Methodological paper: Capacity Calculation Methodologies – Overview

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Content

1. Introduction

(1) This document is one of a set of documents describing various methodologies applied in the electricity wholesale markets volume of the annual ACER/CEER Market Monitoring Report (MMR), which is intended to present the results of the monitoring of the performance of the internal electricity market in the European Union (EU).

(2) In previous editions of the MMR, the Agency monitored the gap between the level of cross-zonal capacity that is currently made available to the market and the capacity that could be made available if the Agency's Recommendation on Capacity Calculation Methodologies[1] (CCM) were followed with no (or very limited) deviations. It was concluded that cross-zonal exchanges (as opposed to exchanges within bidding zones) were often discriminated during the capacity calculation process.

(3) In the 2018 MMR and future editions, the Agency intends to assess the approved CCMs pursuant to Article 20 of the Regulation establishing a Guideline on Capacity Allocation and Congestion Management (CACM)[2] . The analysis aims to:

- identify the extent to which the implementation of provisions in each CCM will solve current issues; and
- identify improvements that could be implemented, either through the 2020 review prescribed by Article 21(4) of the CACM Regulation, or when aligning CCMs to the recast Electricity Regulation.

(4) The aim of this paper is to describe the methodology used to assess CCMs.

(5) Section 2 introduces the general approach taken, and then section 3 describes the detailed calculation process. Finally, sections 4 and 5, respectively, deal with caveats and data sources.

2. General approach

(6) Pursuant to Article 20 of the CACM Regulation, all TSOs in each CCR shall jointly develop a proposal for a common coordinated CCM within the respective CCR and submit it to all regulatory authorities of the respective CCR for approval and to the Agency for information.

(7) The analysis takes into account the capacity calculation requirements presented in the CACM Regulation, the Agency's Recommendation on capacity calculation[3], as well as best practices observed across Europe.

(8) Moreover, the assessment aims to anticipate possible issues arising from implementation, which could prevent objectives set by the CACM Regulation to be reached. In particular:

- Recital 3 of the CACM Regulation recalls the general objectives of *'non-discriminatory rules for access conditions to the network for cross-border exchanges in electricity'* stemming from

[1] Recommendation of the Agency No 02/2016 of 11 November 2016 on the common capacity calculation and redispatching and countertrading cost-sharing methodologies, available at: https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Recommendations/ACER%20Recommendation%2002-2016.pdf.

[2] Commission Regulation (EU) 2015/1222 of 24 July 2015, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R1222&from=EN.

[3] See footnote 1.

'minimum harmonised rules[…]in order to provide a clear legal framework […] allowing more efficient use of the network[…]'.

- Article 3 of the CACM Regulation specifies these objectives. In the context of the CCMs, the assessment focuses on the objectives (d), (e), and (f) *('optimising the calculation and allocation of cross-zonal capacity',* '*ensuring fair and non-discriminatory treatment of TSOs, NEMOs, the Agency, regulatory authorities and market participants',* and '*ensuring and enhancing the transparency and reliability of information*', respectively).

(9) The assessment is based solely on the documents themselves. Non-binding documents such as explanatory notes or the context in which they were developed are not considered.

(10) To perform the comparative analysis, the following four aspects of the approved CCMs were assessed: the 'CACM Regulation coverage', the "Level of detail and harmonisation', 'Non-discrimination' and 'Transparency and enforceability'. The scope of these four aspects and the process to assess them is further described in chapter 3.

3. Evaluation process

(11) As mentioned above, the assessment intends to analyse how CCMs are likely to guarantee the success of general and specific objectives of the CACM Regulation, through four aspects:

- The 'CACM Regulation coverage'. This aspect assesses the explicit inclusion (or absence) of the provisions addressing the relevant requirements set by Articles 9, 20 to 27, 29 and 30 of the CACM Regulation.

- The level of 'detail and harmonisation'. This aspect assesses the content of the provisions, i.e. if they are sufficiently detailed to allow transparency and reproducibility of the calculation (e.g. possibility of replication by third parties), and the extent to which they result in harmonised principles, methodologies or values for a series of parameters of the CCM within a CCR.

- 'Non-discrimination'. This aspect assesses the extent to which CCMs include explicit provisions to ensure non-discrimination between internal and cross-zonal exchanges[4].

- 'Transparency and enforceability'. This aspect assesses: (i) the extent to which CCMs ensure that relevant information will be published timely, transparently, ensuring user-friendliness and the quality of the data, and (ii) the extent to which CCMs are drafted so as to clarify tasks, responsibilities and implementation deadlines.

(12) Each of the four aspects is assessed following the same process. First, a benchmark reference is selected (e.g. in the form of a provision from the CACM Regulation or of a good practice, depending on the aspect[5]). Second, essential features are identified for each aspect. Third, a list of closed-ended questions is developed, each question relating to the essential identified features. Finally, each CCM was assessed against the list of questions.

(13) Possible answers to the closed-ended questions are affirmative, negative or questions are deemed non-applicable to the aspect for a given CCM. The criteria to deem a question 'not applicable' are described in annexes. Affirmative answers are awarded one point, while the negative ones receive no points. The resulting score is the ratio of the sum of points over the number of questions applicable to the aspect. Then, all aspects are given equal weight; hence the overall scoring for a region is calculated as the arithmetic average of the individual score of the four aspects.

[4] Non-discrimination of cross-zonal exchanges may be ensured by various means, including the design of bidding zones and CCMs.

[5] The precise reference used for each aspect is further detailed in the dedicated sections below.

3.1 *CACM Coverage*

(14) This aspect assesses the inclusion (or absence) of provisions addressing the relevant requirements set by Articles 9, 20 to 27, 29 and 30 of the CACM Regulation.

(15) The requirements are sorted according to three sub-aspects: general proceedings, inputs to capacity calculation, and capacity calculation.

(16) The list of 77 close-ended questions is available in Annex 1.

3.2 *Detail and harmonisation*

(17) This aspect assesses the content of the provisions, i.e. if they are sufficiently detailed to allow transparency and reproducibility of the calculation (e.g. possibility of replication by third parties), and the extent to which they result in harmonised principles, methodologies or values for a series of parameters of the CCM within a CCR.

(18) The requirements are sorted according to two sub-aspects: level of detail and harmonisation level. The assessment is applied to the following parameters of the capacity calculation methodology: generation shift keys, operational security limits, allocation constraints, reliability margins, remedial actions, Power Transfer Distribution Factors[6], day-ahead capacity calculation process, intraday capacity calculation process.

(19) The list of 17 close-ended questions is available in Annex 2.

3.3 *Non-discrimination*

(20) This aspect assesses the extent to which CCMs ensure non-discrimination between internal and cross-zonal exchanges[7].

(21) The requirements are sorted according to two sub-aspects: principle 1 and principle 2, according to the Agency Recommendation on Common Capacity Calculation[8]. The Agency Recommendation sets the principles to be respected for the CCMs to prevent discrimination. Principle 1 requires that internal constraints should not limit cross-border capacity, and principle 2 stipulates that there should be no reduction of cross-zonal capacity due to loop flows.

(22) The list of 9 close-ended questions is available in Annex 3.

3.4 *Transparency and enforceability*

(23) This aspect assesses: (i) the extent to which CCMs ensure that relevant information will be published timely, transparently, be user-friendly and the quality of the data, and (ii) the extent to which CCMs are drafted to clarify tasks, responsibilities and implementation deadlines.

(24) The requirements are sorted according to two sub-aspects: publication of data and enforceability, i.e. the clarity of the legal framework.

(25) The list of 10 close-ended questions is available in Annex 4.

[6] This parameter is relevant for flow-based CCMs only.

[7] Non-discrimination of cross-zonal exchanges may be ensured by various means, including the design of bidding zones and CCMs.

[8] Agency Recommendation No 02/2016 of 11 November 2016 on the Common Capacity Calculation and Redispatching and Countertrading Cost Sharing Methodologies.

4. Caveats

(26) The applicable important caveats underlying the assessment of the CCMs are as follows:

- The assessment is based solely on the documents themselves. Non-binding documents such as explanatory notes or the context in which they were developed are not considered, as they do not bear certainty.

- The assessment is not an analysis of legal compliance. When legal provisions are referred to, the assessment identifies the extent to which the related requirements are explicitly included in the CCMs. The inclusion or absence of a provision reflects a regulatory choice, and cannot be used as a basis to identify any potential infringement. In the Agency's view, the explicit reference to provisions is crucial because it tends to better ensure that certain requirements are applied in practice and identifies responsibilities. In this respect, for example, the extent to which methodologies explicitly tackle non-discrimination of cross-zonal exchanges is particularly important. Despite the legal requirements to prevent discrimination that have applied for many years, CCMs have not often included provisions to address this issue. The absence of such provisions in combination with other factors explains why the discrimination of cross-zonal exchanges has remained a major issue in European electricity wholesale markets, as reported in preceding MMRs.

- Obligations stemming from a number of the provisions (e.g. those included in the recast Electricity Regulation) did not apply at the time when the CCMs were approved. Therefore, the assessment should be understood exclusively as an indication of the room for improvement at this stage of implementation.

(27) When interpreting the results of the analysis and reaching conclusions based on these results, the following caveats and considerations apply, and where relevant, measures to mitigate risks are described:

- The overall score combines the evaluation of the four aspects into a single metric, thereby simplifying the assessment of the CCMs and making it easier to compare them across regions. As a simplification, however, it does not necessarily provide for a deeper understanding of CCMs and details can be lost. This can also give rise to misinterpretation, especially if the results are not presented appropriately. In particular, the granularity of the assessment of each aspect is not reflected in the overall scoring, as would have been the case if the overall scoring was the average of the individual scoring of the four aspects, weighted based on the number of questions applied to each aspect[9]. In order to mitigate this risk, a more detailed analysis (and scoring) per aspect and region is published along with the MMR.

- While closed ended questions are not open to interpretation, the answers to those questions are the result of the judgment of analysts within the Agency. They are submitted to the scrutiny of regulatory authorities, but may remain debatable. As an individual answer may significantly influence the overall scoring, and as such answer may remain debatable, individual and overall scorings should be taken as indications and not absolute evaluations. For transparency reasons, answers to closed ended questions are to be published, and, when relevant, with the reference to the article in the CCM on which a given answer is based, as well as further remarks, as elements of context.

[9] This is because the granularity of the assessment of a given aspect does not reflect its relative importance compared to other aspects.

- The assessment is based on the description of CCMs which have not been implemented; therefore, it does not assess the current reality of the regions, and possible answers to regulatory problems to be solved by the CACM Regulation which may already be in place. In order to mitigate this risk, additional details on the regional context in which each CCR developed a CCM are provided in an annex to be published along with the MMR.

- The differences in the level of detail of the CCMs are sometimes explained by the various tools available to NRAs and TSOs to address the challenges they face. For example, non-discrimination of cross-zonal exchanges may be tackled through bidding zone reviews and reconfigurations.

- There is some room for interpretation of the level of harmonisation required by the CACM Regulation. Moreover, for some parameters, full harmonisation may not be necessary to achieve the most efficient outcome; in view of this, it might be even advisable that some parameters remain specific to ensure an efficient implementation (e.g. GSKs).

5. List of assessed methodologies[10]

CCR	Title of the document	Date of publication	Link
Baltic	The Baltic CCR TSOs amended proposal for Capacity calculation methodology according to Article 20(7) of CACM regulation	03-Oct-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%205%20-%20CCM%20Baltic%20revised%20amended%20proposal.pdf
Channel	Channel TSOs proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe in accordance with Article 20 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management	27-Sep-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20Channel%20amended%20proposal.pdf
Core	ACER Decision 01-2019 on intraday cross-zonal capacity pricing methodology	25-Jan-19	https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2002-2019%20on%20CORE%20CCM.pdf
Core	Annexes to the DECISION OF THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS No 02/2019	25-Jan-19	https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Pages/Annexes-to-the-DECISION-OF-THE-AGENCY-FOR-THE-COOPERATION-OF-ENERGY-REGULATORS-No-02-2019.aspx
GRIT	Greece-Italy TSOs proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe in accordance with Article 21 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management	May-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20GRIT%20amended%20proposal.pdf
GRIT	ANNEX 1 – TTC Calculation process	May-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20GRIT%20amended%20proposal%20-%20annex.pdf
Hansa	Common Coordinated Capacity Calculation Methodology for Capacity Calculation Region Hansa in accordance with Article 20(2) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management	21-Sep-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20Hansa%20amended%20proposal.pdf
IU	IU TSOs proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe in accordance with Article 20 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion	21-May-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20IU%20amended%20proposal.pdf
Nordic	All TSOs' of the Nordic Capacity Calculation Region proposal for capacity calculation methodology in accordance with Article 20(2) of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management	16-May-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20Nordic%20amended%20proposal.pdf
SEE	SEE CCR TSOs' proposal of the common capacity calculation methodology for the day-ahead and intraday market time-frame in accordance with Article 21 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management	Aug-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20SEE%20amended%20proposal.pdf
SWE	South West Europe TSOs proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe in accordance with Article 21 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management	Sep-18	https://www.acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/16%20CCM/Action%204%20-%20CCM%20SWE%20amended%20proposal.pdf

[10] The list refers to the analysis performed for the 2018 MMR and may need to be updated in the future when the CCMs are updated.

Annex 1 – assessment of CACM coverage – the list of closed ended questions

(28) All questions below are closed-ended. They are scored as follows: one point is awarded for an affirmative answer, while no points are awarded to negative answers. If a question is deemed non-applicable, it does not contribute towards the total score.

(29) A question is deemed non applicable in two cases: (i) when the technical requirement does not apply to the CCR concerned, as the CCR applies one approach to capacity calculation (as indicated at the beginning of the question, FB or NTC), while the requirement refers to the other; (ii) when the requirement can be considered to be directly applicable and does not impact the capacity calculation. In the latter case, the question is either awarded one point or deemed non-applicable. Such questions are highlighted in green in the list below.

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
capacity calculation	29(10)(a)	Each coordinated capacity calculator shall set flow-based parameters for each bidding zone within the capacity calculation region, if applying the flow-based approach	FB - Does the CCM explicitly require that the CCC set flow-based parameters for each bidding zone within the capacity calculation region?
capacity calculation	29(10)(b)	Each coordinated capacity calculator shall set cross-zonal capacity values for each bidding zone border within the capacity calculation region, if applying the coordinated net transmission capacity approach.	NTC - Does the CCM require that the CCC set cross-zonal capacity values for each bidding zone border within the capacity calculation region?
capacity calculation	29(5)	Each coordinated capacity calculator shall apply the sharing rules established in accordance with Article 21(1)(b)(vi).	NTC - Does the CCM require the CCC to apply the sharing rules established?
Capacity calculation	21(1)(b)(vi)	The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame [...] for the coordinated net transmission capacity approach, the rules for calculating cross-zonal capacity, including the rules for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders;	NTC - Does the CCM include rules for calculating cross-zonal capacity, including the rules for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders?
Capacity calculation	21(1)(b)(vii)	The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame [...] where the power flows on critical network elements are influenced by cross-zonal power exchanges in different capacity calculation regions, the rules for sharing the power flow capabilities of critical network elements among different capacity calculation regions in order to accommodate these flows.	Where the power flows on critical network elements are influenced by cross-zonal power exchanges in different capacity calculation regions, does the CCM include rules for sharing the power flow capabilities of critical network elements among different capacity calculation regions in order to accommodate these flows?
Capacity calculation	29(8)(d)	Each coordinated capacity calculator applying the coordinated net transmission capacity approach shall apply the rules set out in accordance with Article 21(1)(b)(vi) for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders	NTC - Does the CCM require that the CCC shall apply the rules set out in accordance with Article 21(1)(b)(vi) for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders ?
Capacity calculation	29(3)(b)	When calculating cross-zonal capacity, each coordinated capacity calculator shall ignore those critical network elements that are not significantly influenced by the changes in bidding zone net positions according to the methodology set out in Article 21.	Does the CCM require the CCC to ignore the critical network elements that are not significantly influenced by the changes in bidding zone net positions?
Capacity calculation	21(3)	The capacity calculation methodology shall include a fallback procedure for the case where the initial capacity calculation does not lead to any results.	Does the CCM include a fallback procedure?

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
Capacity calculation	21(2)	For the intraday capacity calculation time-frame, the capacity calculation methodology shall also state the frequency at which capacity will be reassessed in accordance with Article 14(4), giving reasons for the chosen frequency.	For the intraday CCM, does the CCM state and justify the frequency at which capacity will be reassessed ?
Capacity calculation	29(6)	Each coordinated capacity calculator shall respect the mathematical description of the applied capacity calculation approach established in accordance with Article 21(1)(b)(i).	Does the CCM require the CCC to apply a mathematical description of the capacity calculation?
Capacity calculation	21(1)(b)(i)	The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame : a detailed description of the capacity calculation approach which shall include the following: a mathematical description of the applied capacity calculation approach with different capacity calculation inputs	Does the CCM include a mathematical description of the applied capacity calculation approach with different capacity calculation inputs?
Capacity calculation	29(3)(c)	When calculating cross-zonal capacity, each coordinated capacity calculator shall ensure that all sets of bidding zone net positions and flows on direct current lines not exceeding cross-zonal capacity comply with reliability margins and operational security limits in accordance with Article 21(1)(a)(i) and (ii), and take into account previously allocated cross-zonal capacity in accordance with Article 21(1)(b)(iii).	Does the CCM explicitly require that the CCC consider operational security limits when calculating cross-zonal capacity?
Capacity calculation	29(7)(a)	Each coordinated capacity calculator applying the flow-based approach shall use data on operational security limits to calculate the maximum flows on critical network elements.	FB - Does the CCM require that the CCC applying the flow-based approach use data on operational security limits to calculate the maximum flows on critical network elements?
Capacity calculation	29(8)(a)	Each coordinated capacity calculator applying the coordinated net transmission capacity approach shall use the common grid model, generation shift keys and contingencies to calculate maximum power exchange on bidding zone borders, which shall equal the maximum calculated exchange between two bidding zones on either side of the bidding zone border respecting operational security limits.	NTC - Does the CCM require that the CCC use the common grid model, generation shift keys and contingencies to calculate maximum power exchange on bidding zone borders, which shall equal the maximum calculated exchange between two bidding zones on either side of the bidding zone border respecting operational security limits?
Capacity calculation	21(1)(a)(ii)	The proposal for a common capacity calculation methodology […] shall include […] for each capacity calculation time-frame: the methodologies for determining operational security limits, contingencies relevant to capacity calculation and allocation constraints that may be applied in accordance with Article 23.	Does the CCM include a methodology for determining contingencies?
Capacity calculation	21(1)(b)(iii)	The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame [...]rules for taking into account, where appropriate, previously allocated cross-zonal capacity.	Does the CCM include rules for considering previously allocated cross-zonal capacity?
Capacity calculation	29(3)(c)	When calculating cross-zonal capacity, each coordinated capacity calculator shall ensure that all sets of bidding zone net positions and flows on direct current lines not exceeding cross-zonal capacity comply with reliability margins and operational security limits in accordance with Article 21(1)(a)(i) and (ii), and take into account previously allocated cross-zonal capacity in accordance with Article 21(1)(b)(iii).	Does the CCM explicitly require that the CCC consider previously allocated capacity when calculating cross-zonal capacity?
Capacity calculation	29(7)(c)	Each coordinated capacity calculator applying the flow-based approach shall use power transfer distribution factors to calculate the flows resulting from previously allocated cross-zonal capacity in the capacity calculation region.	FB - Does the CCM require that the CCC, when calculating flows resulting from previously allocated capacity, use power transfer distribution factors?

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
Capacity calculation	29(8)(e)	Each coordinated capacity calculator applying the coordinated net transmission capacity approach shall calculate cross-zonal capacity, which shall be equal to maximum power exchange adjusted for the reliability margin and previously allocated cross-zonal capacity.	NTC - Does the CCM require that the capacity calculated by the CCC be equal to maximum power exchange adjusted for the reliability margin and previously allocated cross-zonal capacity?
Capacity calculation	29(7)(b)	Each coordinated capacity calculator applying the flow-based approach shall use the common grid model, generation shift keys and contingencies to calculate the power transfer distribution factors.	FB - Does the CCM require that the CCC, when calculating PTDFs, use the common grid model, generation shift keys and contingencies?
Capacity calculation	29(3)(c)	When calculating cross-zonal capacity, each coordinated capacity calculator shall ensure that all sets of bidding zone net positions and flows on direct current lines not exceeding cross-zonal capacity comply with reliability margins and operational security limits in accordance with Article 21(1)(a)(i) and (ii), and take into account previously allocated cross-zonal capacity in accordance with Article 21(1)(b)(iii).	Does the CCM explicitly requires that the CCC take account of reliability margins when calculating cross-zonal capacity?
Capacity calculation	29(7)(e)	Each coordinated capacity calculator applying the flow-based approach shall calculate the available margins on critical network elements, taking into account contingencies, which shall equal the maximum flows reduced by adjusted flows referred to in point (d), reliability margins, and flows resulting from previously allocated cross-zonal capacity.	FB - Does the CCM require that the CCC calculate the available margins on critical network elements, taking into account contingencies, which shall equal the maximum flows reduced by adjusted flows referred to in point (d), reliability margins, and flows resulting from previously allocated cross-zonal capacity?
Capacity calculation	29(4)	Each coordinated capacity calculator shall optimise cross-zonal capacity using available remedial actions taken into account in capacity calculation in accordance with Article 21(1)(a)(iv).	Does the CCM require the CCC to optimise cross-zonal capacity using available remedial actions taken into account in capacity calculation?
Capacity calculation	21(1)(b)(iv)	The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame [...] rules on the adjustment of power flows on critical network elements or of cross-zonal capacity due to remedial actions in accordance with Article 25.	Does the CCM include rules on the adjustment of power flows on critical network elements or of cross-zonal capacity due to remedial actions?
Capacity calculation	29(7)(f)	Each coordinated capacity calculator applying the flow-based approach shall adjust the available margins on critical network elements or power transfer distribution factors using available remedial actions to be considered in capacity calculation in accordance with Article 25.	FB - Does the CCM require that the CCC adjust the available margins on critical network elements or power transfer distribution factors using available remedial action?
Capacity calculation	29(8)(b)	Each coordinated capacity calculator applying the coordinated net transmission capacity approach shall adjust maximum power exchange using remedial actions taken into account in capacity calculation in accordance with Article 25.	NTC - Does the CCM require that the CCC adjust maximum power exchange using remedial actions?
Capacity calculation	21(1)(b)(ii)	The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame: rules for avoiding undue discrimination between internal and cross-zonal exchanges to ensure compliance with point 1.7 of Annex I to Regulation (EC) No 714/2009.	Does the CCM explicitly include rules for avoiding undue discrimination?
Capacity calculation	29(7)(d)	Each coordinated capacity calculator applying the flow-based approach shall calculate flows on critical network elements for each scenario (taking into account contingencies), and adjust them by assuming no cross-zonal power exchanges within the capacity calculation region, applying the rules for avoiding undue discrimination between internal and cross-zonal power exchanges established in accordance with Article 21(1)(b)(ii).	Does the CCM require that the CCC applies rules for avoiding undue discrimination when calculating capacity?

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
Capacity calculation	29(8)(c)	Each coordinated capacity calculator applying the coordinated net transmission capacity approach shall adjust maximum power exchange, applying rules for avoiding undue discrimination between internal and cross-zonal exchanges in accordance with Article 21(1)(b)(ii).	NTC - Does the CCM require that the CCC adjust maximum power exchange, applying rules for avoiding undue discrimination between internal and cross-zonal exchanges?
capacity calculation	29(11)	Each coordinated capacity calculator shall submit the cross-zonal capacity to each TSO within its capacity calculation region for validation in accordance with Article 21(1)(c).	Does the CCM require that the CCC submit cross-zonal capacity to each TSO within its capacity calculation region for validation?
capacity calculation	30(1)	Each TSO shall validate the results of the regional capacity calculation for its bidding zone borders or critical network elements, in accordance with Article 26.	Does the CCM require that each TSO validate the results of the regional capacity calculation for its bidding zone borders or critical network elements?
capacity calculation	30(2)	Each TSO shall send its capacity validation and allocation constraints to the relevant coordinated capacity calculators and to the other TSOs of the relevant capacity calculation regions.	Does the CCM require that each TSO of the region send its capacity validation and allocation constraints to the relevant coordinated capacity calculators and to the other TSOs of the relevant capacity calculation regions?
capacity calculation	30(3)	Each coordinated capacity calculator shall provide the validated cross-zonal capacities and allocation constraints for the purposes of allocating capacity in accordance with Articles 46 and 58.	Does the CCM require that the CCC provide the validated cross-zonal capacities and allocation constraints for the purposes of allocating capacity?
General proceedings	29(9)	Each coordinated capacity calculator shall cooperate with the neighbouring coordinated capacity calculators. Neighbouring TSOs shall ensure such cooperation by exchanging and confirming information on interdependency with the relevant regional coordinated capacity calculators, for the purposes of capacity calculation and validation. Neighbouring TSOs shall provide information on interdependency to the coordinated capacity calculators before capacity calculation. An assessment of the accuracy of this information and corrective measures shall be included in the biennial report drafted in accordance with Article 31, where appropriate.	Does the CCM ask the CCC to cooperate with the neighbouring CCCs?
General proceedings	29(9)	Each coordinated capacity calculator shall cooperate with the neighbouring coordinated capacity calculators. Neighbouring TSOs shall ensure such cooperation by exchanging and confirming information on interdependency with the relevant regional coordinated capacity calculators, for the purposes of capacity calculation and validation. Neighbouring TSOs shall provide information on interdependency to the coordinated capacity calculators before capacity calculation. An assessment of the accuracy of this information and corrective measures shall be included in the biennial report drafted in accordance with Article 31, where appropriate.	Does the CCM require such cooperation should involve timely exchange and confirmation of information on interdependency with the relevant CCC on capacity calculation and validation?
General proceedings	20(1)	For the day-ahead market time-frame and intraday market time-frame the approach used in the common capacity calculation methodologies shall be a flow-based approach, except where the requirement under paragraph 7 is met.	Does the CCM methodology follow a flow-based approach? If not, does the methodology (or supporting documentation) include a demonstration that the requirements under paragraph 7 met?
General proceedings	20(7)	TSOs may jointly request the competent regulatory authorities to apply the coordinated net transmission capacity approach in regions and bidding zone borders other than those referred to in paragraphs 2 to 4, if the TSOs concerned are able to demonstrate that the application of the capacity calculation methodology using the flow-based approach would not yet be more efficient compared to the coordinated net transmission capacity approach and assuming the same level of operational security in the concerned region.	If non flow-based, does the CCM methodology include a demonstration that the flow-based approach would not yet be more efficient compared to the coordinated net transmission capacity approach?
General proceedings	9(9)	The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. Proposals on terms and conditions or	Does the CCM include a binding timescale?

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
		methodologies subject to the approval by several or all regulatory authorities shall be submitted to the Agency at the same time that they are submitted to regulatory authorities. Upon request by the competent regulatory authorities, the Agency shall issue an opinion within three months on the proposals for terms and conditions or methodologies.	
General proceedings	20(8)	To enable market participants to adapt to any change in the capacity calculation approach, the TSOs concerned shall test the new approach alongside the existing approach and involve market participants for at least six months before implementing a proposal for changing their capacity calculation approach.	Does the implementation timeline include a parallel run, which involves market participants for at least 6 months?
General proceedings	27(3)	All TSOs of each capacity calculation region shall review the quality of data submitted within the capacity calculation every second year as part of the biennial report on capacity calculation and allocation produced in accordance with Article 31.	Does the CCM require that TSOs of each capacity calculation region to review the quality of data submitted within the capacity calculation every second year as part of the biennial report on capacity calculation and allocation produced in accordance with Article 31?
General proceedings	29(9)	Each coordinated capacity calculator shall cooperate with the neighbouring coordinated capacity calculators. Neighbouring TSOs shall ensure such cooperation by exchanging and confirming information on interdependency with the relevant regional coordinated capacity calculators, for the purposes of capacity calculation and validation. Neighbouring TSOs shall provide information on interdependency to the coordinated capacity calculators before capacity calculation. An assessment of the accuracy of this information and corrective measures shall be included in the biennial report drafted in accordance with Article 31, where appropriate.	Does the CCM explicitly require that TSOs provide information on interdependency to the CCC? Does the CCM require the CCC to exchange and confirm information on interdependency with the relevant neighbours?
General proceedings	20(9)	The TSOs of each capacity calculation region applying the flow-based approach shall establish and make available a tool which enables market participants to evaluate the interaction between cross-zonal capacities and cross-zonal exchanges between bidding zones.	If flow-based, does the methodology include a commitment from TSOs to establish and make available a tool enabling market participants to evaluate the interaction between cross-zonal capacities and cross-zonal exchanges between bidding zones?
General proceedings	9(9)	The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. Proposals on terms and conditions or methodologies subject to the approval by several or all regulatory authorities shall be submitted to the Agency at the same time that they are submitted to regulatory authorities. Upon request by the competent regulatory authorities, the Agency shall issue an opinion within three months on the proposals for terms and conditions or methodologies.	Does the CCM include a description of its expected impact on the objectives of the Regulation?
Input to capacity calculation	26(4)	Each coordinated capacity calculator shall coordinate with the neighbouring coordinated capacity calculators during capacity calculation and validation.	Does the CCM impose on the CCC to coordinate with neighbouring CCCs during capacity calculation and validation?
Input to capacity calculation	29(1)	For each capacity calculation time-frame, each TSO shall provide the coordinated capacity calculators and all other TSOs in the capacity calculation region with the following items: operational security limits, generation shift keys, remedial actions, reliability margins, allocation constraints and previously allocated cross-zonal capacity.	Does the CCM include clear reporting obligations on TSOs to the CCC and other TSOs of the CCR regarding operational security limits, generation shift keys, remedial actions, reliability margins, and allocation constraints and previously allocated cross-zonal capacity?
Input to capacity calculation	26(2)	Where a coordinated net transmission capacity approach is applied, all TSOs in the capacity calculation region shall include in the capacity calculation methodology referred to in Article 21 a rule for splitting the correction of cross-zonal capacity between the different bidding zone borders.	If NTC: does the CCM include a rule for splitting the correction of cross-zonal capacity between different bidding zone borders?

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
Input to capacity calculation	21(1)(a)(iii)	The proposal for a common capacity calculation methodology […] shall include […] for each capacity calculation time-frame: the methodology for determining the generation shift keys in accordance with Article 24.	Does the CCM include a methodology for determining generation shift keys?
Input to capacity calculation	24(1)	The proposal for a common capacity calculation methodology shall include a proposal for a methodology to determine a common generation shift key for each bidding zone and scenario developed in accordance with Article 18.	Does the methodology to determine generation shift key result in a common generation shift key for each bidding zone and scenario developed in accordance with Article 18 of the CACM Regulation?
Input to capacity calculation	24(2)	The generation shift keys shall represent the best forecast of the relation of a change in the net position of a bidding zone to a specific change of generation or load in the common grid model. That forecast shall notably take into account the information from the generation and load data provision methodology.	Does the methodology to determine generation shift key specify that determined generation shift keys represent the best forecast of the relation of a change in the net position of a bidding zone to a specific change of generation or load in the common grid model?
Input to capacity calculation	24(2)	The generation shift keys shall represent the best forecast of the relation of a change in the net position of a bidding zone to a specific change of generation or load in the common grid model. That forecast shall notably take into account the information from the generation and load data provision methodology.	Does the methodology to determine generation shift key take into account the information from generation and load data provision methodology developed in accordance with Article 16 of the CACM Regulation?
Input to capacity calculation	27(4)(a)	Using the latest available information, all TSOs shall regularly and at least once a year review and update the operational security limits, contingencies and allocation constraints used for capacity calculation.	Does the CCM include a yearly review and update of operational security limits, contingencies and allocation constraints?
Input to capacity calculation	27(4)(b)	Using the latest available information, all TSOs shall regularly and at least once a year review and update the probability distribution of the deviations between expected power flows at the time of capacity calculation and realised power flows in real time used for calculation of reliability margins.	Does the CCM include a yearly review and update of the probability distribution of the deviations between expected power flows at the time of capacity calculation and realised power flows in real time used for calculation of reliability margins?
Input to capacity calculation	27(4)(c)	Using the latest available information, all TSOs shall regularly and at least once a year review and update the remedial actions taken into account in capacity calculation.	Does the CCM include a yearly review and update of the remedial actions taken into account in capacity calculation?
Input to capacity calculation	27(4)(d)	Using the latest available information, all TSOs shall regularly and at least once a year review and update the application of the methodologies for determining generation shift keys, critical network elements and contingencies referred to in Articles 22 to 24.	Does the CCM include a yearly review and update of the application of the methodologies for determining generation shift keys, critical network elements and contingencies referred to in Articles 22 to 24?
Input to capacity calculation	21(1)(a)(ii)	The proposal for a common capacity calculation methodology […] shall include […] for each capacity calculation time-frame: the methodologies for determining operational security limits, contingencies relevant to capacity calculation and allocation constraints that may be applied in accordance with Article 23.	Does the CCM include a methodology for determining operational security limits?
Input to capacity calculation	23(1)	Each TSO shall respect the operational security limits and contingencies used in operational security analysis.	Does the CCM methodology specify that operational limits and contingencies used for the operational security analysis are the ones used for the CCM?
Input to capacity calculation	23(2)	If the operational security limits and contingencies used in capacity calculation are not the same as those used in operational security analysis, TSOs shall describe in the proposal for the common capacity calculation methodology the particular method and criteria they have used to determine the operational security limits and contingencies used for capacity calculation.	If the CCM methodology uses operational security limits and contingencies, which are different from the ones, used in the operational security analysis, does the CCM describe the particular method and criteria they have used to determine the operational security limits and contingencies used for capacity calculation?
Input to capacity calculation	23(3)	If TSOs apply allocation constraints, they can only be determined using: (a) constraints that are needed to maintain the transmission system within operational security limits and that cannot be transformed efficiently into maximum flows on critical network elements; or (b)	If the CCM includes a methodology for determining allocation constraints, are these determined using and using only either (i) constraints that are needed to maintain the transmission system within operational security limits and that cannot be transformed efficiently into maximum flows on critical network elements; or (ii) constraints intended to increase the

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
		constraints intended to increase the economic surplus for single day-ahead or intraday coupling.	economic surplus for single day-ahead or intraday coupling?
Input to capacity calculation	21(1)(a)(ii)	The proposal for a common capacity calculation methodology […] shall include […] for each capacity calculation time-frame: the methodologies for determining operational security limits, contingencies relevant to capacity calculation and allocation constraints that may be applied in accordance with Article 23;	Does the CCM include a methodology for determining allocation constraints?
Input to capacity calculation	22(1)	The proposal for a common capacity calculation methodology shall include a methodology to determine the reliability margin. The methodology to determine the reliability margin shall consist of two steps. First, the relevant TSOs shall estimate the probability distribution of deviations between the expected power flows at the time of the capacity calculation and realised power flows in real time. Second, the reliability margin shall be calculated by deriving a value from the probability distribution.	Does the methodology to determine the reliability margin consist of the following 2 steps: (i) an estimate of the probability distribution of deviations between the expected power flows at the time of the capacity calculation and realised power flows in real time;(ii) the calculation of the reliability margin by deriving a value from the probability distribution?
Input to capacity calculation	22(2)	The methodology to determine the reliability margin shall set out the principles for calculating the probability distribution of the deviations between the expected power flows at the time of the capacity calculation and realised power flows in real time, and specify the uncertainties to be taken into account in the calculation. To determine those uncertainties, the methodology shall in particular take into account: (a) unintended deviations of physical electricity flows within a market time unit caused by the adjustment of electricity flows within and between control areas, to maintain a constant frequency; and (b) uncertainties which could affect capacity calculation and which could occur between the capacity calculation timeframe and real time, for the market time unit being considered.	Does the methodology to determine the reliability margin take account of: (i) unintended deviations of physical electricity flows within a market time unit caused by the adjustment of electricity flows within and between control areas, to maintain a constant frequency; (ii) uncertainties which could affect capacity calculation and which could occur between the capacity calculation timeframe and real time, for the market time unit being considered?
Input to capacity calculation	22(3)	In the methodology to determine the reliability margin, TSOs shall also set out common harmonised principles for deriving the reliability margin from the probability distribution.	Is step 2 of the methodology to determine the reliability margin performed according to common harmonised principles?
Input to capacity calculation	22(4)	On the basis of the methodology adopted in accordance with paragraph 1, TSOs shall determine the reliability margin respecting the operational security limits and taking into account uncertainties between the capacity calculation time-frame and real time, and the remedial actions available after capacity calculation.	Does the application of the methodology to determine the reliability margin result in reliability margins respecting the operational security limits and taking into account uncertainties between the capacity calculation time-frame and real time, and the remedial actions available after capacity calculation?
Input to capacity calculation	22(5)	For each capacity calculation time-frame, the TSOs concerned shall determine the reliability margin for critical network elements, where the flow-based approach is applied, and for cross-zonal capacity, where the coordinated net transmission capacity approach is applied.	FB - Does the CCM methodology require that the methodology to determine reliability margin is applied for each capacity calculation time-frame, for each critical network element?
Input to capacity calculation	22(5)	For each capacity calculation time-frame, the TSOs concerned shall determine the reliability margin for critical network elements, where the flow-based approach is applied, and for cross-zonal capacity, where the coordinated net transmission capacity approach is applied.	NTC -Does the CCM methodology require that the methodology to determine reliability margin is applied for each capacity calculation time-frame, for cross-zonal capacity?
Input to capacity calculation	21(1)(a)(iv)	The proposal for a common capacity calculation methodology […] shall include […] for each capacity calculation time-frame: the methodology for determining remedial actions to be considered in capacity calculation in accordance with Article 25.	Does the CCM include a methodology for determining remedial actions?
Input to capacity calculation	25(1)	Each TSO within each capacity calculation region shall individually define the available remedial actions to be taken into account in capacity calculation to meet the objectives of this Regulation.	Does the methodology for determining remedial actions specify that each TSO within each capacity calculation region shall individually define the available remedial actions to be taken into account in capacity calculation?

Sub-aspect	CACM legal reference	Legal requirement	Evaluation question
Input to capacity calculation	25(2)	Each TSO within each capacity calculation region shall coordinate with the other TSOs in that region the use of remedial actions to be taken into account in capacity calculation and their actual application in real time operation.	Does the methodology for determining remedial actions require that each TSO within the capacity calculation region coordinate with the other TSOs in that region the use of remedial actions to be taken into account in capacity calculation and their actual application in real time operation?
Input to capacity calculation	25(3)	To enable remedial actions to be taken into account in capacity calculation, all TSOs in each capacity calculation region shall agree on the use of remedial actions that require the action of more than one TSO.	Does the methodology for determining remedial actions request that the use of remedial actions that require the action of more than one TSO be agreed by all TSOs in the region?
Input to capacity calculation	25(4)	Each TSO shall ensure that remedial actions are taken into account in capacity calculation under the condition that the available remedial actions remaining after calculation, taken together with the reliability margin referred to in Article 22, are sufficient to ensure operational security.	Does the methodology for determining remedial actions set an obligation for each TSOs to ensure that remedial actions are taken into account in capacity calculation under the condition that the available remedial actions remaining after calculation, taken together with the reliability margin, are sufficient to ensure operational security?
Input to capacity calculation	25(5)	Each TSO shall take into account remedial actions without costs in capacity calculation.	Does the methodology for determining remedial actions set an obligation for each TSOs to take into account remedial actions without costs in capacity calculation?
Input to capacity calculation	25(6)	Each TSO shall ensure that the remedial actions to be taken into account in capacity calculation are the same for all capacity calculation time-frames, taking into account their technical availabilities for each capacity calculation timeframe.	Does the methodology for determining remedial actions set an obligation for each TSOs to ensure that the remedial actions to be taken into account in capacity calculation are the same for all capacity calculation time-frames, taking into account their technical availabilities for each capacity calculation timeframe?
Input to capacity calculation	21(1)(c)	The proposal for a common capacity calculation methodology […] shall include […] for each capacity calculation time-frame: a methodology for the validation of cross-zonal capacity in accordance with Article 26.	Does the CCM include a methodology for the validation of cross-zonal capacity?
Input to capacity calculation	26(1)	Each TSO shall validate and have the right to correct cross-zonal capacity relevant to the TSO's bidding zone borders or critical network elements provided by the coordinated capacity calculators in accordance with Articles 27 to 31.	Does the methodology for the validation of cross-zonal capacity provide the right to relevant TSOs to correct cross-zonal capacity provided by CCCs?
Input to capacity calculation	26(3)	Each TSO may reduce cross-zonal capacity during the validation of cross-zonal capacity referred to in paragraph 1 for reasons of operational security.	Does the CCM state that TSOs are entitled to reduce cross-zonal capacity in the validation phase for reasons of operational security?
Input to capacity calculation	26(5)	Each coordinated capacity calculator shall, every three months, report all reductions made during the validation of cross-zonal capacity in accordance with paragraph 3 to all regulatory authorities of the capacity calculation region. This report shall include the location and amount of any reduction in cross-zonal capacity and shall give reasons for the reductions.	Does the CCM impose on the CCC a detailed quarterly report on reductions of capacity occurring in the validation phase, including the location and amount of any reductions, and reasons for the reductions?
Input to capacity calculation	26(6)	All the regulatory authorities of the capacity calculation region shall decide whether to publish all or part of the report referred to in paragraph 5.	Is there a clear NRA policy on the publication of the quarterly report?

Annex 2 – assessment of the level of detail and harmonisation – list of closed ended questions

(30) All questions below are closed-ended. They are scored as follows: one point is awarded to an affirmative answer, while no points awarded to a negative answer. If a question is deemed non-applicable, it does into contribute towards the total score.

(31) A question is deemed non applicable in the context of inter-dependent questions, whereby an answer to a given question may result in other questions not being applicable. Interdependent questions are grouped per colour below.

Sub-aspect	evaluation criterion
Level of detail	Does the methodology for the calculation of the parameter include a description of calculation steps to be performed, including the entities respectively responsible for providing inputs and conducting the step?
Level of detail	Does the description of inputs and process steps allows for reproducibility of the process?
Level of detail	Does the methodology for the calculation of the parameter include clear communication rules between parties involved?
Level of detail	Does the methodology for the calculation of parameter include a clear timing and frequency for the communication of information between parties and the execution of each calculation step?
Level of detail	Does the methodology list the items, which shall be published by TSOs, and the publication frequency?
harmonisation level	Does the implementation of the general methodology result in one value for the parameter applied at the level of the calculation region?
harmonisation level	At the level of each bidding zone of the calculation region?
harmonisation level	Does the implementation of the general methodology result in a single methodology applied to establish the parameter at the level of the calculation region?
harmonisation level	When different methodologies are applied within the CCR, and is there a robust justification why specific approaches are needed?
harmonisation level	Does the general methodology include a process to improve the level of harmonisation for the calculation of the parameter after the entry into force of the methodology?
harmonisation level	Does the general methodology exclude possible deviations to the methodology for the calculation of the parameter?
harmonisation level	If not, are such deviations limited in number?
harmonisation level	Is the possibility to deviate limited in time?
harmonisation level	Is the possibility to deviate associated with clear transparency requirements?
harmonisation level	Is the possibility to deviate subject to a specific governance process?
harmonisation level	If so, at the level of the capacity calculation region?
harmonisation level	At national level?

Annex 3 – assessment of non-discrimination – list of questions

(32) Most questions below are closed-ended. They are scored as follows: one point is awarded to an affirmative answer, while a negative answer is awarded no points. If a question is deemed non-applicable, it does not contribute towards the total score.

(33) A question is deemed non applicable in the context of inter-dependent questions, whereby an answer to a given question may result in other questions not being applicable. Interdependent questions are marked in green below.

(34) Two questions are open-ended. They are not considered in the scoring, but provide context to the answers and analysis. Open-ended questions are marked in orange below, and presented as "open-ended".

Sub-aspect	evaluation criterion
Principle 1 (no consideration of limitations on internal network elements)	Does the methodology forbid the inclusion of constraints from internal network elements in the calculation?
Principle 1 (no consideration of limitations on internal network elements)	If not, is the inclusion of internal constraints subject to a detailed assessment?
Principle 1 (no consideration of limitations on internal network elements)	Is such assessment based on technical or economic considerations? (open-ended)
Principle 1 (no consideration of limitations on internal network elements)	If based on technical considerations, is there an underlying rationale to ensure efficiency?
Principle 2 (no reduction of cross-zonal capacity due to loop flows) + CEP (70% minRAM)	Does the methodology include measures to ensure that LFs do not unduly restrict XB capacity?
Principle 2 (no reduction of cross-zonal capacity due to loop flows) + CEP (70% minRAM)	Does the methodology guarantee a minimum level of cross-border capacity? If so, how much? (open-ended)
Principle 2 (no reduction of cross-zonal capacity due to loop flows) + CEP (70% minRAM)	Does the methodology include a trajectory to higher guaranteed levels of cross-border capacity over time?
Principle 2 (no reduction of cross-zonal capacity due to loop flows) + CEP (70% minRAM)	Is the methodology compliant with the requirement set by the Clean Energy Package of 70% of guaranteed cross-border capacity?
	Does the methodology handle flows from other CCRs?

Annex 4 – assessment of transparency and enforceability – list of questions

(35) Most questions below are closed-ended. They are scored as follows: one point is awarded to an affirmative answer, while a negative answer is awarded no points.. If a question is deemed non-applicable, it does not contribute towards the total score.

(36) A question is deemed non applicable in the context of interdependent questions, whereby an answer to a given question may result in other questions not being applicable. Interdependent questions are marked in green below.

(37) Two questions are open-ended. They are not considered in the scoring, but provide context to the answers and analysis. Open-ended questions are marked in orange below, and signalled as "open-ended".

Sub-aspect	evaluation criterion
Publication of data	Does the methodology require a mean to centralise all information published (e.g. a dedicated online platform)?
Publication of data	Does the methodology require specific measures to ensure that the information published is complete, accessible and understood by market participants? (E.g. handbook, satisfaction survey, workshops…)
Publication of data	Does the methodology define a process to control the quality and the availability of the information published?
Publication of data	Does the methodology define clear lead times between the publication of inputs to capacity calculation and their use in capacity calculation?
Publication of data	Does the methodology require specific transparency measures (reporting and justifications) for situations when TSOs deviate from the general methodology, and in particular from the outcome of the capacity calculation as communicated by the CCC (e.g. for reasons of operational security)?
Enforceability	Does the methodology set an unconditional deadline for its implementation?[11]
Enforceability	If yes, what is the deadline? (open-ended)
Enforceability	Does the methodology include a binding timescale, beyond the deadline (i.e. does it define intermediary deadlines)?
Enforceability	Is the party responsible for an action always clearly identified?
Enforceability	If not, count the passive forms without explicit subject… (open-ended)

[11] This question was deemed non-applicable for Hansa CCR, as by design the implementation of the CCM in this region depends on the implementation of CCMs in neighbouring regions.