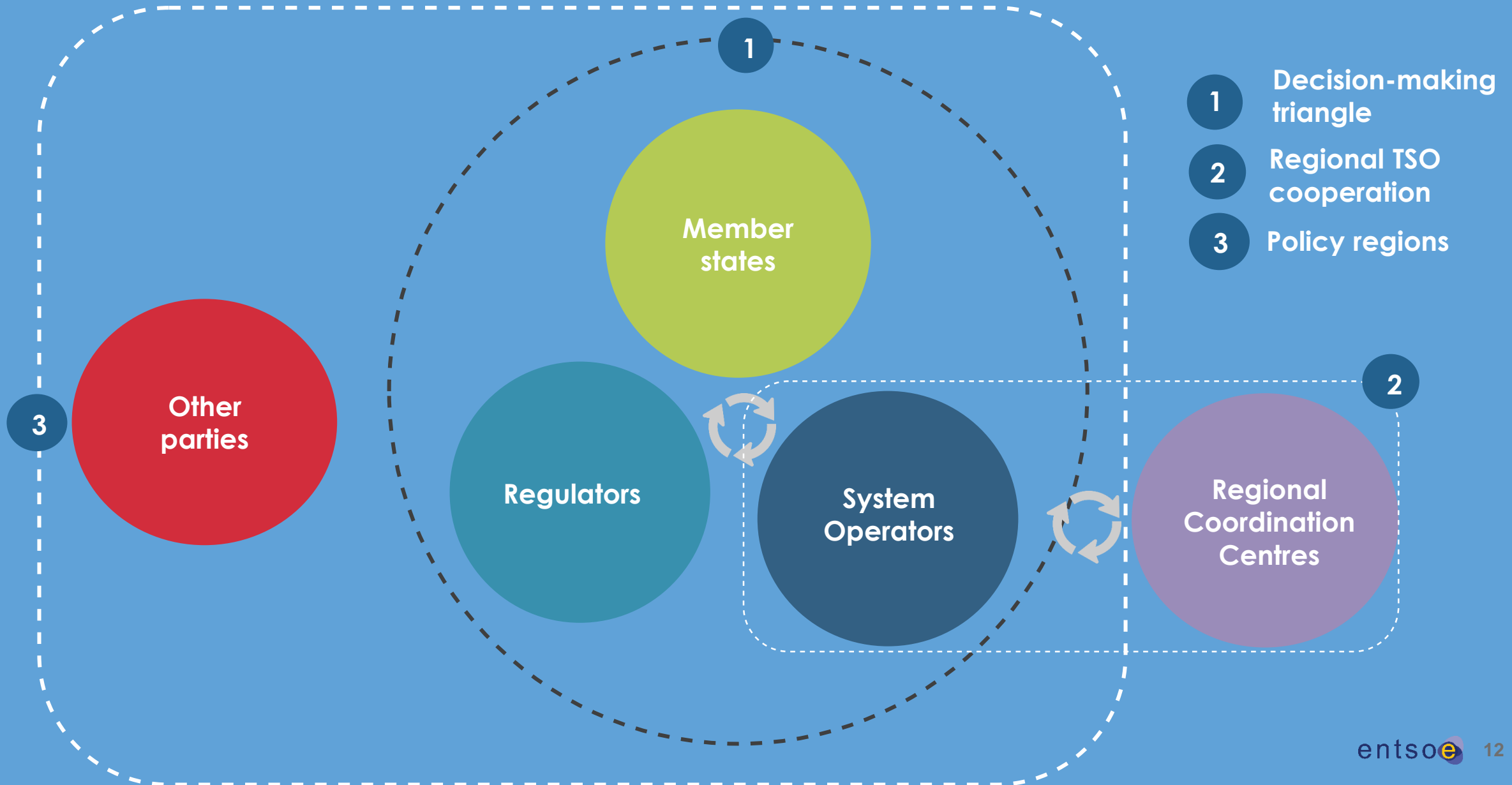
**Note CEP provides for additional Services for Regional Coordinators**

Decisions taken in one timeframe influence decisions taken in other time-frames

# Synchronous Area Framework Agreement (SAFA) for TSOs of Continental Europe



# Future Cooperation and Regional Energy Forums

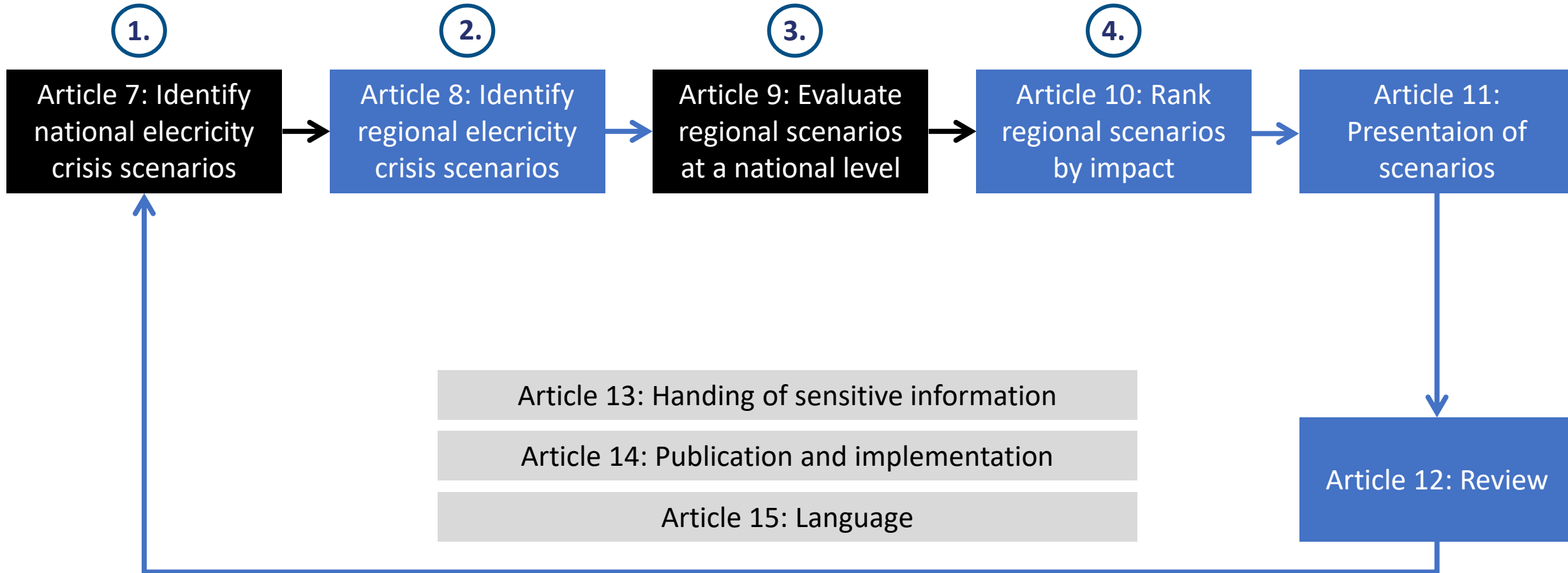


# Back up

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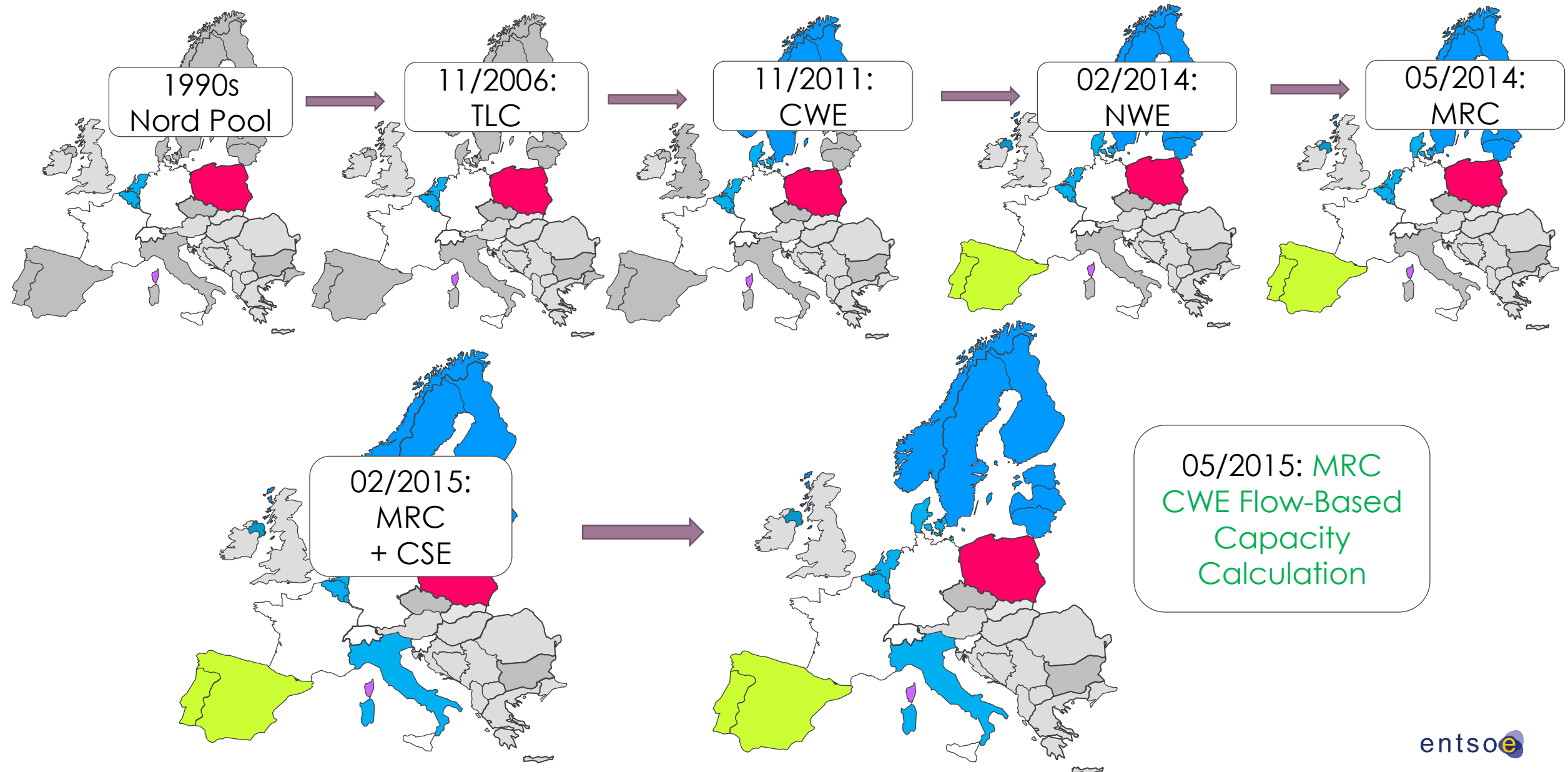
# CEP Risk Preparedness Regulation – *Methodology for Identification of regional electricity crises scenarios*

Key





# 'REGIONALISM' IN THE POWER MARKET: A SUCCESS STORY





# Regional Cooperation – System Operations

## FROM VOLUNTARY TO MANDATORY COORDINATION

### MANDATORY ROLE FOR RSCS

The System Operation Guideline makes operational coordination mandatory through RSCs but TSOs remain responsible for security in their area

### COORDINATED SYSTEM OPERATIONS

RSCs do regional security assessment & propose a list of coordinated actions (SOGL Art 78)

### MONITORING AND REPORTING

ENTSO-E publishes an Annual Report on Regional Coordination (SOGL Art 17)

### COORDINATED EMERGENCY PREPAREDNESS

RSCs assess the consistency of measures taken by TSOs in emergency situations (E&R Art 6)

# Synchronous Area Framework Agreement for Continental Europe (SAFA)

Develop a Synchronous Area Operation Agreement pursuant to the SO GL Article 118.

Provide the necessary agreements with the TSOs not bound by EU law

Replace and supersede the 2005 Multilateral Agreement Operation Handbook (MLA OH)

Scope SO GL and NC ER in their entirety

Settlement rules for the intended and unintended exchange of energy pursuant article 50(3) and article 51(1) of the Electricity Balancing Guideline

Additional contractual arrangements, applicable to all Parties, developed in order to safeguard the operational security of the interconnected electricity system.