

CACM 2.0 Amendment Advocacy Report

Position paper following the consultation on amendments proposed by ACER to the Capacity Allocation and Congestion Management guidelines

February 2021

Foreword

- These slides have been built on the basis of the close interaction with ACER during 2021 and have been updated based on the recommendation issued on the 21 December.
- TSOs will provide additional views during the EC consultation and commit to be available during the comitology process.

CACM amendments on capacity calculation



Capacity calculation

Executive summary

The enforcement of the **70% minimum cross-zonal capacity available for trade up to the intraday**, requires offering “virtual capacity” to market participants with little to no time to perform remedial actions. Since TSOs are responsible to maintain operational security, the minimum capacity requirement will in reality be offset to maintain operational security. TSOs call upon NRAs / ACER / EC to investigate alternative solutions, which better balance market needs and system security.

The CCR redefinition introduced with amendments, stems from ACER’s anticipation that a future CCR determination assessment will induce a change in CCR set-up. It is fundamental that TSOs and their NRAs are able to assess and choose the most efficient CCR configuration on the basis of economic and governance-related criteria. Moreover, the concept of BZBs in multiple CCRs must take into account the impact on the implementation of other Guidelines, in particular FCA and SO GL

The distinction between **3rd countries flows** and EU flows in the implementation of the 70% target would lead to even more virtual capacity being offered. Hence TSOs strongly call for a reasonable approach to keep the status quo for the consideration of 3rd countries in the EU processes, at least where local arrangements are already in place and/or initiatives exist to develop them.

Applying **flow reliability margin instead of total reliability margin in CCRs applying the cNTC approach** will be burdensome, might not bring additional benefits and would be unnecessary for those CCRs switching to flow-based. Therefore, TSOs support option 2, where cNTC CCRs assess this through a CBA.

TSOs understand in the context of the **Bidding Zones review** the necessity for the new requirement in article 33.3 (d) of bidding zones being able to meet the energy transition targets. However, the evaluation of cost efficiencies, in particular of investments, is the **responsibility of the national regulatory authorities**. Furthermore, the newly required flow decomposition analysis in article 34.2 (c) imposes a very rigid and potentially infeasible condition for the Bidding Zone Technical Report.

Capacity calculation

70% in intraday

ACER's recommendation implies that the 70% cross-zonal capacity availability for trade applies to the intraday timeframe

CACM today

No provisions

Since the enactment of CACM Regulation, Europe's Clean Energy Package (CEP) has set a binding minimum 70% target for electricity interconnector capacity for cross-zonal trading (the 'minimum 70% target'), to be met by all Transmission System Operators (TSOs).

So far, the focus has been on providing the 70% requirement for electricity trading in the day-ahead market.

Revised CACM

Article 26.3:

- Capacity calculation methodologies “(...) shall transpose the requirements regarding the minimum level of available capacity for cross-zonal trade pursuant to Article 16(8) of Regulation 2019/943, (...)”. This would apply to both day-ahead and intraday.

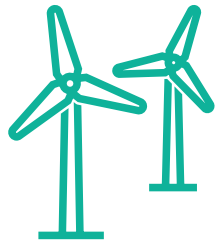
Article 32:

- ACER introduces a dedicated step in the calculation process to implement the 70% requirement also in intraday.

Capacity calculation

70% in intraday

ACER's recommendation stems from the necessity to enable cross-zonal exchanges during the intraday timeframe



Providing cross-border capacity in intraday is key to enable the cost-efficient integration of increasing volumes of RES generation

Day-ahead

Intraday

The current market design fosters low/zero capacities in intraday. The priority is given to the day-ahead market since offering virtual capacity is required to meet the target, which implies to set up remedial actions.

TSOs understand the increasing importance of the intraday market to integrate RES generation. However, the capacity cannot be increased above the security limits

Capacity calculation

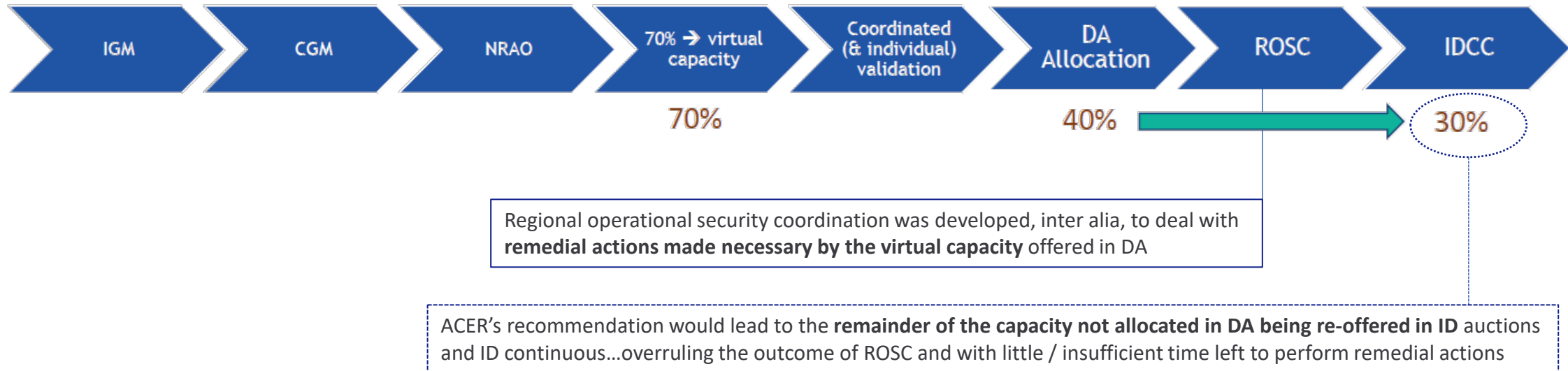
70% in intraday

TSOs often need to offer virtual capacity to meet the 70% requirement

TSOs often meet the minimum requirement for cross-zonal capacity for trade* through offering “virtual capacity” to the day-ahead market (the physical available capacity being lower)



Any virtual capacity offered increases the need for TSOs to intervene to compensate the market through (costly) remedial actions



*70% or applicable value through action plan, derogation

Capacity calculation

70% in intraday

ACER's recommendation will not lead to further capacity being available for trade in the intraday timeframe

Day-ahead



In DA, meeting the 70% target will shift the DA-market away from the physical realities, requiring remedial actions to be applied to maintain the system within operational security limits



ROSC methodology developed to answer increased need for remedial action in a coordinated manner.



When the day-ahead clears with an allocation of cross-zonal capacity requiring virtual capacity, TSOs have enough time to implement remedial actions, and to validate the increase of virtual capacities.



Remedial actions performed to compensate for virtual capacity, even coordinated, equals additional costs for the system

Intraday

Antagonistic requirements: TSOs are responsible to maintain operational security. The minimum capacity requirement will in reality be offset to maintain operational security.

ROSC methodology also applies to intraday, to ensure coordination of remedial actions.

TSOs cannot determine, choose and perform costly remedial actions after IDCZGCT** i.e. within 1 hour before real-time in a coordinated way

ACER's recommendation requires additional costs for performing remedial actions also during and after intraday

*70% or applicable value through action plan, derogation

** Intraday Cross-zonal Gate Closure Time, time at which the allocation of cross-zonal capacity is no longer permitted during the intraday trading session

Capacity calculation

70% in intraday

Conclusions

- TSOs acknowledge the need to increase cross-zonal capacity in Intraday, however ACER's recommendation is not giving a proper toolkit and will in practice not increase ID capacities since it contradicts TSOs' responsibility of guaranteeing the safe operations of the grid.
- **Virtual margins are not a valid fix for intraday:**
 - The enforcement of the 70% requirement up to the intraday timeframe will introduce a **severe operational risk**. There is no time to perform a coordinated process to alleviate congestions through remedial actions.
 - TSOs can not meet the minimum capacity requirement if they anticipate no possibility to relieve the congestion as this would **contradict TSOs obligation to maintain operational security**.
- A bidding zone review needs to be performed pursuant to the Electricity Regulation. However, it can be a long and complex process which will not entirely solve the issues associated with providing the 70% margin (and a Member State can decide to continue to rely on virtual margins cf. CEP Recital 31).
- **A more flexible approach and less risky process is needed.** TSOs call upon NRAs / ACER / EC to investigate **alternative solutions, which better balance market and system needs**. Amongst others, solutions like an **advanced zonal model** (allowing to close the gap between markets and physics by integrating remedial actions into the allocation) or splitting the 70% in DA/ID could be further investigated.

Capacity calculation

CCR redefinition

ACER's recommendation formalizes economic efficiency criteria for determination of CCRs, and introduces a complex concept where 1 bidding zone border may be assigned to 2 CCRs

CACM today

Article 15:

- TSOs propose to NRAs a configuration for capacity calculation regions ("CCR"), considering that **each bidding zone border ("BZB")** should be assigned **to one CCR**
- TSOs participate in each CCR where they have a BZB
- Adjoining CCRs applying flow-based calculation for cross-border capacity are interconnected, they should be merged after a positive cost-benefit analysis

Article 29:

- Principles and steps of cross-zonal capacity calculation in each CCR include distinct provisions for regional coordination centres pertaining to CCRs using flow-based ("FB") calculation and those using coordinated Net Transfer Capacity ("cNTC")

Revised CACM - Article 23

- *"Exceptionally, a bidding zone border may be assigned to two CCRs if such bidding zone border connects two CCRs and consist of:*
 - *i. high-voltage direct current interconnector(s)*
 - *ii. alternating current interconnector(s) on which physical flows are not significantly impacted by cross-zonal electricity exchanges on any other bidding zone border;"*
- *"At least the TSOs that operate interconnectors on a given bidding zone border as well as TSOs having internal network elements directly connected to such interconnectors shall be assigned to such bidding zone border. As exception to this rule:*
 - *i. TSOs not having obligations pursuant to Article 1.3 shall be excluded from the assignment to a capacity calculation region and the respective bidding zone borders of that region;*
 - *ii. The TSOs not operating any interconnectors or internal network elements in the onshore territory of bidding zones included in the capacity calculation region shall be excluded from such capacity calculation region and the respective bidding zone borders of that region."*

Capacity calculation

CCR redefinition

ACER's recommendation anticipates a future CCR determination assessment will induce a change to the CCR set-up. From TSOs perspective this is not a given outcome. Aside from the economic efficiency criteria, many practical considerations may surface with a possible application of the "1 BZB assigned to 2 CCRs" concept.

Possible application of the new provisions on CCR determination

Dissolution:

- Hansa CCR

Mergers:

- Nordic CCR includes Hansa BZBs, and Baltic Cable TSO, but does not include Continental TSOs
- Core CCR includes Hansa BZBs, and Baltic Cable TSO, but does not include Nordic TSOs
- SEE CCR includes GR-IT BZB, but does not include Terna

Reduction:

- GRIT CCR: exclude ADMIE – becomes IT CCR



Burdensome organisational arrangements for TSOs and NRAs involved in the operation of BZB pertaining to multiple CCRs

CCRs including one or several new members will face increased difficulties and lengthy processes to implement methodologies, algorithms and calculation processes will slow down.

CCRs losing one member will face disruption in ongoing implementations for no added value [1]

[1] Duplication of borders which connect cNTC CCRs – as the case of current GRIT and SEE CCRs - would bring no added value compared to the status quo. Therefore, Excluding IPTO from GRIT would not be justified at least as long as both GRIT and SEE apply cNTC

Capacity calculation

CCR redefinition

Conclusions

- It is **fundamental that TSOs and their NRAs are able to assess and choose the most efficient CCR configuration** on the basis of **economic and governance-related** criteria. In this regard, the CCR definition must primarily take into account the capacity calculation method applied by neighbouring regions. CCR determination criteria must be carefully designed in order to avoid unnecessary changes to the current situation which would lead to no improvement on the capacities provided to the market and the security of the grid. **Any eventual change to the configuration of Capacity Calculation Regions should be backed-up with an economic and technical efficiency analysis.**
- **Adding one bidding zone border in two CCRs triggers critical issue like coordination, in-efficiency and different sets of methodologies on each side of the border.**
- Concerning **cNTC regions, CCR re-definition should not result in imposing calculation methods for the coordination of HVDC borders which have not yet been assessed by the concerned TSOs.**

Capacity calculation

3rd countries flows

ACER's recommendation deletes all references to 3rd countries arrangements in capacity calculation principles, and opens the door to discard their contribution in meeting minimum capacity requirements, referring to EC to define the appropriate framework.

CACM today

Article 20:

- Allows extended deadlines for the development of common flow-based capacity calculation methodologies in CCRs involved in bilateral agreements with 3rd countries such as Switzerland.

Revised CACM

No provisions

- ACER deletes provisions regarding 3rd countries and capacity calculation methodologies to *“avoid dependencies on 3rd countries for developments and processes within the EU (following EC’s feedback).”*

Article 32.9

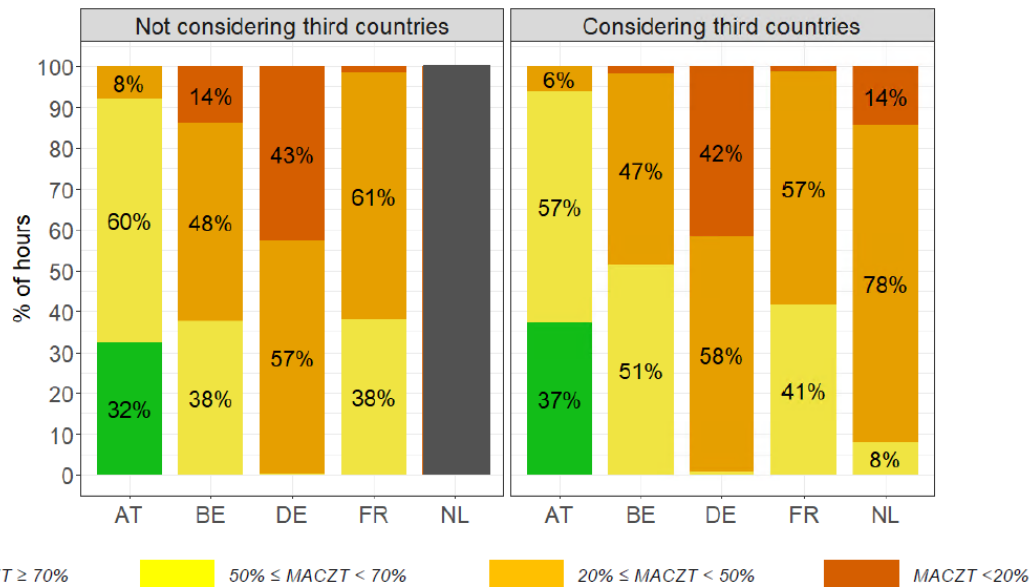
- ACER introduces a potential separate treatment in capacity calculation for flows resulting from exchanges with 3rd countries
- (e) iii: *“Calculate flows resulting from cross-zonal exchanges outside the capacity calculation region between the Union and third countries as well as between the third countries as assumed in the common grid model.”*
- (f): *“For all critical network elements with contingencies calculate the available margin which shall be equal to the flows from point (e)iv and increase it such that the sum of this margin and the flows from point (e)ii and **if applicable** (e)iii is at least equal to the minimum capacity target pursuant to Article 26.3.”*

Capacity calculation

3rd countries flows

ACER's recommendation is conducive to exclude flows resulting from exchanges with 3rd countries from the calculation of the 70% requirement

Percentage of the time when the minimum 70% target was reached (green) or the margin was below the target, per country, in the CWE region, not considering (left) and considering (right) exchanges with third countries – second semester of 2020 (% of hours)



- ACER's monitoring report illustrates how 3rd countries flows contribute to reach the 70% target
- The exclusion of 3rd countries from the provisions of CACM could inflate the 70% requirement leading to impossible requirements to offer 90-100-110% of capacity of the grid to market exchanges.

■ MACZT ≥ 70%
 ■ 50% ≤ MACZT < 70%
 ■ 20% ≤ MACZT < 50%
 ■ MACZT < 20%
■ No sufficient information
 MACZT = margin available for cross-zonal trade

Capacity calculation

3rd countries flows

Conclusions

- The process to develop agreements on capacity calculation with third countries is subject to complex governance and the framework/timing to develop solutions is often determined by the political landscape. Hence TSOs strongly call for a reasonable approach where the contribution of the 3rd country flows continue to be acknowledged during the period until such arrangements are put in place.
- From a legal perspective, any fundamental principles excluding third countries treatment cannot be handled in-a network code from TSOs point of view. The current practice of network codes is more open ended
 - 1) arrangements depend on political developments such as intergovernmental agreements (current CACM, EB GL) or
 - 2) rules allow the TSOs to conclude contracts with third country TSOs (SO GL, NC ER)

Capacity calculation

Flow vs. Total Reliability Margin (“FRM”/”TRM”) in cNTC regions

ACER’s recommendation is to define common calculation outputs for cNTC and Flow-based CCRs

CACM today

Article 22:

- Principles for the computation of the reliability margin during the capacity calculation process.
- The current wording allows for flexibility in the application of the reliability margin computation outputs, considering differences in capacity calculation approaches at each CCR, namely either flow-based or coordinated Net Transfer Capacity.

Revised CACM

Article 27 – OPTION 1:

- *“For each capacity calculation time-frame, each TSO concerned shall determine the reliability margin for each critical network element **independent of the specific capacity calculation approach** adopted within the capacity calculation region.”*

Article 27 – OPTION 2:

“For each capacity calculation timeframe, where the flow based approach is applied, each TSO concerned shall determine the reliability margin for each critical network element independent of the specific capacity calculation approach adopted within the capacity calculation region.”

For each capacity calculation time-frame, where the coordinated net transmission capacity approach is applied, each TSO concerned may determine the reliability margin either for each critical network element or for cross-zonal capacity. The way of determination shall be proposed by the TSOs in the common capacity calculation methodology, on the basis of an assessment comparing the pros and contras associated to each way. The assessment shall be done by 31 December 2023 and repeated upon request by the regulatory authorities of the CCR.”

Capacity calculation

Flow vs. Total Reliability Margin (“FRM”/”TRM”) in cNTC regions

Option 1 entails burdensome obligations in CCRs applying the cNTC approach which might not bring additional benefits

Flow reliability margin (“FRM”) requires to compute a different risk percentage on each line

In cNTC CRRs the transmission reliability margin (“TRM”) allows an acceptable risk level, without underestimating the available capacity, especially in CCRs with interdependent BZB (behave like a single interconnection) where the security analysis is performed simultaneously for all the borders,[1]

Some CCRs do not need to compute any reliability margin due to their topology [2]



In CCRs currently applying cNTC and TRM:

- Although the obligation to provide detailed calculation of critical network elements for FRM will require time and resources, it may not lead to considerably different results compared to the use of TRM in terms of trade-off between capacities provided to the market and security risks.
- In the specific case of CCRs which have to switch from cNTC to Flow-based capacity calculation, the need to comply with the new provisions could delay the switch which would ensure compliance in itself

Conclusions

TSOs support option 2 as it is more balanced: keeping TRM in NTC CCRs is subject to a pro/cons analyses comparing the use of TRM/FRM by end of 2023 and eventually repeat on request from the NRAs. Option 1 is unnecessarily more rigid.

[1] This is notably the case in Italy North

[2] This is the case in GRIT where the reliability margin currently applied is zero for both the HVDC IT-GR border, due to its technical features, and for the internal Italian borders, where the Italian TSO manages the power system in real time to cope with potential cross-border congestions

CACM amendments on costs



Costs

ACER's amendment introduce new requirements related to costs

ACER's recommendation introduce change in three areas related to costs

TSOs and RCC
cost

MCO costs

Redispatching
and
countertrading
cost

In addition to the points highlighted in the next slides, TSOs are continuing the assessment of the topics related to costs and will provide comprehensive views during the next steps of the process.

Costs

MCO costs recovery

ACER's amendments to CACM on MCO costs propose to recover all MCO costs through network tariffs

CACM today

Article 75(1):

costs incurred by TSO for MCO tasks assessed by NRA and recovered through network tariffs

Article 80(3):

“common costs” shall be split between MS and 3rd countries in part according to consumption, and between NEMOs

Article 75(2):

MS share of common costs shall be recovered through NEMOs fees, network tariffs or other

Article 76(3):

costs borne by NEMOs that have not been borne by TSOs can be recovered through fees or other mechanism depending on national agreements with NRAs

Revised CACM

Article 21:

costs incurred by TSO for MCO tasks assessed by NRA and split between common, regional and national costs. Common and regional costs split between MS according to consumption and recovered through TSO tariffs

Article 22:

TSOs and NEMOs shall develop a methodology to determine, share and recover MCO costs and costs associated to the MCO, including performance incentives schemes.

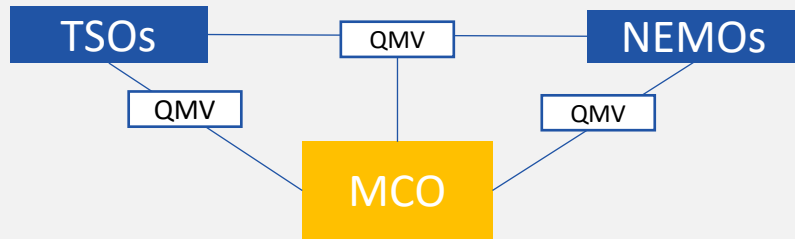
Eligible MCO common and regional costs shared between MS according to consumption and recovered through TSO tariffs

Costs

MCO costs recovery

ACER's recommendation disconnects liability and cost recovery which could foster inefficiencies

The MCO Single Entity is responsible for the performance of the MCO and the cost determination methodology...



... however, the MCO entity is not incentivised to ensure efficiency

TSOs bearing all costs will lead to a sharp reduction in incentives for NEMOs to ensure their work on developing the MCO function is efficient.

As long as NEMOs bear a part of the cost it is in their interest to ensure their efforts are reasonable, proportionate and efficient.

Sharing costs according to consumption as proposed by ACER is not aligned with the decision making which is based on qualified majority voting (QMV).

Conclusions

TSOs propose to share the costs between NEMOs and TSOs based on a fair distribution of the costs to be borne by the final customer in each Member State. This sharing key should be included in the CACM regulation

Costs

Redispatching cost sharing methodology

ACER's recommendation introduces the option to detail the cost sharing methodology

CACM today

Article 35:

- All TSOs in each CCR shall develop a common methodology for redispatching and countertrading including actions of cross-border relevance, whether or not the reason for the remedial action originates in the TSO's control area or in another.

Article 74:

- Mandatory coordination in each CCR to develop a common methodology on redispatching and countertrading cost sharing.

Revised CACM

Provisions are moved to SOGL

- Option 1: the text would include more detailed guidance concerning steps to assess and distribute cost of RDCT between TSOs of a CCR, following the detailed methodology for RDCT cost sharing which was developed for the CORE and SEE CCRs.
- The methodology is based on the “polluter-pays” principle, whereby the costs of cross-border relevant redispatching and countertrading actions is distributed to individual congested cross-border relevant network elements and then the costs on these elements are shared by identifying the origins of physical flows that are contributing to the congestions on those network elements.
- Option 2: the text would not include the detailed steps, leaving it up to each CCR to define the details

Costs

Redispatching cost sharing methodology

ACER introduces burdensome obligations in CCRs whose cost sharing does not have to rely on detailed decomposition of flows

The methodology for cost sharing proposed by ACER was developed in the specific context of the CORE and SEE CCRs

Core and SEE face an especially high level of loop and transit flows interfering with commercial cross-border capacity availability. This is due to the nature of bidding zones in those CCRs (numerous countries and interconnections)

Status quo proved efficient in progressing with CACM implementation in a swift and flexible manner [1]



Some methodologies for RDCT cost sharing do not need to rely on the decomposition of cross-border flows in loop or transit flows and the subsequent allocation of these flows to external or internal root causes.

Even though Article 16(13) of Regulation 2019/943 requires analysing, for the purpose of cost sharing, to what extent flows resulting from internal transactions contribute to congestion, fulfilling that obligation may be significantly simpler in some CCRs.

[1] The CACM Regulation was enacted in July 2015. By 2019, 6 out of 10 CCRs had agreed on a cost sharing methodology that was validated by all concerned regulatory authorities: Baltic, Channel, Hansa, Grit, Nordic and SWE.

Costs

Redispatching cost sharing methodology

Conclusions

- The common principles put forward in the current version of CACM should continue to guide further harmonization of the methodology. TSOs are already working to further harmonize cost sharing methodologies as provided by CACM Regulation and in that framework we are already identifying that while general principles are the same, specificities are needed on a CCR basis.
- TSOs agree that both options – adding or not details on the cost sharing methodology in CACM - are put forward to European Commission. This is a political topic, hence to be agreed at political level.
- All TSOs proposal is to maintain a sound level of flexibility in the writing of the code and leave each CCR in charge of establishing the rules for RDCT cost sharing. It would avoid uselessly cumbersome calculation processes and monitoring review at CCRs that do not need an agreement based on the decomposition of flows of cross-border relevance.

Our values define who we are, what we stand for and how we behave.
We all play a part in bringing them to life.



EXCELLENCE

We deliver to the highest standards. We provide an environment in which people can develop to their full potential.



TRUST

We trust each other, we are transparent and we empower people. We respect diversity.



INTEGRITY

We act in the interest of ENTSO-E



TEAM

We care about people. We work transversal and we support each other. We celebrate success.



FUTURE THINKING

We are a learning organisation. We explore new paths and solutions.

We are ENTSO-E