

ACER Decision on the first amendment of the Core LT CCM: Annex I

**First amendment of the Long-term Capacity
Calculation Methodology
of the Core Capacity Calculation Region**

in accordance with Article 10 of Commission Regulation (EU)
2016/1719 of 26 September 2016
establishing a guideline on forward capacity allocation

16 July 2026

Whereas

1. This is the first amendment of the common coordinated long-term capacity calculation methodology (the ‘Amendment’) for the Core capacity calculation region (‘Core CCR’) in accordance with Article 4 (12) 2nd sentence and Article 10 of Commission Regulation (EU) 2016/1719 establishing a guideline on Forward Capacity Allocation (‘FCA Regulation’).
2. The Amendment takes into account Regulation (EC) No 2019/943 on the internal market for electricity (‘Electricity Regulation’), the general principles of forward capacity calculation set out in Article 10 of the FCA Regulation, and the objectives listed in Article 3 of the FCA Regulation.
3. With this amendment, Core TSOs introduce the so-called ATC Benchmark concept by which calculated remaining available margins (RAM) are adjusted to ensure the flow-based domains meets historical benchmark.
4. This present amendment further aims at including the bidding zone border between the Single Electricity Market of Ireland and Northern Ireland (SEM) and France (FR). The Core LT CCM shall be applicable as of the SEM-FR bidding zone border becoming effective, i.e. from the date of operation of the interconnector on the respective bidding zone border.
5. With this amendment, Core TSOs introduce further changes to improve the capacity calculation process based on their experience gained during the implementation of the common coordinated long-term capacity calculation methodology, namely HVDC integration, inputs for fallback procedures and published data quality.
6. This LT CCM contributes to the achievement of the objectives of forward capacity allocation listed in Article 3 of the FCA Regulation. In particular, this Amendment:
 - a) takes into account the hedging needs of electricity market participants, by offering capacity based on a flow-based domain specifically adjusted to meet historical benchmark. It is promoting effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for electricity market participants in accordance with Article 3(a) of the FCA Regulation;
 - b) allows for improved fallback procedures, improved quality for data publication and better integration of HVDC interconnectors to the capacity calculation process. Thus, this Amendment contributes to the optimisation of the calculation and allocation of long-term cross zonal capacity in Core, in accordance with Article 3(b) of the FCA Regulation;
 - c) applies equally to all market participants on all respective bidding zone borders in the Core CCR, thereby ensuring a level playing field amongst market participants, and providing non-discriminatory access to long-term cross-zonal capacity in accordance with Article 3(c) of the FCA Regulation;
 - d) has been developed and adopted in a transparent process involving all the relevant stakeholders. This ensures fair and non-discriminatory treatment of the TSOs, ACER, regulatory authorities and market participants in accordance with Article 3(d) of the FCA Regulation;

- e) continues to contribute to an orderly price formation and respects the need for a fair and orderly forward capacity allocation in accordance with Article 3(e) of the FCA Regulation;
- f) requires the Core TSOs to provide market participants with reliable information on cross-zonal capacities for the forward allocation in a transparent and continuous way by publication of the validated results. This includes regular reporting on specific processes within capacity calculation. Core TSOs will further publish the Benchmark ATC values taking into account during the capacity calculation process. As such, it ensures and enhances the transparency and reliability of information on forward capacity allocation in accordance with Article 3(f) of the FCA Regulation;
- g) enables the allocation of long-term cross-zonal capacities and this provides long-term price signals and hedging and thus facilitates efficient investments in transmission, generation and consumption and contributes to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union in accordance with Article 3(g) of the FCA Regulation.

Article 1

General Improvements

Article 2. Definitions shall be amended accordingly:

1. A new letter (ab) shall be included and be read accordingly:

“(ab) ‘AAC’ means: Already Allocated Capacity, which refers to the transmission capacity that was allocated in the previous auctions;”

2. A new letter (cb) shall be included and be read accordingly:

“(cb) ‘ATC’ means the available transmission capacity on bidding zone borders, which is the transmission capacity that remains available after the deduction of eventual previously allocated capacities and which respects the physical conditions of the transmission system.”

3. A new letter (cc) shall be included and be read accordingly:

“(cc) ‘ATC benchmark’ means the defined benchmark capacities on bidding zone borders;”

4. A new letter (cd) shall be included and be read accordingly:

“(cd) ‘ATC benchmark_pre-split’ means the benchmark on bidding zone borders for yearly time horizon, obtained by dividing with the yearly ATC benchmark with the Splitting Factor;”

5. A new letter (ssb) shall be included and be read accordingly:

“(ssb) ‘PTR’ means: Physical Transmission Rights.”

6. A new letter (bbb) shall be included and be read accordingly:

“(bbb) ‘SEM’ means: Single Electricity Market in Ireland and Northern Ireland (bidding zone covering the island of Ireland);”

7. A new letter (ccc) shall be included and be read accordingly:

“(ccc) ‘Splitting Factor’ means: factor defined by the Core TSOs Long-term Splitting Methodology, pursuant to Article 16 of the FCA Regulation.”

- 8a Article 6. “Methodology for Allocation Constraints” shall be amended accordingly:

1. “In case operational security limits cannot be transformed efficiently into I_{max} pursuant to Article 5, the Core TSOs may transform them into allocation constraints. For this purpose, the Core TSOs may only use an allocation constraint on Core net position as a specific type of allocation constraint that limits the maximum import and/or export of a given Core bidding zone (the sum of its cross-zonal exchanges within the Core CCR).
 2. Borders with existing allocation constraints on the Core net position at the day-ahead level may be also subject to the application of the allocation constraints at the long-term level, but only as long as the allocation constraints at the long-term level serve to accommodate the existing day-ahead allocation constraints.
 3. The TSOs applying the long-term allocation constraints shall:
 - a) update the calculation of allocation constraints at least on a quarterly basis; and
 - b) provide to all Core TSOs and NRAs the detailed calculation and its results upon each update of the allocation constraints’ values.
 4. A Core TSO may discontinue the use of allocation constraints. The concerned Core TSO shall communicate this change to the other Core TSOs, all Core NRAs and market participants at least one month before the discontinuation.”
8. A new Article (10a), titled “Benchmark Input for RAM Adjustment” shall be included and be read accordingly:
1. “Core TSOs shall use benchmark values in accordance with Annex 1.
 2. In accordance with Article 14, RAMs of CNECs shall be modified during the capacity calculation to produce a resulting domain that accommodates the benchmark ATC values. Induced flows shall be calculated for each

CNEC based on the $ATC_{benchmark_pre_split}$, at yearly time horizon, and $ATC_{benchmark}$ for monthly time horizon. After that the RAM of each CNEC shall be adjusted based on the induced flows in accordance with Article 14(7);

3. The capacity calculation sequence to be applied initially shall be as follows: first, pre-solving the initial flow-based domain and, second, applying the ATC benchmark to the pre-solved CNECs.
9. Article 11. Integration of HVDC Interconnectors at the Core Bidding Zone Borders shall be amended accordingly:
 1. In Paragraph 2, the duplicate definition of $PTDF_{VH_2,l}$ shall be deleted.
 2. In Paragraph 4. the last sentence, stating “In case of a planned outage of the HVDC interconnector, the MPTC shall be set to zero.” shall be deleted.
10. Article 12. Description of the CC inputs and outputs shall be amended accordingly:
 1. Paragraph 1 shall be replaced and be read accordingly:

“For each calculation time frame and CGM, the Core TSOs shall provide the Core CCC with the following inputs from (a) to (h)”

 - (a) GSKs in accordance with Article 8;
 - (b) MPTCs of HVDCs inside the Core CCR in accordance with Article 11;
 - (c) CNECs in accordance with Article 7;
 - (d) Reliability margin in accordance with Article 4;
 - (e) I_{max} per CNE in accordance with Article 5(1)(a);
 - (f) External constraints in accordance with Article 6; and
 - (g) OPC data in accordance with Article 10.
 - (h) Benchmark ATC values in accordance with Article 10a.”

Core TSO may delegate its obligation of providing the inputs to another Core TSO.”

11. Article 13. Computation of Power Transfer Distribution Factors shall be amended accordingly:
 1. Paragraph 2. shall be replaced and be read accordingly:

“The slack node shall be the same node for each synchronous area, meaning the Continental Europe Area and the Ireland and Northern Ireland Area, across all CGMs of a capacity calculation time frame.”

12. Article 14. Computation of Remaining Available Margin shall be amended accordingly:

1. In Paragraph 5, a new sentence shall be included and be read accordingly:

“A Core TSO may delegate its obligation of providing the minimum percentage of F_{max} for RAM for its own CNECs to another Core TSO.”

2. A new Paragraph 7. shall be included and be read accordingly:

“7. Finally, the RAM before validation shall be adjusted to accommodate the benchmark ATC value in accordance with Article 10a.

a. If RAM_{bv} is smaller than $minInducedFlow$, it shall be adjusted to equal $minInducedFlow$

b. If RAM_{bv} is greater than $maxInducedFlow$, it shall be adjusted to equal $maxInducedFlow$

c. Else, RAM_{bv} shall not be adjusted

Minimum and maximum induced flows shall be calculated on each CNEC as follows:

at yearly level:

$$minInducedFlow = pPTDF_{zz} * minimum ATC_{benchmark_pre-split} \quad (10)$$

$$maxInducedFlow = pPTDF_{zz} * maximum ATC_{benchmark_pre-split} \quad (11)$$

at monthly level:

$$minInducedFlow = pPTDF_{zz} * minimum ATC_{benchmark} \quad (12)$$

$$maxInducedFlow = pPTDF_{zz} * maximum ATC_{benchmark} \quad (13)$$

with

pPTDF_{zz} positive zone-to-zone power transfer distribution factor matrix

13. Article 15. Consideration of Non-Core CCR Bidding Zone Borders shall be amended accordingly:

1. In Paragraph 3, the last two sentences shall be replaced and be read accordingly:

“The Core TSOs shall start to study solutions for considering influence of non-Core CCR bidding zone borders immediately upon the implementation of Advanced Hybrid Coupling (AHC) in the Core DA CCM. The Core TSOs shall provide a report with the proposal for the improvements of treatment of non-Core exchanges in the LT CCM within

12 months after the implementation of LT CCM pursuant to Article 22(3) has been completed."

14. Article 16. Fallback Procedure shall be amended accordingly:

1. In Paragraph 4. letter b) shall be replaced and be read accordingly:

“For the monthly capacity calculation, the FB parameters calculated for the preceding monthly auction shall be used as a basis.”
2. In Paragraph 4, a new letter c) shall be added and be read accordingly:

“For the first yearly and monthly capacity calculation conducted after the implementation the LT CCM pursuant to Article 22(3) has been completed, the FB parameters calculated during external parallel run shall be used as a basis.”

15. Article 18. Review and Updates shall be amended accordingly:

1. Paragraph 1 shall be replaced and be read accordingly:

“Based on Article 3(f) of the FCA Regulation and in accordance with Article 21(3) of the FCA Regulation, referring to Article 27 of the CACM Regulation, the Core TSOs shall regularly, and at least once a year, review and update the key input parameters listed in Article 27(4) of the CACM Regulation. Should the operational security limits, CNEs, contingencies and allocation constraints used for the common capacity calculation need to be updated based on this review, the Core TSOs shall publish the changes simultaneously with the update and publication requirements of the Core DA CCM.”
2. Paragraph 5 shall be deleted, and paragraphs 6, 7 and 8 shall be renumbered as paragraphs 5, 6 and 7, respectively.
3. New paragraph 8 is added and shall be read accordingly:

“The Core TSOs shall regularly, and at least once a year, review the benchmark ATC values set out in Annex 1. Any update to those values shall require an amendment of this Methodology in accordance with Article 4 of the FCA Regulation. Where the review indicates that an update is necessary, the Core TSOs shall submit a proposal for such amendment in accordance with Article 4(12) of the FCA Regulation.”

15a. The following provisions referencing paragraph (5) of Article 18 shall be deleted: paragraph (5) of Article 4, paragraph (4) of Article 5, paragraph (5) of Article 6, paragraph (3) of Article 7, paragraph (2) of Article 9, paragraph (4) of Article 10, paragraph (4) of Article 10a, paragraph (7) of Article 17, and point 5 of Annex I.

16. Article 20. Publication of Data shall be amended accordingly:

1. In Paragraph 1. letter (e) shall be replaced and be read accordingly:

“detailed breakdown of the final FB parameters per CNEC: I_{max}, U, cosj, F_{max}, F_{ref}, F(0,Core), FRM, FAAC, RAM, minRAM application, zone-to-slack PTDFs”
2. In Paragraph 1. letter (e) shall be replaced and be read accordingly:

“allocation constraints including their calculation details (reasoning, methodology and results) in accordance with Article 6”
3. In Paragraph 1. letter (i) Paragraph (iii) shall be replaced and be read accordingly:

“reference net positions of all bidding zones in the synchronous areas of Continental Europe , and island of Ireland and the synchronous area of the island of Ireland, and reference exchanges for all HVDC interconnectors within the synchronous area of Continental Europe, and between the synchronous area of Continental Europe and other synchronous areas and between synchronous area island of Ireland and other synchronous areas; and”
4. In Paragraph 1. A new letter (k) shall be included and be read accordingly:

“Benchmark ATC values in accordance with Article 10a.”

17. Article 22. Timescale for Implementation shall be amended accordingly:

1. The name of the Article 22 shall be changed and be read accordingly:

“Timescale for Implementation and future development”
2. In Paragraph 3. letter (c) shall be replaced and be read accordingly:

“(c) implementation by the following deadlines of:

 - i. the flow-based yearly auction for 2027; and
 - ii. the flow-based monthly auction for January 2027”
3. A new Paragraph 6. shall be included and be read accordingly:

“This LT CCM shall apply to the SEM-FR interconnector once commissioning is finalised and the technical conditions allowing commercial operations in the long-term timeframe to begin are met. The integration of the HVDC cable connecting the two bidding zones shall be conducted in compliance with the Article 11.”
4. A new Paragraph 7. shall be included and be read accordingly:

“If, by 30 June 2027, ACER has not yet received all TSOs’ proposal to amend the methodology for the determination of capacity

calculation regions so as to extend the Central Europe CCR to include the long-term capacity calculation timeframe, the Core TSOs shall submit to the Core NRAs, by 31 May 2028, a proposal to amend the Core LT CCM. The Core TSOs' proposal shall:

- (a) aim to remove the ATC benchmark and apply fully coordinated capacity calculation;
- (b) include an assessment of the statistical flow-based approach to long-term capacity calculation pursuant to Articles 10(2), 10(4)(b) and 10(5)(b) of the FCA Regulation as the target solution. However, if the Core TSOs demonstrate that an alternative coordinated approach permitted under the FCA Regulation and applicable in Core CCR, (in particular flow-based scenario-based or coordinated NTC-based scenario-based) would deliver better results, they may propose such an approach instead.”

5. A new Paragraph 8. shall be included and be read accordingly:

“The proposal pursuant to paragraph (7) shall include, where relevant and applicable, further updates to the methodological aspects of the LT CC process set out in Articles 4 to 17.”

6. A new Paragraph 9. shall be included and be read accordingly:

“In developing the proposal pursuant to paragraph (7), the Core TSOs shall take into account any amendments to the FCA Regulation that are relevant to the LT CCM and that have entered into force by the time that proposal is submitted to the Core regulatory authorities.”

7. A new Paragraph 10. shall be included and be read accordingly:

“The Core TSOs shall implement the required IT adaptations to enable the revised capacity calculation sequence, whereby the ATC benchmark is applied before pre-solving the flow-based domain, without undue delay once those adaptations can be made in a technically feasible and proportionate manner. Until the revised sequencing is implemented, the capacity calculation sequence initially applied for pre-solving, as set out in Article 10a(3), shall continue to apply.”

18. A new Annex 1. “Benchmark ATC Values” shall be included and read accordingly:

1. “Core TSOs shall use the benchmark ATC values as inputs to the LT CC process provided under paragraph (4). The values shall refer to 2025 historic yearly and seasonal monthly ATC values with the

following exceptions:

- a. The DE-AT border shall have yearly and monthly benchmark ATC values of 50% of the 2025 historical ATC values.
 - b. For the SI-HR border direction, the yearly benchmark ATC value shall be set 100 MW above the 2025 historical ATC value;
 - c. For all Polish Core borders (PL-CZ, PL-DE and PL-SK), the benchmark ATC values shall be based on the 2025 day-ahead ATC values obtained using the ATC extraction method. The yearly and monthly benchmark values for each border direction shall subsequently be set at 5th percentile of those ATC values across all MTUs;
 - d. For the SEM-FR border, EirGrid and RTE shall determine the benchmark ATC values in future iterations of the LTCCM closer to the commissioning of SEM-FR interconnector.
2. Benchmark ATC values for yearly time horizon shall be increased by dividing with the splitting factor to anticipate the splitting that will take place after the capacity calculation process.

$$ATC_{benchmark_pre-split} = \frac{ATC_{benchmark}}{Splitting\ factor}$$

with

$ATC_{benchmark_pre-split}$: benchmark capacities on bidding zone border adjusted prior to splitting

$Splitting\ factor$: factor pursuant to Core TSOs Long-term Splitting Methodology

3. Subject to the exceptions listed in paragraph (1), the benchmark ATC values for the monthly calculation shall be based on the average of historic ATC values per season, corresponding to seasonal ENTSO-E CGMs in accordance with Article 10.
4. Yearly and monthly benchmark ATC values that shall be used for the implementation of this methodology are defined in Table A1.
 - a. For the yearly time horizon: minimum $ATC_{benchmark_pre-split}$ is equal to the maximum $ATC_{benchmark_pre-split}$ and represented as “ATC benchmark pre-split” in the Table A1.

- b. For the monthly time horizon: minimum $ATC_{\text{benchmark}}$ is equal to the maximum $ATC_{\text{benchmark}}$ and represented as “ATC benchmark” in the Table A1.

Table A1: Yearly and monthly ATC benchmark values

Border	ATC benchmark_ pre-split: Yearly CC	ATC benchmark: Monthly CC, Winter 1 (Jan, Feb)	ATC benchmark: Monthly CC, Spring (Mar, Apr, May)	ATC benchmark: Monthly CC, Summer (Jun, Jul, Aug)	ATC benchmark: Monthly CC, Autumn (Sep, Oct, Nov)	ATC benchmark: Monthly CC, Winter 2 (Dec)
ATtoCZ	250	150	150	150	150	150
ATtoDE	1225	1030	897	897	997	1030
ATtoHU	313	152	152	152	152	152
ATtoSI	375	300	217	300	300	300
BEtoDE	325	240	173	140	173	240
BEtoFR	313	438	275	425	275	325
BEtoNL	591	146	146	146	146	146
CZtoAT	250	60	40	17	30	40
CZtoDE	750	301	301	301	301	301
CZtoPL	388	128	73	79	70	77
CZtoSK	625	300	300	300	300	300
DEtoAT	1225	1430	1430	1430	1430	1430
DEtoBE	325	240	173	140	173	240
DEtoCZ	375	200	187	180	180	180
DEtoFR	750	400	400	400	267	400
DEtoNL	1034	254	254	254	254	254
DEtoPL	283	90	53	63	48	50
FRtoBE	2000	275	200	200	200	250
FRtoDE	1250	260	290	170	173	350
HRtoHU	500	50	50	50	50	50
HRtoSI	625	150	150	150	150	150
HUtoAT	313	90	60	22	50	70
HUtoHR	625	50	33	50	50	50
HUtoRO	438	120	120	173	173	280
HUtoSI	188	50	50	50	50	50
HUtoSK	1000	50	50	50	50	50
NLtoBE	591	146	146	146	146	146

NLtoDE	1034	254	254	254	254	254
PLtoCZ	355	76	84	69	68	66
PLtoDE	254	75	62	44	50	63
PLtoSK	309	83	69	56	53	101
ROtoHU	438	120	120	173	173	280
SItoAT	375	130	83	23	67	100
SItoHR	750	150	150	150	150	150
SItoHU	188	50	50	50	50	50
SKtoCZ	500	300	300	300	300	300
SKtoHU	875	150	150	150	150	150
SKtoPL	417	107	105	75	76	85