Market integration and regionalization

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Benefits of market integration

What’s at Stake?
16-43 billion euros in social welfare benefits by 2030

- Full harmonisation of wholesale markets: < €13 bn
- Regional resource adequacy assessment: < €8 bn, < €3 bn
- Regional balancing: < €3 bn

Focus of this presentation

- Interconnector Capacity Allocation (Art. 14)
- Regional Operational/Coordination/Security Centres (Art. 31-43)
- Resource Adequacy Assessments (Art. 19-23)
Maximising interconnection capacity made available to the market

Article 14 - both EP and Council amendments a step backwards?

I/C capacity only reduced to maintain security, or where it is not economically beneficial at a Union level

- Replicates existing legal position, but adds an economic caveat, placing the interests of European consumers on an equal footing to those of an individual MS.
- Onus on TSOs to demonstrate the economic or security need for restrictions

Starting in 2020, allows a linear progression (from highest or average of last 3 years) to 75% of thermal capacity after deducting N-1 by 2025 (Flow based)

- Amendments row back from existing legal requirements
- Arguably incentivizes a “do nothing” approach until 2020
- Trajectory Introduces unnecessary delay
- “One size fits all” minimum figure removes onus on TSOs to demonstrate economic case for restrictions
- Council amendment could be significantly more restrictive (RAM at the moment a small proportion of thermal capacity)
Conclusions / recommendations

Build on, rather than row back from, existing legislation and CACM:

- Maximise I/C capacity made available to the market ASAP
- Drop the 75% "one size fits all" approach
- Continue with CACM approach
ROCs, coordination and security centers – context

- Regional Operational Centres (ROCs) intended to enhance regional coordination in near real-time activities and “compliment the role of TSOs by performing functions of regional relevance”
- ROCs will play a crucial role in delivering the operational services necessary to realise the benefits of market integration
## Regional Operation, Coordination & Security Centers

<table>
<thead>
<tr>
<th>RAP Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balancing</strong></td>
<td>Binding decisions on sizing of regional reserve, facilitates balancing capacity procurement</td>
</tr>
<tr>
<td><strong>Capacity allocation &amp; security analysis</strong></td>
<td>Binding decisions on cross-border capacity and security analysis</td>
</tr>
<tr>
<td><strong>Cross border participation in CMs</strong></td>
<td>Binding decisions on max entry capacity for external resources</td>
</tr>
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<td><strong>Balancing</strong></td>
<td>Recommendations on sizing of regional reserve requirements and calculates regional balancing capacity</td>
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<td>Binding decisions on cross-border capacity and security analysis</td>
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<td><strong>Cross border participation in CMs</strong></td>
<td>MS to determine max entry capacity for external resources, RCCs to provide recommendation</td>
</tr>
<tr>
<td><strong>Balancing</strong></td>
<td>No RSC involvement in sizing regional reserve or balancing capacity but could facilitate procurement</td>
</tr>
<tr>
<td><strong>Capacity allocation &amp; security analysis</strong></td>
<td>Sets out coordinated actions on cross-border capacity and security analysis</td>
</tr>
<tr>
<td><strong>Cross border participation in CMs</strong></td>
<td>MS to determine max entry capacity for external resources, RSC to provide recommendation</td>
</tr>
</tbody>
</table>
Conclusions / recommendations

• Delivering market integration benefits requires more regional approach to system operation.
• ROCs/RCCs/RSCs are in an ideal position to deliver a more regional approach.
Resource adequacy – context

- A regional, coordinated, approach to resource adequacy can deliver supply reliability at least-cost
  - Netting MS capacity surpluses and deficits
  - Take advantage of demand and resources diversity
- Reduced capacity requirements and investment
Resource adequacy assessment & capacity mechanisms

**Resource adequacy assessment**
- Monitor using Entso-e’s ERAA methodology, run by Entso-e

**CRM Implementation**
- No CRM unless ERAA indicates a problem

**Resource adequacy assessment**
- Monitor using Entso-e’s ERAA methodology, run by Entso-e
- To include a “worst case” scenario to reflect rare events

**CRM Implementation**
- No CRM unless ERAA unless indicates a problem, but worst-case scenario could justify a SR

**Resource adequacy assessment**
- Monitor using Entso-e’s ERAA methodology, run by Entso-e, but MS can also run national assessments using ERAA methodology and adding national scenarios and assumptions.

**CRM Implementation**
- MS can implement a CRM based on national assessments, but must have regard to ERAA results, Entso-e’s and ACER opinions
Conclusions / recommendations

• The Commission’s “Union-level” adequacy assessment may be too ambitious – regional assessments would be a prudent and reasonable complement

• Allowing national approach to resource adequacy places benefits of regionalisation at risk

• ROCs ideally placed to facilitate a regional approach to resource adequacy assessment
• EU & regional assessment consistent → MS take action as appropriate
• EU & regional assessment contradictory → MS to take decision after consulting with regional MS/ACER
• **Key:** consistency of methodology
Additional Resources

- Realizing the benefits of European market integration (policy brief)
- Regional cooperation and integrated energy markets at risk (blog)
- EU must take regionalisation of electricity markets a step further (blog)
- Regional Operational Centres: A review of the Commission's proposal and recommendations for improvement (report)
- Resource adequacy, regionalisation, demand response
- If Europe wants integrated markets, it should take the leap to regional grids (blog)
About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org

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Benefits of regionalisation

- Pool risk
- Integrate renewables
- Balance over wider areas
- Access to cheapest resources
- Reduce capacity/investment needs
Comparison of RSCI / RSC / ROC activities

**RSCIs (Voluntary)**
- Regional security coordination services
- Overview of power flows at regional level

**RSCI functions +**
- Short-term adequacy analyses
- Outage coordination
- Common grid model
- Coordinated capacity calculation
- Defence & restoration plan consistency assessment

**RSCs (Network Codes)**

**ROCs (Recast Elec. Reg.)**
- RSC functions +
  - Regional sizing of balancing reserves, plus procurement platforms
  - Role in assessing external generation contribution to CMs
  - If delegated, identifying regional crisis scenarios
  - Coordination in crisis situations
  - Training and certification

*Source: European Commission DG ENER*
Commission's proposal – governance

Managing Board (TSO Members)

NRA Groupings

ACER

ROCs
Improving the Commission’s proposal – Governance

• Maintaining the ROCs decision-making authority
• Ensuring systematic reporting when TSOs do not follow ROCs recommendations and decisions
• Establishing ROCS as entities independent of any national interest and with a clear regional focus
• Ensuring European oversight of the ROCs and enhancing cooperation at regulatory level through ACER
Balancing prices

Figure 3. Difference in upward balancing regulation energy price and day-ahead energy price, 2016

Based on: ACER and CEER. (2017). Annual report on the results of monitoring the internal electricity and gas markets in 2016; and author’s own research.
Security of supply

Figure iii: Treatment of interconnectors in national generation adequacy assessments, in Europe – 2016

Source: ACER 2017
<table>
<thead>
<tr>
<th>Topic</th>
<th>COM proposal</th>
<th>EP position</th>
<th>Council position</th>
<th>Desirable Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROCs - functions</td>
<td>- ROCs to have decision-making powers for: i) capacity allocation, ii) security analysis</td>
<td>- Both institutions retained the decision making powers for the two functions, although the Council has renamed to “coordinated actions”</td>
<td>- Institutions in agreement in principle. Reenter “decision-making” text to avoid any misunderstandings</td>
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<tr>
<td>ROCs - Functions</td>
<td>- ROCs to have decision making powers for calculating and max entry capacity for the participation of foreign capacity in CMs and help with facilitating regional balancing</td>
<td>- ROCs to provide recommendation for calculating regional balancing and max maximum entry capacity for the participation of foreign capacity in CMs</td>
<td>- No ROCs involvement in calculating regional balancing, but could facilitate - ROCs to provide advice for maximum entry capacity for the participation of foreign capacity in CMs</td>
<td>- ROCs to provide recommendation for both regional balancing, including facilitating regional balancing, and max foreign capacity participation in CMs</td>
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</tbody>
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## ROCs (2)

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<th>Desirable outcome</th>
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<tr>
<td>ROCs - Establishment</td>
<td>TSOs have to establish ROCs by 2021</td>
<td>TSOs have to establish ROCs by 2021, incl. where RSCs don’t exist</td>
<td>RSCs to start operations by 2025 or earlier if region MSs agree</td>
<td>Retain original text – support EP (High Priority)</td>
</tr>
<tr>
<td>ROCs - monitoring</td>
<td>TSOs to report instances where they don’t follow ROCs instruction</td>
<td>- Obligation on TSOs to justify why they depart from RCCs’ instruction</td>
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<td>- Retain EP/Council text</td>
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<td></td>
<td></td>
<td>- ROCs to continuously monitor and report especially on TSo deviations</td>
<td></td>
<td>- Increased transparency in EP text</td>
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<td>ROCs deviations</td>
<td>- TSOs can deviate from ROCs instructions if safety compromised - too loose</td>
<td>- TSOs can only deviate if there is an operational security concern as defined in network codes</td>
<td></td>
<td>- Retain EP/Council text</td>
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<td>ROCs – establishment,</td>
<td>- ROCs responsible for developing founding docs (e.g. statuses), working</td>
<td>Power is shifting towards TSOs – more power in establishing founding docs,</td>
<td></td>
<td>- Ensure checks and balances are in place so that TSOs do not abuse their power</td>
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<tr>
<td>cooperation,</td>
<td>arrangements, etc.</td>
<td>internal structures, etc.</td>
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