

**Explanatory document to the relevant Hansa TSOs' for  
a methodology for splitting long-term cross-zonal  
capacity in accordance with Article 16 of the  
Commission Regulation (EU) 2016/1719 of 26  
September 2016 establishing a Guideline on Forward  
Capacity Allocation**

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## 1. Introduction

This document contains explanations for the relevant CCR Hansa Transmission System Operators' methodology for splitting long-term cross-zonal capacity (hereafter referred to as "Hansa MSR") in accordance with Article 16 of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a Guideline on Forward Capacity Allocation (hereafter referred to as "FCA Regulation"). CCR Hansa Transmission System Operators (hereafter referred to as "CCR Hansa TSOs") are obliged to consult stakeholders on proposals for terms and conditions or methodologies required by the FCA Regulation. Via the ENTSO-e consultation platform, the public consultation document for the CCR Hansa MSR proposal was available to stakeholders from the 15th of April to the 15th of May 2019. In total, one stakeholder submitted their response to the consultation. The purpose of this document is to provide further explanations, background information and motivations for the legal text of the Hansa MSR.

## 2. Regulatory Framework

The FCA Regulation states that, in the interests of developing a genuinely integrated electricity market, efficient hedging opportunities should be developed for generators, consumers and retailers to mitigate future price risk in the area in which they operate. A well-functioning market should also provide consumers with adequate measures to promote more efficient use of energy, which presupposes a secure supply of energy.

The FCA Regulation establishes several new regional processes. This includes a long-term capacity calculation methodology for CCR Hansa (hereafter referred to as "Hansa LT CCM") pursuant to Article 10 of the FCA Regulation, and a methodology for splitting cross-zonal capacity pursuant to Article 16 of the FCA Regulation.

The FCA Regulation lists the types of transmission rights that can be offered and in accordance with the Hansa regional design of long-term transmission rights pursuant to Article 31 of the FCA Regulation, CCR Hansa TSOs have previously proposed the

- (a) type of long-term transmission rights;
- (b) forward capacity allocation time frames;
- (c) form of product (base load, peak load, off-peak load); and
- (d) the bidding-zone borders covered.

Whereas the focus of the Hansa LT CCM is to determine the total amount of capacity that can be made available on Hansa interconnectors, the Hansa MSR determines how to distribute that amount of capacity between the various long-term time frames.

Article 31 of the FCA Regulation states: "All TSOs issuing long-term transmission rights shall offer long-term cross-zonal capacity, through the single allocation platform, to market participants for at least annual and monthly time frames". Therefore, CCR Hansa TSOs have agreed to offer long term capacity at least in these two time frames.

The first aim listed in Article 3 of the FCA Regulation is "promoting effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for market participants". Furthermore, Article 16 of the FCA Regulation states that the Hansa MSR "shall meet the hedging needs of market participants". Therefore, an important aspect of the Hansa MSR is to respond flexibly to the changing requirements of market participants.

Furthermore, Article 16 of the FCA Regulation states that the Hansa MSR "shall be coherent with the capacity calculation methodology". The Hansa MSR addresses this requirement taking into account

the capacity calculated according to the Hansa LT CCM when splitting capacities across the different long-term time frames.

Finally, Article 16 of the FCA Regulation states that the Hansa MSR “shall not lead to restrictions in competition, in particular for access to long-term transmission rights”. Therefore, the capacity splits shall be published alongside the auction calendar pursuant to the harmonised allocation rules for long-term transmission rights in accordance with Article 51 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a Guideline on Forward Capacity Allocation, so that all market participants have the same information and opportunity in order to bid to long-term transmission rights.

For the avoidance of doubt, this Hansa MSR only deals with the distribution of capacity between the different long-term time frames. It does not deal with the calculation of capacity, which is described in the Hansa LT CCM.

### 3. General Explanations

Please note that the splitting criteria listed in Chapter 3 are up for consultation and must not be seen as fixed for the final Hansa MSR that will be submitted to the Hansa NRAs.

#### 3.1 Capacity Split Principles

**Capacity Split Ratio** – The term “Capacity Split Ratio” means the time frame specific ratio for splitting the long-term cross-border capacity into the Capacity Split on the concerned Interconnector by the Responsible TSOs. Note that the Capacity Split Ratio includes all percentage figures that add up to 100%. For example, if there are only two long-term time frames available and the ratio is equal for those two time frames, then the Capacity Split Ratio is given by (50%, 50%) and not by 50%.

The CCR Hansa TSOs propose an equal split for the first year this methodology is applied, i.e. there will be a split between the yearly and monthly time frame and the split will be (50%, 50%). This ensures an equal treatment of the long-term time frames in absence of market participants’ indications for a preferred, different Capacity Split Ratio. This ratio may be changed if market participants indicate preferences towards another ratio in the re-assessment of the Capacity Split Ratio according to Article 6. If, for example, solely the two long-term time frames yearly and monthly as requested by Article 31 of the FCA Regulation exist, an equal Capacity Split Ratio means that 50% of the calculated capacity year-ahead is given to both the monthly and the yearly time frame. Note that in this case the capacity calculated month-ahead cannot be split. A split of the month-ahead capacity calculation is only possible if a shorter time frame (e.g. weekly) is implemented.

**Capacity Split** – The term “Capacity Split” means the specific volumes being made available for allocation on the concerned Interconnector by the Responsible TSOs for each long-term time frame. If, for example, the year-ahead capacity calculation yields 300 MW and there are only the two long-term time frames yearly and monthly, this yields a yearly LTTR volume of 150 MW and monthly LTTR volume of 150 MW.

#### 3.2 Different splitting principles and their associated risks

In this methodology, the CCR Hansa TSOs propose that all the calculated capacity in a long-term time frame is considered for splitting. However, there have been intense discussions within the CCR Hansa whether this approach is reasonable. The following two aspects were in the centre of the discussion: a. revenue adequacy and b. withholding calculated capacities from the long-term market. CCR Hansa TSOs expect CCR Hansa NRAs to take note of these risks and to balance between them, particularly considering the effects on society, the market players and TSOs.

##### 3.2.1 Assessment of the Capacity Split Ratio and revenue adequacy (Article 6)

Generally, the amount of LTTRs being offered to the market will be equal to the NTC calculated in the long-term capacity calculation process, cf. Article 10 of the FCA Regulation.

###### 3.2.1.1 Capacity Split Ratio

The approach for splitting the NTC among different time frames/products will be based on market needs. Once a year the CCR Hansa TSOs will consult market players in order to identify whether more time frames and/or another split between time frames is needed.

###### 3.2.1.2 Revenue adequacy

Since the amounts of LTTRs are equal to the NTC from the CC process, there is a risk of lack of revenue adequacy (so-called “underselling”) from the LTTR auctions compared to the day ahead

congestion revenue. In the following, the CCR Hansa TSOs highlight the risk and the consequences of this.

LTTRs refer to the TSOs selling the right to obtain the future day-ahead congestion revenue in advance (or the right to use the interconnector for power exchange). In this way the buyer obtains a hedge. According to option theory, the price of an option can be written as the expected value of the sum of the discounted pay-offs.<sup>1</sup> In other words, the expected value of 1 MW yearly LTTR is the expected day-ahead congestion revenue (day-ahead bidding-zone border price spread) from market coupling as this is the pay-off from holding a (financial) transmission right. However, as LTTRs are purchased in advance of the actual emergence of the price spread (by the very nature of a hedge), the auction price will, in reality, not be fully equal to the day-ahead price spread. Given that the markets for LTTRs are competitive, CCR Hansa TSOs expect that the auction prices from monthly and yearly LTTRs will be distributed (to some degree) equally between overshooting and undershooting compared to day-ahead price spread. However, historical data show that the auction price, which would have established an equilibrium between demand for LTTRs and NTC, leads to massive undershooting (underselling), creating a problem of revenue adequacy if the NTC has been offered to the market instead of the amount of LTTR that was actually offered to the market in the past auctions. For example, on the bidding-zone border between DK1 and DK2 150 MW of LTTRs, as has been determined by Energinet.dk as the LTTR capacity, are offered, whereas the NTC is 600 MW.

Looking at the three bidding-zone borders DK1-DK2, DK2-DE and DK1-DE, data from 2018 show that the LTTR auction revenue would have been approximately € 36m lower compared to day-ahead price spread in 2018 if the amount of LTTRs was equal to the NTC. This is illustrated on monthly values in the table below, where red markings indicate underselling.

DK1->DK2	
Måned	Under/"overselling" (EUR pr. måned)
Januar	-232.344
Februar	-710.728
Marts	-1.881.923
April	167.901
Maj	-881.030
Juni	-1.514.617
Juli	-232.812
August	35.130
September	-708.480
Oktober	-415.217
November	225.798
December	-472.776

DK2->DK1	
Måned	Under/"overselling" (EUR pr. måned)
Januar	2.278
Februar	3.729
Marts	911
April	2.354
Maj	-16.261
Juni	-2.386
Juli	3.928
August	3.223
September	3
Oktober	2.716
November	3.809
December	2.775

DK2 ->DE	
Måned	Under/"overselling" (EUR pr. måned)
Januar	-1.690.346
Februar	14.637
Marts	-2.876.697
April	-1.907.359
Maj	-461.593
Juni	
Juli	
August	
September	
Oktober	-363.176
November	695.006
December	-773.187

DE->DK2	
Måned	Under/"overselling" (EUR pr. måned)
Januar	-526.452
Februar	-514.825
Marts	-305.015
April	546.269
Maj	-85.373
Juni	
Juli	
August	
September	
Oktober	-1.270.169
November	-689.916
December	-614.163

DE->DK1	
Måned	Under/"overselling" (EUR pr. måned)
Januar	-3.655.088
Februar	-297.511
Marts	-1.841.239
April	-4.059.045
Maj	-2.026.428
Juni	-2.201.259
Juli	-2.134.899
August	216.328
September	-44.162
Oktober	-23.331
November	81.981
December	-1.928.992

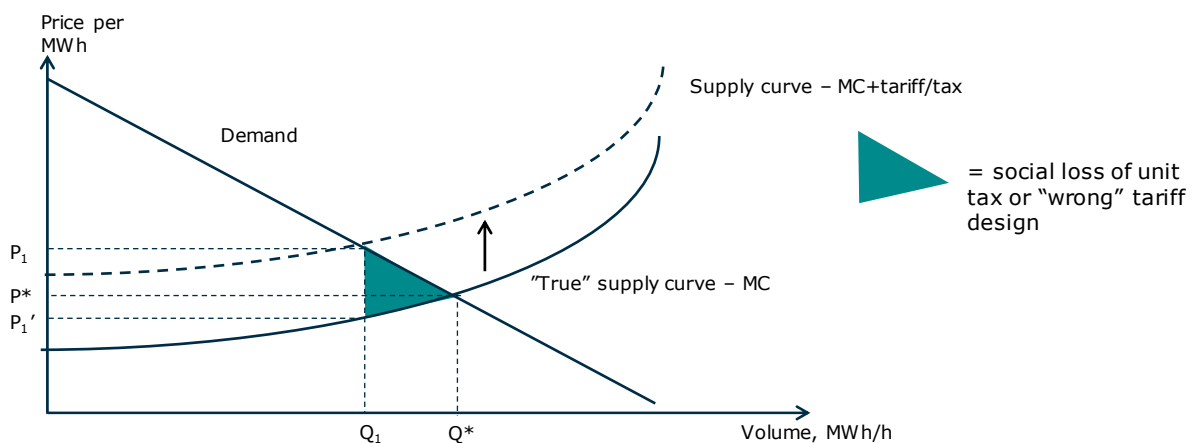
DK1->DE	
Måned	Under/"overselling" (EUR pr. måned)
Januar	
Februar	
Marts	
April	-324.569
Maj	
Juni	-407.953
Juli	-7.214
August	
September	
Oktober	
November	
December	

The existence of underselling might lead to a lack of revenue adequacy compared to the revenue needed for covering the cost of operation of the interconnector. Therefore, the lack of revenue is charged via the transmission tariffs. The impact of lack of revenue adequacy is twofold.

<sup>1</sup> See Vijay Parmeshwarana and Kumar Muthuramanb (2007): "FTR-option formulation and pricing".

1. To fulfil the criteria of revenue adequacy the TSO tariff must be increased. These tariffs are mainly imposed on consumers, and to a lesser degree on producers. Thus, consumers will de facto finance that purchasers of LTTRs can obtain a hedge below expected pay-off.
2. The increase in tariff might cause a social loss as the current tariff design in €/kWh shares some distortional features with a standard unit tax on goods. The impact is discussed in the section below.

In some European countries and hereby Denmark, the tariffs are designed as a volume tariff, where consumers pay a tariff in €/kWh, hence the payment increases 1:1 with increased consumption. This causes a social loss as the true social cost of utilising the grid is way below the tariff. In Denmark, the tariff is approximately 0.01 €/kWh, but the marginal cost of taking the marginal kWh out of the transmissions system is only approximately 6% thereof. This introduced a social loss in the same way as a tax imposed for public finance. The social loss is due to a “wedge” being driven in between the marginal value of transmission service and the short run marginal cost of providing the service, cf. the figure below.



The short run marginal cost consists in general of grid loss and congestions, only that grid loss in reality are managed by market coupling, contrary to congestions.

### 3.3 Withholding of calculated capacities from the long-term market

The consideration of revenue adequacy may lead to the fact that calculated capacity is not offered to the long-term market. Therefore, this might be seen as withholding of capacities from the long-term market and therefore contradictory to the envisaged aim of the “Clean Energy Package” to enlarge cross-border trade.

## 4. Timeline for Implementation

In Article 9 of the Hansa MSR the timeline for implementation is illustrated. The implementation of the Hansa MSR shall follow the implementation of the Hansa LTCCM. This is due to the fact that the Hansa MSR builds upon results of the Hansa LTCCM.

## 5. Results from Consultation

Comment number	Comments received	Considered?	CCR Hansa TSOs' reply
1	<p>Article 5.2: [...] In case that the full yearly NTC is not allocated in the yearly allocation, then the capacity not allocated can be offered in the monthly auction complying with the monthly NTC calculated. We agree that the full yearly NTC not allocated in the yearly allocation should be allocated in the monthly action. We would like however to have even stronger language on the issue and suggest changing the article as below. The article will be fully in line with the earlier paragraphs of article 5 and will reinforce the principles stated in Article 3.1: "Article 5.2: [...] In case that the full yearly NTC is not allocated in the yearly allocation, then the capacity not allocated shall be offered in the monthly auction complying with the monthly NTC calculated."</p>	Yes	CCR Hansa TSOs agree to this point and checked the wording in the documents.
2	<p><b>Article 6.1:</b> <i>The Capacity Split for a specific Interconnector shall be determined by the Responsible TSOs and shall contain direction specific volumes of all LTR products to be offered.</i> This regional methodology, which is supposed to harmonise the capacity splits on all bidding zone borders of the Hansa region, fundamentally leaves the individual TSOs do what they want at an individual level – or even worse, do what they have already been doing for years. There is not a single element of harmonisation in the proposed document. This is in our mind not compliant with article 16 of the FCA GL, which requires a common methodology for capacity splitting for each CCR, and more specifically one that is coherent with the capacity calculation methodology (CCM), article 16.2(b) FCA. In CCMs, the capacity is calculated in a coordinated manner by all TSOs of the CCR. It seems incoherent that the capacity splitting rules would not be coordinated and applied in the same manner by all the TSOs of the CCR. Besides, the potential lack of transparency in the application of different splitting rules and criteria on each interconnector of the region – and surely its lack of practicality for users – risks hindering the capacity of the splitting rules to meet market participants' hedging needs – article 16.2(c). We refer to our comments on Chapter 3 for specific amendment proposals.</p>	Yes	In the methodology submitted to CCR Hansa NRAs, only one and, thus, harmonized approach is presented, which does not include separate Splitting Criteria any longer.



3	<p><b>Chapter 3: splitting criteria</b> (articles 7 to 11) The draft methodology presents five possible criteria for splitting capacity between the different time horizons in the forward timeframe. While it is certainly more elaborate than most splitting methodologies proposed in the different CCRs in Europe, we have fundamental objections with the overall approach: 1. We oppose any reservation of capacity from the year-ahead to month-ahead auctions, or for the day-ahead timeframe. Hedging is about assessing and covering against a variety of risks: price risk, volume risk, regulatory risk, etc. The further away from real time, the greater the uncertainty and therefore the greater the interest and importance for market participants to cover those risks. It is therefore vital that TSOs should make available to the market the maximum capacity they can as far in advance of real time as possible. All the capacity calculated as available at the Hansa borders by the capacity calculation process year ahead should be made available to the market at that stage by way of transmission rights (i.e. 100% of the calculated capacity year-ahead). Further release of capacity at shorter time horizons in the forward timeframe (quarterly where applicable, and monthly) should be the result of capacity recalculations, or gradual release of the margins and constraints initially applied by the TSOs for year-ahead allocations as uncertainties reduce with real time getting nearer. Hence, we oppose the use the specific criteria to withhold capacity when it is calculated as available and could be sold to the market. For avoidance of doubt, and bearing in mind that certain market participants may only wish to purchase capacity for specific quarters or months and may be reluctant to re-trade purchased yearly forward transmission rights on the secondary market, the TSOs may choose to allocate the 100% of calculated capacity year-ahead not only via yearly products but also via quarterly and monthly products (but a year in advance). There can be a distinction between the timing of the auctions and the granularity of the products offered by the TSOs.</p>	Yes	<p>CCR Hansa TSOs acknowledge the feedback and adapted the methodology: there are no more Splitting Criteria proposed, however, CCR Hansa TSOs point now towards the associated risks, i.e. revenue adequacy and withholding calculated capacities from the long-term market, to the NRAs.</p>
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	<p>2. The manner in which TSOs will apply the proposed criteria detailed in Chapter 3 (articles 7 to 11) leaves too vast a room for interpretation on the TSO side. Further, and despite the provision of article 6.3 and Annex 1, the combination of different criteria is not clear. Further, the sheer existence of multiple criteria, with complete freedom from TSOs on how they wish to combine them, means that there is no single way to allocate forward capacity in the region. We believe this goes against the spirit and letter of the FCA Regulation (see our comments to article 6.1) The methodology should set much clearer and stricter boundaries to how the TSOs allocate capacity in the forward timeframe.</p> <p>3. On the specific articles: a. Article 7 would cap the volume of forward transmission rights allocated to the market to the day-ahead market price at individual bidding zone borders. This is a way to restrict the hedging opportunities of market participants. The allocation of capacity should solely be based on the technical capacity and requirements of the grid. It is not the place of system operators to analyse market data in order to maximise their benefits from forward capacity allocation. We remind the TSOs that by owning the interconnectors, they de facto sit on a free hedge that can and should be made available to the market as much and as early as possible. Retaining this hedge opportunity from the market based on expectation of evolutions of market prices could be considered market manipulation. Further, the calculations will be based on historic volumes of forward transmission rights and historical market spreads in day-ahead (from the 12 or 24 previous months), which does not represent the current reality of either the forward or day-ahead markets. b. Article 8 would cap the volume of forward transmission rights allocated to the market to the forward market price at individual bidding zone borders. This is a way to restrict the hedging opportunities of market participants. The allocation of capacity should solely be based on the technical capacity and requirements of the grid. It is not the place of system operators to analyse market data in order to maximise their benefits from forward capacity allocation.</p>		
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	<p>We remind the TSOs that by owning the interconnectors, they de facto sit on a free hedge that can and should be made available to the market as much and as early as possible. Retaining this hedge opportunity from the market based on expectation of evolutions of market prices could be considered market manipulation. Further, the calculations will be based on historic volumes of forward transmission rights and historical market spreads in forward (from the 12 or 24 previous months), which does not represent the current reality of the forward market. c. <b>Article 9</b> leaves entire room for TSOs to assess the competitive situation in an auction and possibly modify the volume of transmission rights allocated to the market without any kind of criteria or oversight. The proposed criterion is very restrictive and unpredictable, and we deem it extremely dangerous that TSOs are given this right of judgment without limitation or oversight.</p> <p>d. <b>Article 10</b> only states that TSOs may choose to decide on a balance of transmission rights allocated in the yearly auction and subsequent auction, without specification or criteria. Beyond the fact that we believe that all the capacity calculated as available at a certain point in the forward timeframe should be allocated directly to the market, article 10 does not specify how the TSOs will assess the needs of market participants for transmission rights, nor how they will take account of the latter's input. This article is written in a markedly vague fashion. The FCA GL was already approved as a Guideline and not a Network Code as a result of its lack of binding effect; its implementation methodologies, including the present one, should set clear rules and not postpone decisions once more.</p> <p>e. <b>Article 11</b> proposes that TSOs may choose to cap transmission rights allocated in the yearly auction and subsequent auction at a fixed percentage. We disagree with the concept of capping forward capacity allocation to specific percentages for each time horizon within the forward timeframe All the capacity calculated as available at the Hansa borders by the capacity calculation process year ahead should be made available to the market at that stage by way of transmission rights (i.e. 100% of the calculated capacity year-ahead).</p>		
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	<p>Further release of capacity at shorter time horizons in the forward timeframe (quarterly where applicable, and monthly) should be the result of capacity recalculations, or gradual release of the margins and constraints initially applied by the TSOs for year-ahead allocations as uncertainties reduce with real time getting nearer. In short, none of the proposed splitting criteria, nor their combination, appears satisfactory for us. Hence, we recommend that the entire Chapter 3 (articles 7 to 11) be deleted and replaced by a single article: "The percentage of long term offered capacity with respect to the calculated long term capacity for all Interconnectors shall be set at 100%. The TSOs shall make available to the market 100% of the capacity calculated year ahead during the yearly allocation. The TSOs shall recalculate the available capacity that can be allocated during each following auction (monthly or other) in addition to the capacity allocated at the yearly auction."</p>		
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4	<p>Article 13.1: The Responsible TSOs shall, in compliance with national legislation and in accordance with Article 3(f) of the FCA Regulation, and in addition to the data items and definitions of Transparency Regulation, publish the following on a regular basis and as soon as possible; a. The marginal auction price and demand curve for all LTTR auctions performed on the corresponding Interconnector. b. The analyses to determine the reference volume for each splitting criterion applicable for the corresponding Interconnector. c. The Capacity Split relating to a specific time frame before the first allocation of capacity relating to that time frame, following long-term capacity calculation and applicable splitting criteria analyses. We disagree with the possibility that the TSOs wish to include in article 13 that they can deviate from the common transparency requirements based on national legislative requirements. This argument is regularly used by TSOs to resist information disclosure. For example, it was used by some of the CWE TSOs to resist transparency publication in CWE flow-based coupling, to be ultimately rejected by their NRA(s) but after far too long a time. Granting TSOs the benefit of this clause from the start inverses the burden of proof and forces market participants to challenge their non-transparent behaviour. TSOs are subject to the Transparency Regulation and have to submit all "price sensitive data" according to it. According to European case law, this takes precedent over national legislation barring TSOs to do so. Should legal interpretations in some Member States differ, it should be up to the TSOs to bring the matter to their NRA and request the non-publication, not the other way around.</p>	No	<p>CCR Hansa TSOs are of the opinion that Article 13 fulfils all required reporting obligations. Note that Article 13 was adapted due to the changed structure of the legal paper.</p>
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