

# Coordinated Capacity Calculation & Security Analysis in SEE

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Security of Supply Coordination Group, Energy Community, Vienna, 14. December 2021

# Background & highlights

- Why Fokus on Coordinated Capacity Calculation (CCC) and Coordinated Security Analysis (CSA) in SEE?
  - ➔ 8. January 2021 incident & separation of Continental Europe synchronous area
  - ➔ Significance of South East Europe for security and resilience of the whole Continent
- Recommendations & lessons learned
- Feasibility of technical / organisational solution by TSOs and Regional Security Coordinators
- Follow-up / what we need: region-wide framework and compatibility with EU acuis communautaire

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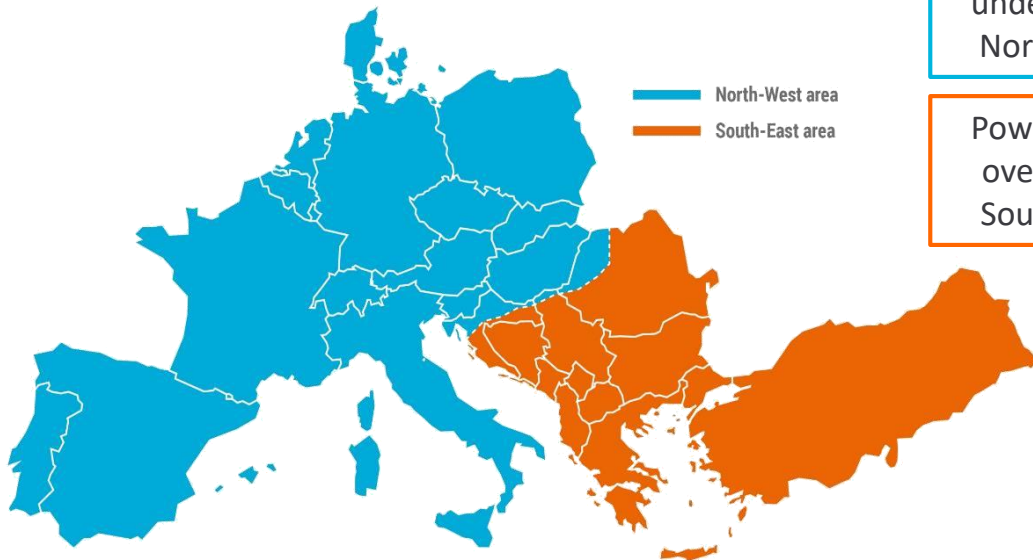
# 08. January 2021 incident – short summary

**Trigger:** topology in the Ernestinovo substation leads to first tripping, following system instability and cascade of further trippings lead to the separation

**Consequences:** two frequency islands, but virtually all customers remain connected due to fast and coordinated emergency measures of TSOs

**Key recommendations:** regionally coordinated capacity and security analysis, system stability measures, adequate management of imbalance netting cooperations

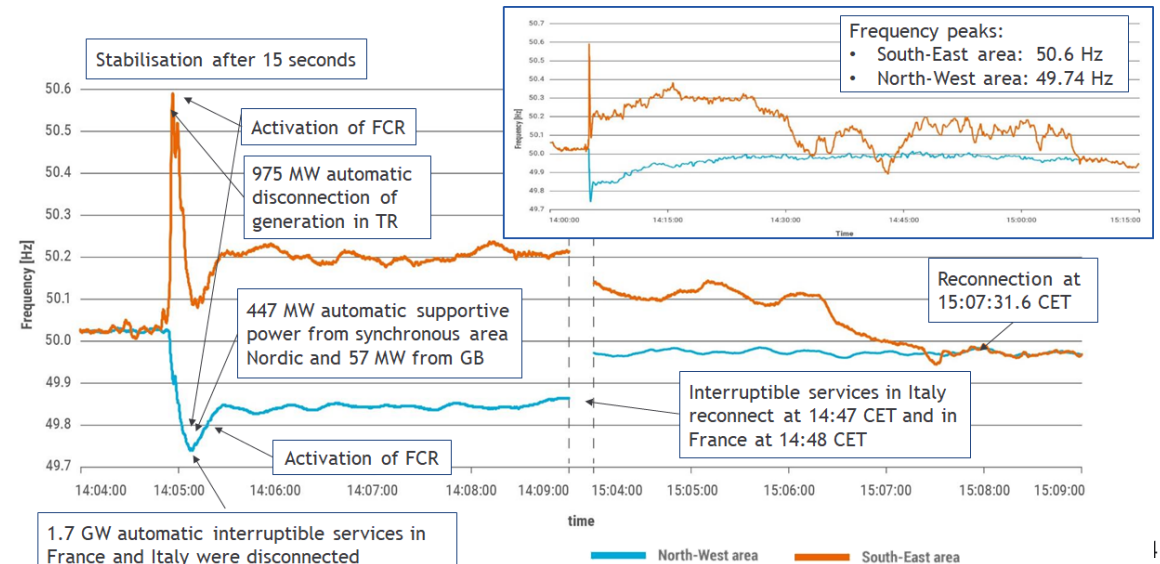
Sequence of events / trippings



Power shortage and underfrequency in Nord-West island

Power surplus and overfrequency in South-East island

Frequency trajectory & restoration



## 08. January 2021 incident – simulated animation

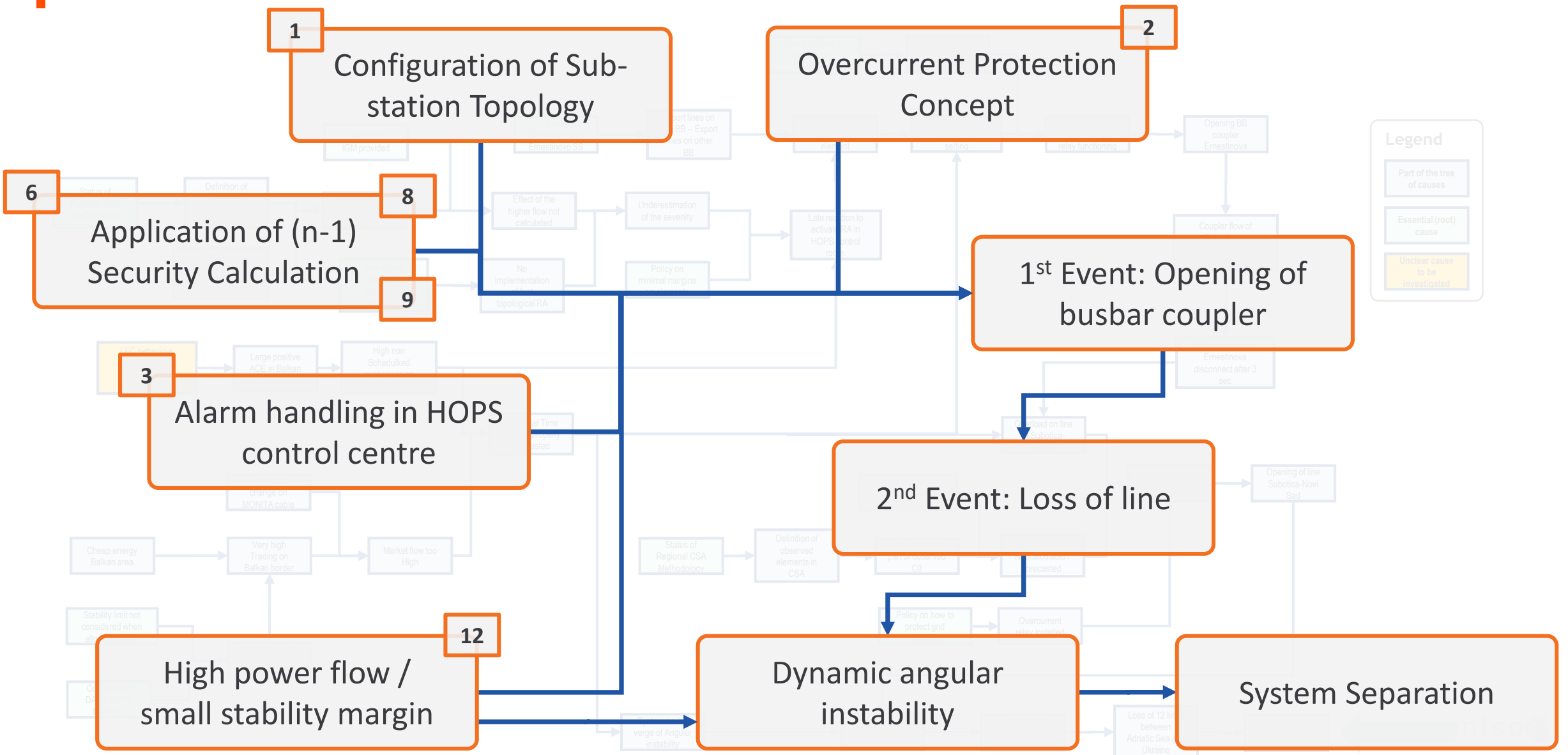


<https://www.youtube.com/watch?v=4LD-0BfL6ol>

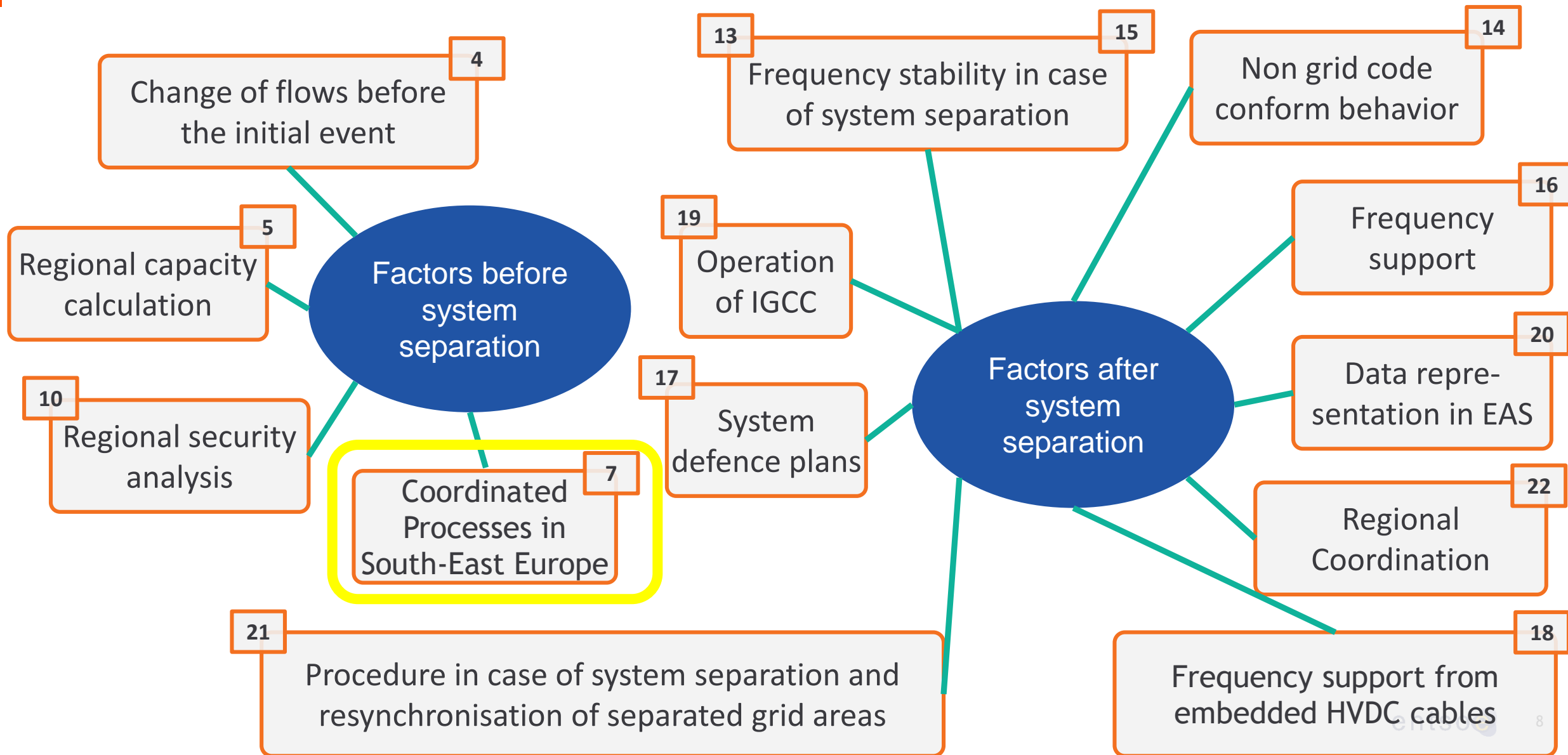
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# Derivation of the root causes of the incident



# Key recommendations (numbering from the Final Report)





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# What is needed: coordination, technology & organisation

- Coordinated Security Analysis – „(N-1)“ – is a key precondition for Coordinated Capacity Calculation
- Coordinated Capacity Calculation – be it flow-based or NTC-based – is a pre-requisite for effective market and secure system operation
- We already have a rich experience in organisation and implementation of regional coordination with two RSCs in one Region like it is the case in SEE → CORESO and TSCNET in the CCR CORE
- We now also have Common Grid Model for the whole Continental Europe in live operation since 08. December 2021 → here also all SEE TSOs integrate their Individual Grid Models and SEE RSCs operate providing services to their TSOs  
<https://www.entsoe.eu/news/2021/12/09/go-live-of-the-common-grid-model/>

## Recommendation concerning CSA and CCC in SEE

ID	Recommendation	Justification	Responsible
<b>Coordinated Processes in South-East Europe</b>			
R-7	The possibility of developing a more <b>sustainable solution for CCC and CSA for non-EU TSOs in the Balkans area and between these TSOs and neighbouring EU TSOs</b> should be assessed in order to increase the system security and ensure a proper level of TSOs cooperation.	Currently non-EU TSOs in the Balkans area do not belong to any CCR, despite the flows within them and within neighbouring EU TSOs having an influence on the CCC in both the Core and SEE CCRs. The capacity calculation is usually left to bilateral agreements without a proper coordination among the different borders (both non-EU and EU) and this impacts the system security of the entire SA.	TSOs and NRAs



<https://www.youtube.com/watch?v=0bm4hqINTyI>

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# What is needed: legislative & regulatory framework

- The TSOs and Regional Security Coordinators (RSCs) of Europe are technically equipped and capable of developing and implementing all necessary regionally-coordinated services
- This applies of course also to the TSOs and RSCs of SEE Region, independently of EU or non-EU
- The Common Grid Model – in live-operation since 08. December 2021 – is the key technical pre-condition which has now been realised, delivered and used / serviced by ALL European TSOs and RSCs
- We need a stable and harmonized legal and regulatory framework for all TSOs and all RSCs from SEE

***We hope for strong support  
and active collaboration of Energy Community Secretariat and all its Contracting Parties,  
towards achieving a common acquis communautaire and framework  
for all the TSOs and RSCs in SEE as soon as possible,  
in order to facilitate reduction of risks of comparable incidents in the future***

**Thank you for your attention!**

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