

The background of the slide is a composite image. It shows a view of Earth from space, with the planet's curvature and city lights visible. Overlaid on this is a complex network of glowing blue lines and nodes, representing an energy grid or communication network. The lines connect various points across the globe, with some nodes appearing as bright blue spheres.

*System operators & NRAs – new roles  
and cooperation*

TAIEX – Regional workshop

03/04 April 2023, Vienna

# Agenda

- ✓ **New legal framework**
- ✓ **ACER and national regulatory authorities (NRAs)**
- ✓ **Transmission system operators (TSOs)**
- ✓ **Distribution system operators (DSOs)**

# *New legal framework*

# Legal framework

2021

Decision 2021/13/MC-EnC

Directive (EU) 2019/944  
(Electricity Directive)

Regulation (EU) 2019/941  
(Risk Preparedness)

2022

Decision 2022/03/MC-EnC

Procedural Act 2022/01/MC-EnC on Regional  
Market Integration

Regulation (EU) 2019/943 (Electricity  
Regulation)

Regulation (EU) 2019/942 (ACER Regulation)

Regulation (EU) 2016/1719 (FCA)

Regulation (EU) 2015/1222 (CACM)

Regulation (EU) 2017/2195 (EB GL)

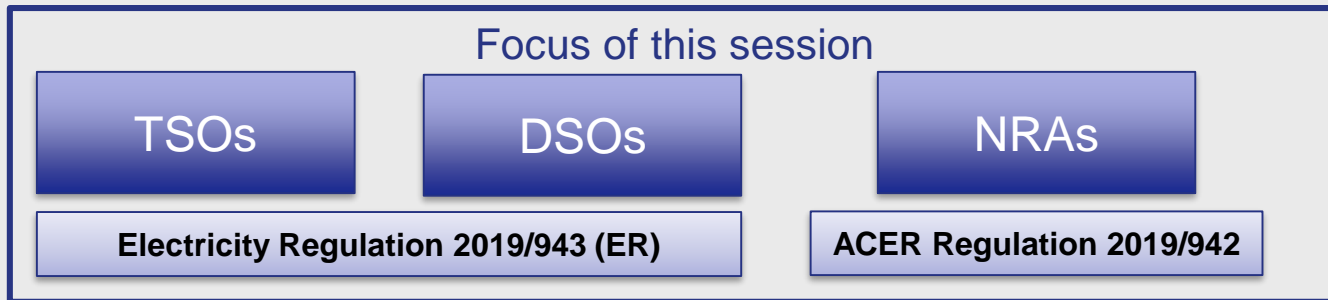
Regulation (EU) 2017/1485 (SO GL)

Regulation (EU) 2017/2196 (E&R NC)

Energy Community Acquis in force

# Procedural Act on Regional Market Integration

- Ensures integration of regional energy markets between EnC CPs and EU MSs
  - level-playing field to be created by reciprocity of rights and obligations
  - cross-border cooperation among regulatory authorities
  - ACER to take decisions on cross-border issues with MSs
  - ENTSO-E to assume similar role for CPs as in EU MSs to ensure coherence and consistency
- Reciprocity of energy sector stakeholders from both CPs and EU MSs: regulatory and other designated authorities, TSOs, DSOs, NEMOs, RCCs
- Entry into force upon adoption

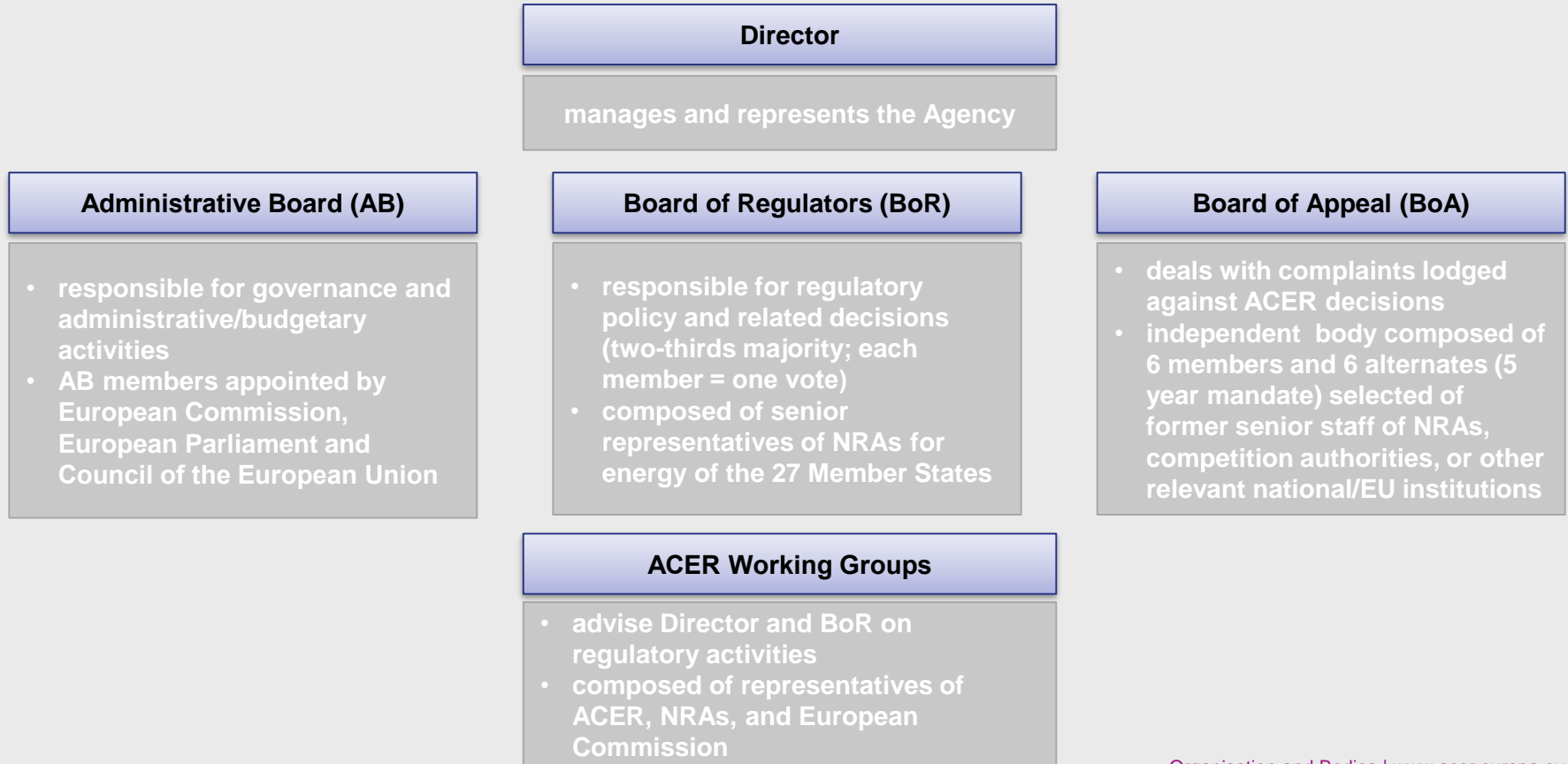


# *ACER and national regulatory authorities (NRAs)*

# ACER Regulation 2019/942

- Article 43 ACER Regulation 2019/942
  - EU: Energy Community Treaty as agreement referred to in Article 43
  - EnC: competences of ACER defined by PA 2022/01/MC-EnC
- Electricity market integration between CPs and EU MSs
  - Requires reciprocal application of electricity package between CPs and EU MSs and respective reciprocal obligations for stakeholders
  - Ensure a single decision-making institution for interfaces between CPs and EU MSs
  - Complementing the role of ECRB for CP-CP interfaces

# ACER's bodies



Organisation and Bodies | [www.acer.europa.eu](http://www.acer.europa.eu)



## **ACER's general tasks** (Art. 3/4 ACER Regulation)

- Relevant stakeholders shall make available information to ACER where necessary to carry out its tasks as defined by the Regulation.
- ACER shall have power to issue decisions on information provision including a time limit.
- ACER shall use confidential information revealed only for the purpose of carrying out the tasks assigned to it.
- ACER shall approve the methodology regarding the use of revenues from congestion income according to Art. 19(4) of the EU Electricity Regulation.
- At its own initiative or at the request of one or more NRAs, ACER shall issue a reasoned opinion/recommendations with regards to the compliance of regional coordination centres (RCCs). In such case NRAs shall take coordinated actions and, if necessary, take measures to remedy non-compliances of RCCs.

# Consultation and transparency *(Art. 14 ACER Regulation)*

- ACER shall publish, on its website, at least the agenda, the background documents and, where appropriate, the minutes of the meetings of the Administrative Board, of the Board of Regulators and of the Board of Appeal.
- When carrying out its tasks, ACER shall consult at an early-stage relevant parties – including ECRB – and inform about its intention, if adopting a decision.
- Before taking any decision, ACER shall set a time limit within which the party concerned may express its views on the matter, taking full account of the urgency, complexity and potential consequences of the matter.
- ACER's decisions shall state the reasons on which they are based for the purpose of allowing an appeal on the merits.

# ACER's individual decision *(Art. 6/28/29 ACER Regulation)*

- ACER shall adopt individual decisions on technical issues where those decisions are provided for in Regulation (EU) 2019/943, Regulation (EC) No 715/2009, Directive (EU) 2019/944 or Directive 2009/73/EC, as adapted and adopted by the Ministerial Council.
- ACER to adopt individual decisions which require a decision by at least two NRAs (and affecting MSs):
  - where NRAs fail to reach agreement within 6 months\* of referral of the case to the last NRA; or
  - on the basis of a joint request from the competent regulatory authorities.
- Competent NRAs may jointly request that the period is extended by up to six months.
- Any natural or legal person can appeal against an individual decision of ACER (no suspensive effect) → if admissible, BoA to confirm or remit to ACER → action for annulment before Court of Justice after exhaustion of appeal procedure

*(\*) or within four months in cases under Article 4(7) of this Regulation or under point (c) of Article (59)(1) or point (f) of Article 62(1) of Directive (EU) 2019/944*

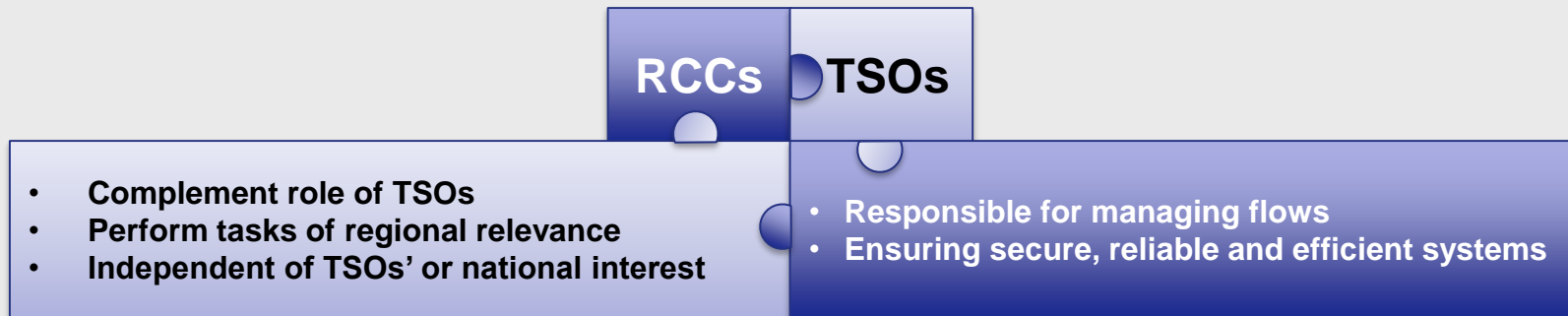
# *Transmission system operators (TSOs)*

# ***TSOs and their cooperation*** (Art. 28 ER)

- TSOs shall cooperate at EnC level through ENTSO-E to
  - promote the completion and functioning of the internal market for electricity;
  - promote cross-zonal trade; and
  - ensure optimal management, coordinated operation and sound technical evolution of the European electricity transmission network.
- If CP TSOs are not members, they shall conclude agreements with ENTSO-E to cover the costs of the tasks performed by ENTSO-E related to them.
- Costs related to activities of ENTSO-E shall be borne by TSOs and taken into account in the calculation of tariffs.
- NRAs shall approve those costs if reasonable and proportionate.

# Regional cooperation of TSOs (Art. 34/35/36 ER)

- TSOs shall establish regional cooperation covering different geographical areas, so-called **system operation regions (SORs)**.
- TSOs shall publish a respective regional investment plan biennially and may take investment decisions based on that regional investment plan.
- TSOs shall participate in **regional coordination centres\* (RCCs)**. In case the control area of the TSO is part of various synchronous areas, it may participate in two RCCs.



(\*) RCCs shall have a legal form referred to in Annex II to Directive (EU) 2017/1132.

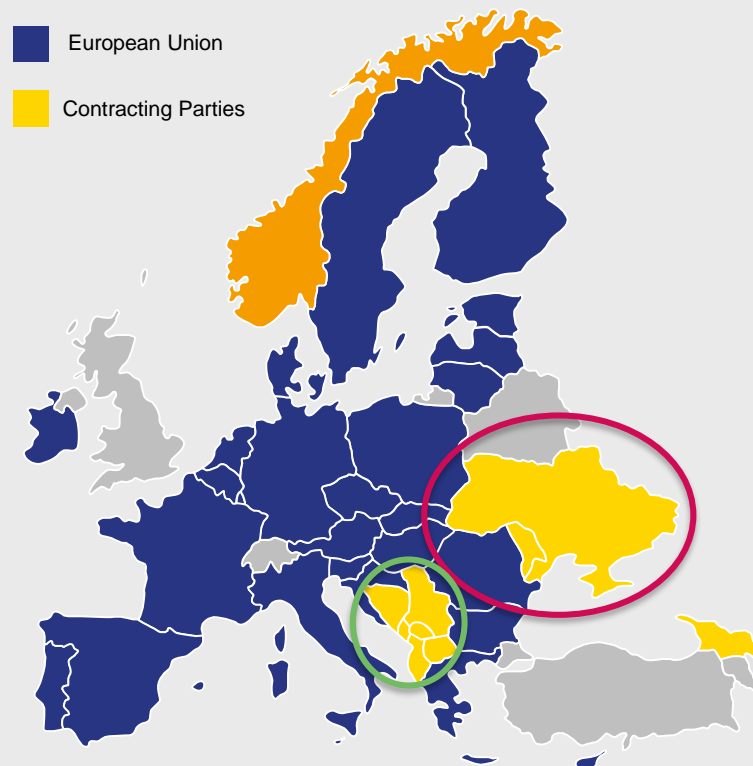
# System operation regions and RCCs *(Annex IV and V of ER)*

## Shadow SEE SOR

- BZ borders between CPs - RCC in EU MS or CP
- BZ borders between MSs and CPs - RCC in Thessaloniki (Greece) or Munich (Germany); unless all concerned neighboring EU TSOs agree to RCC in a CP and a decision according to Art. 35(1) of Electricity Regulation (EU) is adopted until expiry of transposition deadline

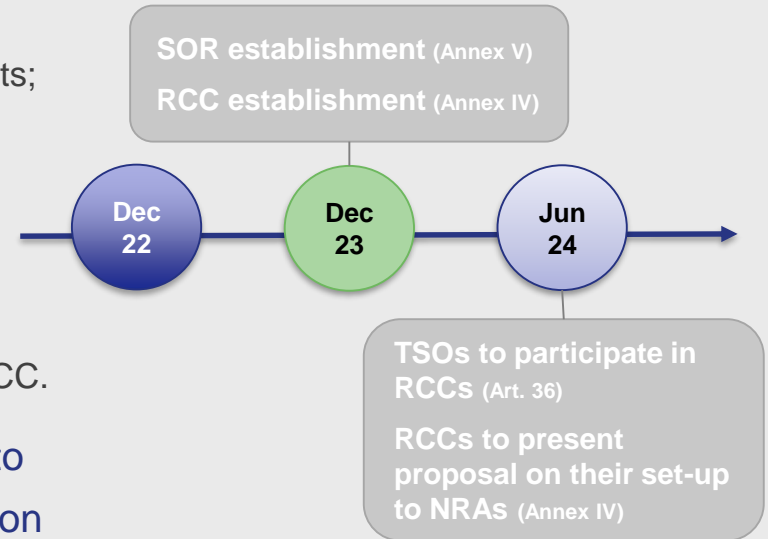
## Eastern Europe SOR = RCC(s) for Central Europe SOR

- Adjustments to SORs: proposal by ENTSO-E according to Art. 36(1) of the Electricity Regulation (EU) to be decided upon by ACER
- Adjustments to RCCs: proposal of all TSOs of the SOR according to Art. 35(1) of the Electricity Regulation (EU) to be decided upon by relevant NRAs



# Implementation of RCCs (Art. 36, Annex IV of ER)

- RCCs' proposal on their set-up (6 months after establishment) shall include
  - organisational, financial and operational arrangements;
  - implementation plan for entry into operation;
  - statutes and rules of procedure of RCCs;
  - description of cooperative processes; and
  - description of arrangements concerning liability of RCC.
- Where activities of RCCs overlap in a SOR, TSOs to decide either for one RCC or for task(s) performed on a rotational basis in the SOR.



● MC Decision on adoption ● Deadline for transposition

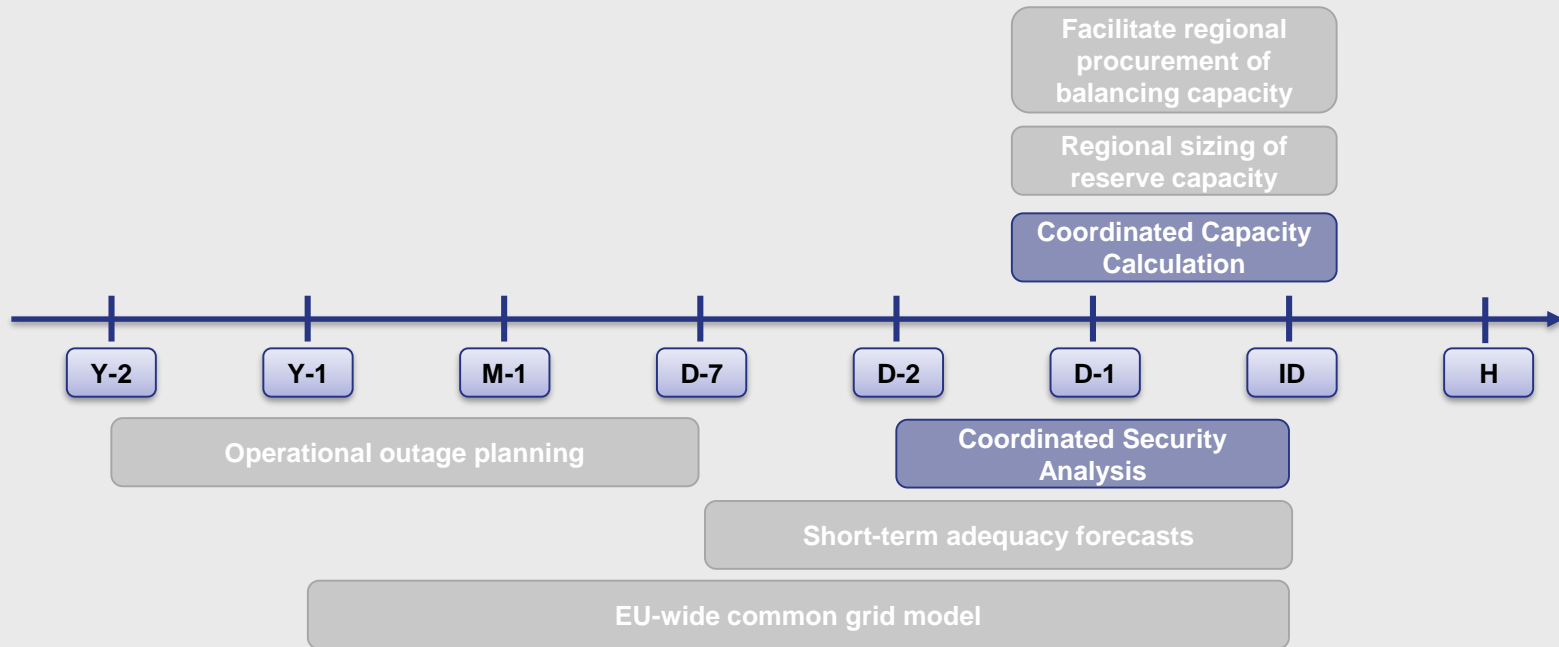


# Structure and set-up of RCCs (Art. 38/39/40/43/44 ER)

- RCCs shall develop cooperative processes to manage day-to-day coordination within and between RCCs based on
  - working arrangements (incl. process for revision) to address planning and operational aspects;
  - procedures to consult TSOs, other RCCs and stakeholders with respect to daily duties and tasks;
  - procedure for adoption of coordinated actions and recommendations.
- Establishment of management board representing all TSOs to adopt measures on governance and monitoring performance.
- TSOs of SOR shall define the organizational structure defining powers/duties of personnel and reporting lines between parts and processes of RCC (optional establishment of regional desks to address sub-regional specifics or to establish regional back-up).

# Overview RCC tasks (Art. 37 and Annex I ER)

Tasks of RCCs not yet covered by network code and guidelines or related methodologies shall be performed based on the related methodology proposed by ENTSO-E and approved by ACER pursuant to Article 37(5) of the Electricity Regulation in the EU.



(\*) This schematic overview only covers most prominent RCC tasks and timeframes.

# RCC tasks (Art. 37 and Annex I ER)

## Support consistency assessments of defence & restoration plans

- Support TSOs when carrying out consistency assessment of defence and restoration plans according to E&R Network Code to identify incompatibilities and propose mitigation measures
- TSOs to assess and take into account such measures

## Support regional restoration

- Support TSOs appointed as frequency leaders and resynchronisation leaders according to the E&R Network Code
- TSOs may request assistance from RCCs if in blackout or restoration state

## Tasks related to seasonal adequacy assessments

- If delegated by ENTSO-E, RCCs to carry out regional adequacy assessments according to methodology defined under RpR

## Tasks related to identification of regional crisis scenarios

- If delegated by ENTSO-E, RCCs to identify regional crisis scenarios according to RpR
- Upon request, support competent authorities, when preparing and carrying out biennial crisis simulations

# RCC tasks (Art. 37 and Annex I ER)

## Analysis of entry capacity for foreign participation in CMs

- Support TSOs when calculating maximum entry capacity available for participation of foreign capacity in capacity mechanisms according to the respective methodology defined under the ER

## Support identification of needs for new/upgrade transmission capacity

- Support TSOs in the identification of need for new transmission capacity, or an upgrade of existing infrastructure or for alternatives
- Basis for the ten-year network development plan

## Regional outage planning coordination

- Carry out regional outage planning according to SO Guideline to coordinate availabilities (detect incompatibilities) and ensure operational security while maximizing cross-zonal capacity

## Regional week-ahead, day-ahead adequacy forecasts

- Carry out week-ahead to least DA regional adequacy assessments according to SO Guideline and based on methodology defined by RpR
- Provide results together with actions to reduce risks to TSOs of SOR and other RCCs

# RCC tasks (Art. 37 and Annex I ER)

## Regional sizing of reserve capacity\*

- Calculation of reserve capacity requirements for SOR (DA and/or ID)
- Determination of minimum amount for each type of reserve
- If necessary, determination of requirements for geographical distribution

## Facilitate regional procurement of balancing capacity

- Support TSOs when determining balancing capacity needs (DA and/or ID)
- Support TSOs in the respective procurement

## Common grid model creation (CGM)

- Set-up of efficient processes to create CGMs for timeframes between year-ahead and DA according to SOGL methodology
- TSOs to appoint one RCC to build the CGM for Europe (rotational basis)

## Coordinated capacity calculation

- Carry out coordinated regional capacity calculation for DA and ID according to CACM GL methodology and based on CGM

## Coordinated security analysis

- Carry out coordinated security analysis for all timeframes between year-ahead and ID according to SO Guidelines and based on CGMs (results to be shared with at least all TSOs in the SOR)
- In case of possible constraints, RCCs shall design remedial actions

(\*) means the amount of frequency containment reserves, frequency restoration reserves or replacement reserves that needs to be available to the TSO

# RCC tasks (Art. 37 and Annex I ER)

## Support optimization of inter-TSO settlements

- TSOs of SOR may jointly decide to receive support from the RCC in administering financial flows related to settlement involving more than two TSOs (e.g. redispatch, congestion income)

## Post-operation and post-disturbances analysis/reporting

- Prepare and publish reports on disturbances incl. recommendations to prevent future incidents (involving NRAs upon their request).
- ECRB/ACER may issue recommendations to prevent incidents

## Training and certification of staff

- Prepare and carry out training and certification focusing on regional system operation of RCCs' personnel

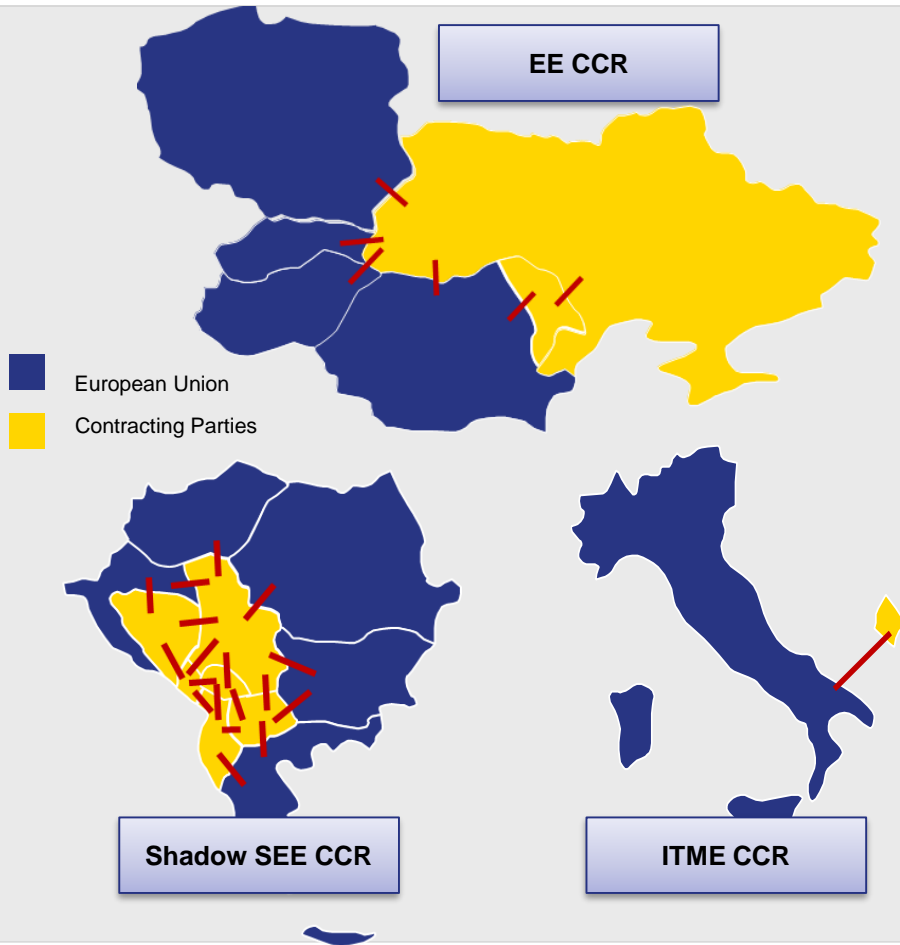
# RCCs' coordinated actions & recommendations (Art. 42 ER)

- TSOs of SOR shall develop a proposal for adoption and revision of coordinated actions and recommendations of RCCs in consultation with relevant TSOs of adjacent SORs.
- Review of coordinated actions/recommendations can be triggered by one or more TSOs of the SOR (no suspensive effect) – RCCs to confirm or modify.

Coordinated actions	Recommendations
<b>Capacity calculation and coordinated security analysis</b>	<b>other RCC tasks</b>
<ul style="list-style-type: none"><li>• TSOs shall implement except where operational security limits are violated</li><li>• In case of deviation, TSOs to report on detailed reasons to RCC and other TSOs in SOR without undue delay.</li><li>• RCC to assess impact and may propose different measures</li></ul>	<ul style="list-style-type: none"><li>• In case of deviation, TSOs to submit justification to RCCs and other TSOs in SOR without undue delay.</li></ul>

(\*) Upon joint agreement, MSs or CPs may grant competence for issuing coordinated actions to the RCCs for other tasks.

# Digression: Capacity calculation regions (CCRs)



- CCRs group bidding zone borders among which capacity calculation is coordinated
- CCRs are established by Annex I EnC CACM
- Art. 3 and 5 of Annex I to EnC CACM: CPs of Shadow SEE and EE CCR to conclude cooperation agreements with neighboring TSOs of MSs by 6 months after entry into force (= 15 June 2023)
- Art. 1(2) of Annex I to EnC CACM: Amendments only via pan-EU CCR methodology submitted by EU TSOs in consultation with CP TSOs and decided upon by ACER
- Amendments to CCRs directly result in according amendments of SORs



## ***RCCs and capacity calculation*** (Art. 16 ER)

- RCCs shall calculate cross-zonal capacities respecting operational security limits and using data from TSOs incl. technical availability of remedial actions (not load shedding).
- If RCCs conclude that available remedial actions in/between CCR(s) are not sufficient to reach minimum capacities while respecting operational security limits, they may, as a measure of last resort, set out coordinated actions reducing cross-zonal capacities.
- TSOs may deviate from coordinated actions only in accordance with Article 42 ER.
- Every three months RCCs shall submit a report to NRAs, ECRB/ACER on reductions and deviations from coordinated actions of TSOs. They shall assess incidences and make recommendations.
- If ECRB/ACER concludes that deviations are not compliant or of structural nature it shall submit an opinion to NRAs, EC and EnCS. Relevant NRAs shall take appropriate measures against TSOs/RCCs, structural problems shall be addressed in action plans.

## ***Monitoring and reporting*** (Art. 41/46 ER)

- RCCs shall operate in full transparency towards stakeholders and the public.
- RCCs shall establish a process for the continuous monitoring of their operations, coordinated actions/recommendations and TSOs' implementation and effectiveness and efficiency of their tasks.
- Annual report to ENTSO-E, ACER, ECRB, NRAs in the SOR and the SoS Group including identification of shortcomings.
- NRAs may propose measures based on the reporting to address shortcomings.
- Reporting on costs to ECRB, or where applicable, ACER and NRAs of the SOR

# *Distribution system operators*

# ***DSOs and their cooperation*** (Art. 52 ER)

- DSOs shall cooperate through **Coordination Group of the EnC DSOs** established by Procedural Act No 2018/01/MC-EnC to promote
  - completion and functioning of the single market for electricity and
  - optimal management and a coordinated operation of distribution and transmission systems.
- As an expert entity working for the common Energy Community interest, the **Coordination Group of the EnC DSOs** shall neither represent particular interests nor seek to influence the decision-making process to promote specific interests.
- EnC DSOs shall be represented by the EnCS in all activities aimed to enhance cooperation with the EU DSO entity.
- EnC DSOs may join the EU DSO entity individually based on common agreement.

# **EU DSO Entity** (Art. 55 EU ER)

- EU DSO Entity has been legally set up by Electricity Regulation (EU) 2019/943 to foster cooperation between all DSOs at European level as an entity focusing on technical issues in a neutral manner.
- The main tasks of the EU DSO Entity are:
  - promoting operation and planning of distribution networks in coordination with transmission;
  - facilitating integration of RES, distributed generation and other resources e.g. energy storage;
  - facilitating demand side flexibility and response and distribution grid users' access to markets;
  - contributing to digitalisation of distribution systems (smart grids and intelligent metering systems);
  - supporting development of data management, cyber security and data protection in cooperation with relevant authorities and regulated entities;
  - participating in development of network codes which are relevant to operation and planning of distribution grids.

# ***DSOs/TSO cooperation (Art. 57 ER)***

- DSOs and TSOs shall cooperate with regards to planning and operating their networks
- To ensure cost-efficient, secure and reliable development and operation of networks, DSOs and TSOs shall exchange all necessary information and data regarding
  - performance of generation assets and demand side response;
  - daily operation of network; and
  - long-term planning of network investments.
- DSOs and TSOs shall cooperate to achieve coordinated access to resources such as distributed generation, energy storage or demand response that may support particular needs of both DSOs and TSOs

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*Thank you  
for your attention!*

<https://www.energy-community.org>

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