CID Methodology Explanatory note

7 April 2017

Disclaimer
This explanatory document is submitted by all TSOs to all NRAs for information and clarification purposes only accompanying the “All TSOs’ proposal for methodology for congestion income distribution (CID Methodology) in accordance with Article 73 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management”.

Contents

I. Introduction

1. Purpose and Structure of the Methodology

Article 73 of the Commission Regulation 2015/1222 establishing a Guideline on Capacity Allocation and Congestion Management (hereinafter referred to as "CACM Regulation") requires that by 12 months after the entry into force of the CACM Regulation all Transmission System Operators ("TSOs") propose a methodology for congestion income distribution ("CID Methodology") to all National Regulatory Authorities ("NRAs") for approval pursuant to Article 9(6)(m) of CACM Regulation. According to Article 9(9) of CACM Regulation the CID Methodology proposal needs to be submitted to ACER as well, who may issue an opinion on the proposal only if requested by the NRAs.

This document is an explanatory note accompanying the CID Methodology and describing the technical background which forms the basis for the all TSOs CID Methodology. The explanatory document is structured as follows. The purpose and structure are described in Chapter 1, which also includes an account of the NRA's request dated 24 January 2017 to amend the All TSOs' proposal for CID Methodology and the TSOs' approach thereupon, including the changes made in Chapter 2. The legal requirements for the CID Methodology and their implications are presented in Chapter 2. Chapter 3 provides an explanation of the definitions introduced in the CID Methodology. Chapter 4 provides an overall overview of the whole CID Methodology. In Chapter V the collection and distribution of Congestion Income to the Bidding Zone borders is described. Finally, Chapter VI depicts the Congestion Income distribution on the Bidding Zone borders as the final step of the process. Where relevant, examples are provided to better illustrate the application of the methodology.

The CID Methodology neither addresses the way Congestion Income is generated (e.g. capacity calculation and allocation mechanisms) nor the use of Congestion Income (e.g. for investments, etc.) by the individual TSO. These aspects are regulated and defined by other legal provisions and methodologies. Instead, the CID Methodology describes how the Congestion Income is allocated to the Bidding Zone border and between parties at the Bidding Zone border.

Capitalised terms used in this document are understood as defined in CACM Regulation, Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity (hereafter referred to as "Regulation (EC) No 714/2009"), Commission Regulation (EU) 543/2013 and the CID Methodology Proposal.

2. NRAs' request to amend All TSOs' proposal for CID Methodology

On 2 February 2017, NRAs submitted a request dated 24 January 2017 to amend the all TSO proposal for CID Methodology regarding the following points:

- Specific sharing keys should be removed.
- Default arrangements should be amended in order to allow the sharing of congestion income according to the investment costs of the interconnector where an ownership arrangement exists.
- Additional rules should be removed. In the case of flow based market coupling regions, rules for flows or non-intuitive commercial flows should only be included in default sharing arrangements if fully justified.

The reasons for NRAs amendment request were that specific arrangements for socio-economic benefits, capacity allocation constraints or potential future principles related to capacity allocation were not legitimate grounds for congestion income sharing and such conditions could be better addressed in other arrangements, for example the socio-economic benefits through a wider EU policy and allocation constraints through a capacity calculation methodology. They also stated that the additional rule relating to

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non-negative Net Border Income would rather relate firmness and sharing costs deriving thereof alongside sharing income from long-term transmission rights would be better dealt under the methodology pursuant to Article 61 of the FCA Regulation.

The TSOs considered NRA's request and agreed to accept them partially by removing the specific sharing key relating to socio-economic benefits under the default arrangement laid down in Article 4 of the proposal as well as by transferring the rules on external flows and non-intuitive commercial flows, when relevant, to the income calculation stage (revised article 3). The TSOs have also amended the default sharing keys of Article 4 and included a possible sharing key that reflects the investment costs or ownership share upon agreement by the relevant TSOs and owners of the Interconnector.

However, it is still considered that the conditions reflected in the specific keys on allocation constraints as well in the special rule on non-negative Net Border Income are occurring in practice, inherently affecting the distribution of the congestion income and therefore it is considered necessary to allow to take them into account in the calculation of the income to be shared. This consideration resulted in the current proposal for amended CID Methodology in which the conditions relating to allocation constraints and non-negative Net Border Income are—not as the basis of the congestion income distribution that was rejected by the NRAs—but as a condition that may be taken into account, where relevant, in the income calculation stage. This principal amendment of restructuring—that principally amended Articles 3 'Process and Calculation of Congestion Income' and 4 'Sharing keys'—also led to changing the Article 2 definition of 'Net Border Income' and to minor changes in Article 5 'Publication and Implementation of the CID Methodology' to ensure consistency and logic within the Methodology. Finally, a few other amendments were made in the terminology, also to guarantee clarity of the main amendments and the whole Methodology.

This explanatory note has been amended thoroughly along with the proposal for amended CID Methodology to provide further explanation on its key elements in their amended form.

3. Levels of Congestion Income collection and distribution

In the CACM Regulation, Congestion Income is defined as "*the revenues received as a result of capacity allocation*". In particular, Congestion Income originates in the situation where transmission capacity between Bidding Zones or on Critical Network Elements is not sufficient enough to fulfil the demand. Congestion Income indicates how much market participants value the possibility for cross-border trade. Thus, it is a suitable criterion to determine at which Interconnector or Critical Network Element capacity should be increased.

Congestion Income can be generated from different Capacity Allocation timeframes, e.g. forward, day-ahead, intraday, and different capacity allocation mechanisms, i.e. explicit or implicit. For the Day-Ahead and Intraday Market Timeframes according to the CACM Regulation (Article 68(8)) Congestion Income will be collected by Central Counter Parties or Shipping Agents (in case of implicit allocation) or by allocation platforms (in case of explicit allocation where applicable). After the collection by the above mentioned entities, based on the rules described in the CID Methodology, the Congestion Income is assigned to each Bidding Zone border and then, it is distributed to the TSOs on each side of a Bidding Zone border or, via the relevant TSOs, to third party asset owners.

Until the implementation of the CID Methodology the sharing of the Congestion Income between the TSOs is based on joint agreements among the TSOs and with the relevant entities collecting the Congestion Income or national regulation.

II. Requirements and Common Criteria for Congestion Income Distribution

1. Legal framework

The legal requirements for the CID Methodology are set out by **Article 73 (2) of CACM Regulation** as follows:

"2. The methodology developed in accordance with paragraph 1 shall:

(a) facilitate the efficient long-term operation and development of the electricity transmission system and the efficient operation of the electricity market of the Union;

(b) comply with the general principles of congestion management provided for in Article 16 of Regulation (EC) No 714/2009;

(c) allow for reasonable financial planning;

(d) be compatible across timeframes;

(e) establish arrangements to share congestion income deriving from transmission assets owned by parties other than TSOs."

Moreover, **Article 16 of Regulation (EC) No 714/2009** states:

"General principles of congestion management

(1) Network congestion problems shall be addressed with non-discriminatory market-based solutions which give efficient economic signals to the market participants and transmission system operators involved. Network congestion problems shall preferentially be solved with non-transaction based methods, i.e. methods that do not involve a selection between the contracts of individual market participants.

(2) Transaction curtailment procedures shall only be used in emergency situations where the transmission system operator must act in an expeditious manner and re-dispatching or countertrading is not possible. Any such procedure shall be applied in a non-discriminatory manner.

Except in cases of force majeure, market participants who have been allocated capacity shall be compensated for any curtailment.

(3) The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation.

(4) Market participants shall inform the transmission system operators concerned a reasonable time in advance of the relevant operational period whether they intend to use allocated capacity. Any allocated capacity that will not be used shall be reattributed to the market, in an open, transparent and non-discriminatory manner.

(5) Transmission system operators shall, as far as technically possible, net the capacity requirements of any power flows in opposite direction over the congested interconnection line in order to use that line to its maximum capacity. Having full regard to network security, transactions that relieve the congestion shall never be denied.

(6) Any revenues resulting from the allocation of interconnection shall be used for the following purposes:

(a) guaranteeing the actual availability of the allocated capacity; and/or

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(b) maintaining or increasing interconnection capacities through network investments, in particular in new interconnectors.

If the revenues cannot be efficiently used for the purposes set out in points (a) and/or (b) of the first subparagraph, they may be used, subject to approval by the regulatory authorities of the Member States concerned, up to a maximum amount to be decided by those regulatory authorities, as income to be taken into account by the regulatory authorities when approving the methodology for calculating network tariffs and/or fixing network tariffs.

The rest of revenues shall be placed on a separate internal account line until such time as it can be spent on the purposes set out in points (a) and/or (b) of the first subparagraph. The regulatory authority shall inform the Agency of the approval referred to in the second subparagraph."

In addition, *Article 9(9) of CACM Regulation* *provides as follows:*

"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."

2. Interpretation

The CID Methodology complies with the requirements set out by Article 73 (2) of CACM Regulation and also serves the general objectives of the CACM Regulation. In particular, the CID Methodology is transparent, stable and does not provide any disincentives for TSOs to optimize capacity given to the market within accepted Operational Security Limits and within the applicable framework of TSO coordination. For example, it does not distort the provision of interconnection capacity to market participants, nor does it lead to an allocation process in favor of any party requesting capacity or energy, nor does it provide a disincentive to reduce congestion. In addition, the CID Methodology does not negatively affect the processes and regulations under which TSOs fulfil their responsibility to allocate capacity to the market. The CID Methodology does not give inefficient economic signals to market participants or TSOs regarding the operation and development of the transmission system and the electricity market functioning. For example, it does not distort the market signals for network investments.

The CID Methodology is likewise compatible with the creation or removal of Bidding Zones and compatible with shifting the location of Bidding Zone borders between existing Bidding Zones and CCRs.

To ensure the above, a 50/50 sharing key for Congestion Income Distribution on the Bidding Zone border in cases where Capacity Allocation takes place based on the Coordinated Net Transmission Capacity Approach ("Coordinated NTC Approach") or the Flow-Based Approach ("FB Approach") in accordance with the CACM Regulation is suggested. This sharing key is proposed for the following reasons:

a. it is widely applied, simple to understand and easy to administrate;
b. the disadvantages of taking a wrong decision with the 50/50 solution versus the risk of having an unknown but eventually more optimal solution are reasonably low; and
c. in case there is a lack of strong and clear justification for different arrangements, the 50/50 rule is deemed appropriate.

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In addition, the 50/50 sharing key avoids the contestable and challenging exercise of a mandatory cost benefit analysis (CBA) for the sharing of Congestion Income. Performing a CBA for CID would have the following concrete disadvantages:

a. complexity: using CBA for CID would add tremendous complexity and could even hamper the development of new Interconnectors. It seems more convenient to opt for a simple approach for CID and let other sharing mechanisms (e.g. agreements between TSOs on cost sharing, inter transmission system operators compensation (ITC), cross border cost allocation (CBCA for PCIs)) as closing variables for the efficient allocation of costs and benefits at European level;

b. lack of proportionality: it is questionable whether the results of a CBA for CID would justify the heavy work load for TSOs and NRAs connected to such CBA. Moreover, CBA uncertainties are likely to be higher than the potential imbalances due to the application of the 50/50 sharing key; and

c. requirement for very frequent updates of the CBA in order to guarantee that it is really representing the current situation.

The application of the 50/50 sharing key when an interconnector is 100% owned by a single TSO or legal entity results in the owner of the interconnector retaining 100% of the Congestion Income assigned to that interconnector.

In the case of a deviating ownership structure or an uneven distribution of investment costs of the interconnectors a sharing key reflecting the ownership share or the distribution of investment costs may be justified. For both Coordinated NTC and FB Approach the corresponding sharing keys will ensure, for example, the investment on future Interconnectors. By this means a fair treatment of owners of Interconnectors and incentives for investments in Interconnectors will be maintained.

As this CID Methodology Proposal takes into account the current Flow-Based capacity calculation approach in the Central West Europe region and the experience from current NTC approaches, changes may be proven necessary when the Coordinated NTC or Flow-Based Approach, in accordance with the CACM Regulation, is implemented in each capacity calculation region. All TSOs already commit with this CID Methodology Proposal to reassess the CID Methodology upon request by all TSOs of a CCR without prejudice to the amendment procedure of terms and methodologies according to the CACM Regulation.

The requirement of Article 73(2)(e) of CACM Regulation is interpreted to imply that the CID Methodology and its implementation should also apply to third party transmission asset owners. Third party assets could be, for example, interconnectors which are not certified as TSOs but generate Congestion Income that has to be shared with one or more TSOs according to the CID Methodology.

III. Definitions

Article 2 of the CID Methodology introduces a number of definitions related to Congestion Income distribution. Below the definitions are explained.

1. Commercial Flow

The definition of Commercial Flow is introduced in order to calculate the Congestion Income per Bidding Zone border as used in Title 3. The Commercial Flow is the flow over a Bidding Zone border resulting from commercial exchanges (i.e. the Single Day-Ahead Coupling or the Single Intraday Coupling). We distinguish

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between different capacity calculation methodologies, as the result from allocation based on the FB Approach more accurately represents the impact of commercial exchanges on each tie line on a Bidding Zone border.

Under the Coordinated NTC Approach the scheduled exchanges are used to determine the Commercial Flow over each Bidding Zone border within the CCR.

Under the Flow Based Approach, the result from market coupling will be net positions of hubs within a CCR applying the Flow Based Approach. These net positions will only be the net positions of exchanges between the respective hubs of that CCR.

The net positions resulting from allocation based on Flow Based Approach need to be translated to flows between Bidding Zone borders within the respective CCR, which is the Commercial Flow. Two methodologies are proposed to calculate the Commercial Flow over a Bidding Zone border.

- additional Aggregated Flow (AAF); or
- a calculated value per Bidding Zone border.

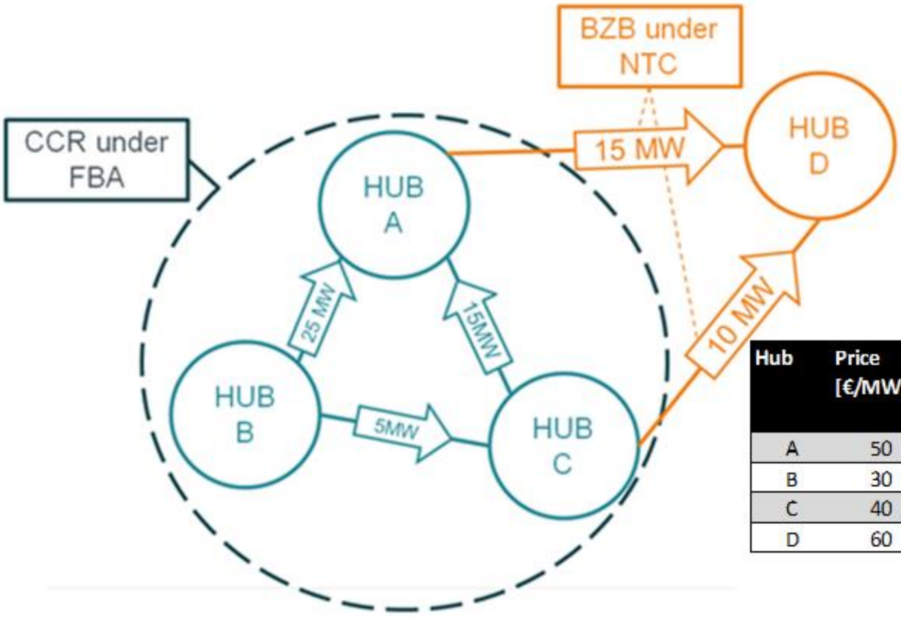
The calculation of AAF uses the Flow Based parameters and the results of the Flow Based Approach (net positions of exchanges within the CCR using the Flow Based Approach). The second proposal would allow TSOs to agree upon a different methodology for calculating the Commercial Flow within a CCR under the condition that the total sum of Commercial Flow on the Bidding Zone Borders of each respective Bidding Zone equals the net position resulting from allocation based on the Flow Based Approach within the respective CCR. Which methodology will each time be used depends on the capacity calculation methodology to be prepared and developed by the respective CCR.

Example

Considering that:

- one CCR with 3 hubs (A, B, C) and 3 Bidding Zone borders (BZB_{AB}, BZB_{BC} and BZB_{CA}) apply allocation based on the FB Approach; and
- a fourth hub D has two Bidding Zone borders (BZB_{AD} and BZB_{CD}) which would form (part of) a second CCR applying allocation based on the Coordinated NTC Approach,

from market coupling only the flow over BZB_{AD} and BZB_{CD} and the global net positions of all hubs and prices are derived. In order to obtain the net positions of hubs A, B and C resulting from allocation based on the FB Approach, the exchanges of Bidding Zone borders outside the CCR need to be subtracted, as presented below:



Hub	Price [€/MWh]	Global net position [MW]	FB net position [MW]
A	50	-25	-40
B	30	30	30
C	40	20	10
D	60	-25	NA

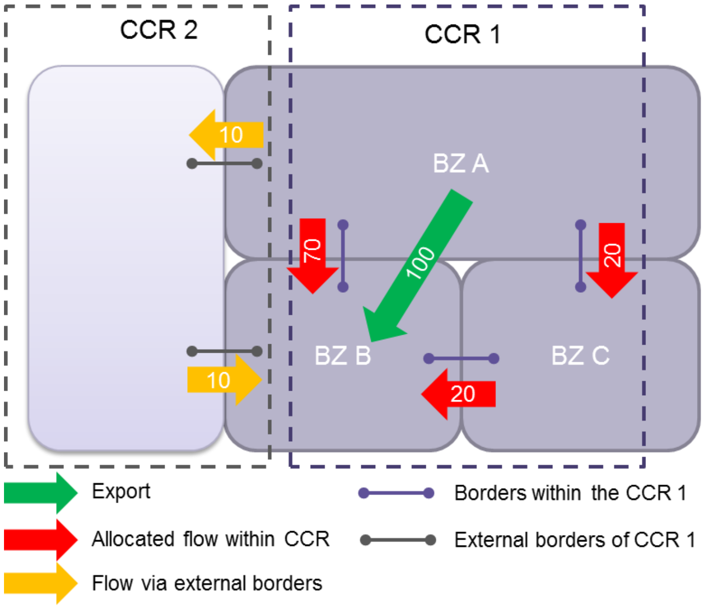
It is clear that from the market coupling the flow over Bidding Zone borders within the CCR applying the Flow Based Approach is not known from the algorithm and has to be calculated ex-post by using the Net Positions and Flow Based parameters or another calculated value. Accordingly, the Commercial Flow over all Bidding Zone borders can be calculated.

2. External Flow and External Flow Value

The “External Flow Value” is only applicable under the Flow Based Approach using AAF to determine the Commercial Flow. Under the Flow Based Approach only the grid of the CCR applying this methodology is modelled for capacity allocation. The result from the physical representation of the grid is that, as in real life, not all flows generated by exchanges between the hubs of a CCR will flow over the Bidding Zone borders within that CCR. The concept of “External Flow” is introduced to model this concept.

The “External Flow” is, thus, the flow [in MW] passing outside the CCR resulting from exchanges between hubs within that CCR. Because the External Flow is the result from exchanges between two hubs and the result from a calculation, it is not to be confounded with the concept of loop flows but needs to be denoted as a transit flow.

The “External Flow” is calculated as the remainder of the flow resulting from an exchange after the AAF is calculated for each Bidding Zone border within the CCR. In the example below an exchange of 100 MW between Bidding Zone A and Bidding Zone B will result in a flow over all Bidding Zone borders within the CCR of 90 MW. The remainder of the exchange is then considered to pass outside the CCR and will be modelled as External Flow.



The "External Flow Value" is the congestion income [in €] assigned to the External Flow. However since the Congestion Income is generated due to exchanges within the CCR, **no Congestion Income is generated through the External Flow** and it is only **assigned** to the External Flow for calculation purposes.

3. Net Border Income

The "Net Border Income" per Bidding Zone Border is defined as (i) the Congestion Income generated on the Bidding Zone Border minus (ii) the remuneration for Long Term Transmission Rights per side of the Bidding Zone Border; and plus/minus (iii) other adjustments, as follows.

(i) The "Congestion Income" generated on a Bidding Zone border is calculated differently for each of the short-term market timeframes. For the Day-Ahead Market Time-frame, the Congestion Income is calculated as the absolute value of the product of the Commercial Flow multiplied by the Market Spread. For the Intraday Market Time-Frame, the Congestion Income is calculated as the sum of all revenues from the Capacity Allocation per market time unit ("MTU").

(ii) the remuneration of Long Term Transmission Rights must be subtracted from (i) in accordance with Article 61(3) of the FCA Regulation.

(iii) Where relevant, other circumstances may be taken into account. These are further explained in section V of this document.

IV. Description of the whole CID process

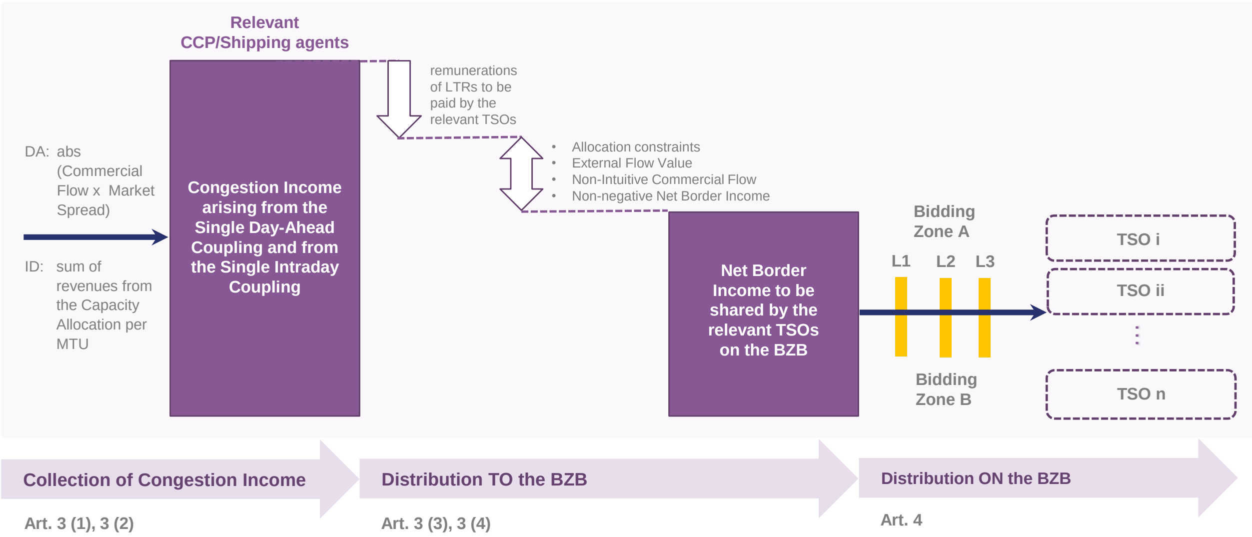
The CID process goes from the moment Congestion Income is collected by the responsible entities and until CID takes place on a Bidding Zone border or within a CCR. The whole process can be summarized into the following three steps:

(i) collection of Congestion Income by the relevant Central Counter Parties or Shipping Agents and calculation of the Congestion Income to be distributed (described in Section V);

(ii) distribution of the Congestion Income to the Bidding Zone borders (described in Section VI); and

(iii) distribution of Congestion Income on each Bidding Zone Border (described in Section VII).

The following picture summarizes the whole CID process (all references are to articles within the CID Methodology proposal).



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V. Collection of Congestion Income and distribution to the Bidding Zone border

1. General description

The entities responsible for the collection of the Congestion Income arising from the Single Day-Ahead Coupling and from the Single Intraday Coupling are the Central Counter Parties or Shipping Agents. This responsibility, which is in accordance with Article 68(7) and (8) of CACM Regulation, is stated in article 3 (2) of the CID Methodology.

The Congestion Income to be collected by the Central Counter Parties or Shipping Agents is calculated as follows.

(a) Firstly, the Congestion Income for the short-term timeframes is determined as stated in article 3 (1) of the CID Methodology:

- for the Day-Ahead Market Time-frame the Congestion Income generated on a Bidding Zone border will be calculated as the absolute value of the product of the Commercial Flow times the Market Spread; whereas
- for the Intraday Market Time-Frame the Congestion Income will be calculated as the sum of all revenues from the capacity allocation per MTU.

(b) Secondly, following article 3 (3) of the CID Methodology any remunerations of Long Term Transmission Rights (LTRs) to be paid by the relevant TSOs in accordance with Article 61(3) of the FCA Regulation are deducted from the income of the relevant Bidding Zone border as calculated in (a);

(c) Thirdly, following article 3(4) of the CID Methodology, the result from (a) and (b) above shall be adjusted, where relevant. Adjustments may be needed due to one or more of the following reasons: (i) deduction of the remuneration of LTRs; (ii) taking into consideration of allocation constraints; (iii) taking into consideration external flow values; (iv) taking into consideration non-intuitive Commercial Flows; and (iv); and (v) non-negative Net Border Income. These adjustments are explained below.

The result of (a), (b) and (c) is the Net Border Income allocated to the Bidding Zone border, which must be shared by the relevant TSOs on that Bidding Zone border according to article 4 of the CID Methodology (see Chapter VI of the present Explanatory document for further details).

2. Detailed explanation of the calculation of the Net Border income

Deduction of the remuneration of LTRs, article 3(3) of the CID Methodology

In the case TSOs issue Long Term Transmission Rights (LTRs) on a bidding zone border they are obliged to pay remuneration to holders of LTRs. In accordance with Article 35 (3) of the FCA Regulation this remuneration shall be equal to the market spread (i.e. price difference between the respective bidding zones) resulting from the Day-ahead allocation. In order to maintain the consistency between the timeframes, the capacity allocated in the long term timeframes has to be taken into account in the Day-ahead allocation. Due to the inclusion of the capacity allocated in the long term timeframes and in order to avoid double counting, the collected Congestion Income in the Day-ahead allocation has to be adjusted: any remuneration of LTRs is deducted from the short term Congestion Income. The resulting Congestion Income is then assigned to each Bidding Zone border.

It has to be made clear that the remuneration to LTRs holders which is deducted from the short term Congestion Income only considers the return of those LTRs to the Day Ahead timeframe. The reimbursement paid to LTRs holders for curtailment of those LTRs is not in the scope of the CID methodology. Instead, it is fully covered by the EU HAR.

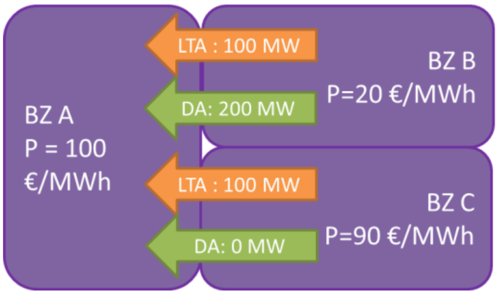
Adjustment to take into account allocation constraints, article 3(4).a of the CID Methodology

Depending on the allocation approach (Coordinated NTC or FB) and on implemented capacity allocation constraints further optional process steps for the calculation of Congestion Income may be required.

Allocation constraints, which are taken into account in the allocation of cross zonal capacity and cover the interdependencies of capacity allocation across different Bidding Zone Borders, require a distribution of the Congestion Income collected on the concerned Bidding Zone Border(s) amongst the impacted TSOs reflecting the relative impact of this allocation constraint. The following example illustrates a situation in which there is a need for an adjustment of the collected Congestion Income due to allocation constraints.

Example

In this example a situation is considered where Bidding Zone (BZ) A has a maximum import of 200 MW (allocation constraint) and the following applies:



In case there is an Allocation Constraint impacting the Capacity Allocation across different Bidding Zone borders, then an adjustment of the distribution of Congestion Income across the respective Bidding Zone borders could be envisaged. Considering the example above where three Bidding Zones exist with two Bidding Zone borders (not necessarily constituting a CCR), Bidding Zone A has a maximum import value of 200 MW, i.e. the allocation constraint. On the two Bidding Zone borders AB and AC, 100 MW of LTRs have been allocated. In this simplified example the assumption is that all LTRs return to the Day Ahead (DA) market, where they merit the DA market spread.

Assuming that the DA market results in a flow of 200 MW over BZB AB, while there is no flow over BZB AC. The market spread between BZ A and B is significantly higher than between A and C, so trades executed between A and B generate more welfare than between A and C.

In the case described above, the Congestion Income over BZB AB would be 200MW * (100€/MWh – 20€/MWh) = 16000€, while no Congestion Income would be generated over BZB AC 0MW * (100€/MWh – 90€/MWh) = 0€. However, since there is a price difference between BZ A and BZ C, the remuneration for the return of LTRs would amount to 100MW * (100€/MWh – 90€/MWh) =

1000€, resulting in a negative Congestion Income for BZ C (since the remuneration of LTRs is also equally shared).

Where relevant, it could be necessary that an adjustment of the Congestion Income is introduced which ensures a fair distribution of the Congestion Income between the two BZBs.

CWE NRAs required the TSOs to investigate the implementation of advanced hybrid coupling. This concept imposes FB properties on borders outside the CCR applying FB by taking into account the impact of a trade over the Coordinated NTC BZB in the FB allocation, i.e. trades over a Coordinated NTC BZB would be put into competition with trades within the FB area for the scarce capacity of network elements (critical branches). In turn, this would allow a reduction of flow on a BZB applying Coordinated NTC when more welfare can be generated by executing a competing trade. The result could be that the flow over Coordinated NTC BZB is reduced, while a positive market spread is present, risking a negative net congestion for the Coordinated NTC BZB.

External flow value, article 3(4).b of the CID Methodology

Where an External Flow Value exists, a share of 50% of the External Flow Value shall be allocated to the TSOs of the CCR which are hosting the respective External Flows. These TSOs shall allocate this External Flow Value proportionally (pro rata) to the External Flows hosted by each TSO (in MW). The remaining 50% of the External Flow Value shall be distributed among all Bidding Zone borders within the relevant CCR, causing the external flow, proportionally (pro rata) to the Commercial Flow on each Bidding Zone border within the CCR and the External Flow. By this adjustment a fair treatment of all affected TSOs and incentives for investments in Interconnectors will be maintained.

Example

Assuming we have the example below:

- a market spread between BZ A and BZ B of 20 €/MWh,
- an External Flow of 10 MW; and
- an External Flow Value of 200€,

the default sharing key and the additional rule apply as follows:

i. “a share of 50% of the External Flow Value shall be allocated to the TSOs of the CCR which are hosting the respective External Flows”, i.e.
    - Half of the External Flow Value (100€) shall be allocated to the TSOs of BZ A and BZ B.

ii. “These TSOs shall allocate this External Flow Value proportionally (pro rata) to the External Flows hosted by each TSO (in MW)”, i.e.
    - since both TSOs (assuming only one TSO per BZ) are hosting an equal External Flow, both receive 50€.

iii. The remaining 50% of the External Flow Value shall be distributed among all Bidding Zone borders within the relevant CCR, causing the external flow, proportionally (pro rata) to the Commercial Flow on each Bidding Zone border within the CCR and the External Flow, i.e.

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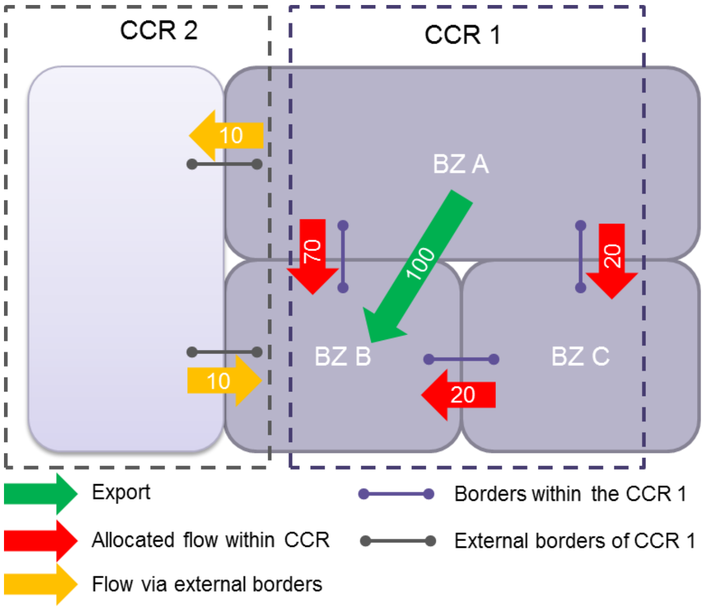
- the sum of Commercial Exchanges and External Flow is 120 MW;
- the remaining External Flow Value equal to 100€ shall be assigned to each Bidding Zone border in following manner:
  a. BZB AB: 58.3€ (= 100€ * 70MW / 120MW);
  b. BZB BC: 16.6€ (= 100€ * 20MW / 120MW);
  c. BZB AC: 16.6€ (= 100€ * 20MW / 120MW);
  d. External border (BZB AB): 8.3€ (= 100€ * 10MW / 120MW)

iv. Based on ii., the assigned values according to iii. a. to b. and assuming the 50/50 sharing key applies for all borders within the CCR, the share of the External Flow Value per Bidding Zone can be calculated as:

a. BZ A = 50€ (ii.) + 29.15€ (iii.a.) + 8.3€ (iii.b.) + 4.15€ (iii.d.) = 91.6€

b. BZ B = 50€ (ii.) + 29.15€ (iii.a.) + 8.3€ (iii.b.) + 4.15€ (iii.d.) = 91.6€

c. BZ C = 8.3€ (iii.b.) + 8.3€ (iii.c.) = 16.6€



In case of non-intuitive Commercial Flows the TSOs within the same CCR shall redistribute the Congestion Income on each Bidding Zone border as follows:

i. under the FB Approach, where the AAF has been used to determine the Commercial Flow the absolute values of all Congestion Incomes for all Bidding Zone borders and External Flow Values shall be proportionally adjusted to ensure that their sum matches the Congestion Income which is available for distribution within entire CCR;

ii. under Coordinated NTC Approach or when the FB Approach is used and the AAF has not been used to determine the Commercial Flow the involved TSOs shall proportionally adjust all absolute values of all Congestion Incomes for each Bidding Zone border to ensure that their sum matches the Congestion Income which is available for distribution within the entire CCR.

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Non-intuitive Commercial Flows, article 3(4).c of the CID Methodology

In case of non-intuitive Commercial Flows in the Single Day-Ahead and Single Intraday coupling algorithm, an adjustment of the Congestion Income per border is needed in order to align the total Congestion Income generated within the CCR with the sum of Congestion Income per border.

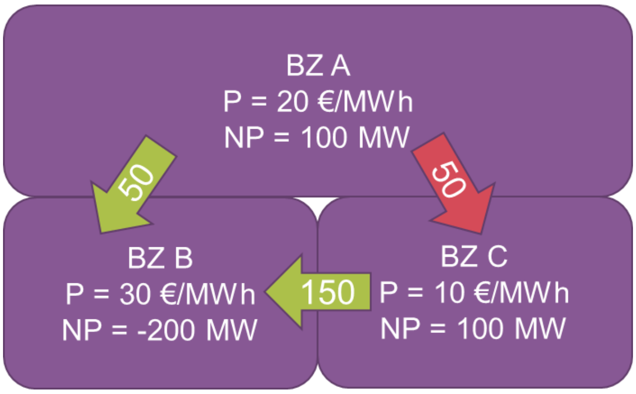
Example

The example below shows a Commercial Flow from a high priced area to a low priced area indicated by the red arrow. Would the Congestion Income in the CCR be calculated by summing the absolute value of Commercial Flow times the Market Spread for each Bidding Zone border, at the result would be a Congestion Income of 4000€:

i. BZB AB: 500€
ii. BZB AC: 500€ (border with counter intuitive flows)
iii. BZB BC: 3000€

However, when calculating the Congestion Income generated within the CCR, the total Congestion Income equals to 3000€. In order to align the Congestion Income for each Bidding Zone border with the Congestion Income generated within the CCR a pro rata adjustment is needed. This results in a Congestion Income of:

i. BZB AB: 500/4000*3000€ = 375€
ii. BZB AC: 500/4000*3000€ = 375€
iii. BZB BC: 3000/4000*3000€ = 2250€



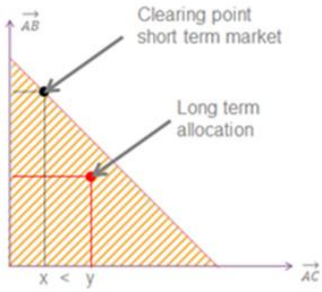
Non-negative Net Border Income, article 3(4).d of the CID Methodology

In case that the remuneration for LTRs exceeds the Congestion Income assigned to a Bidding Zone border the TSOs within the same CCR shall share the amount of the remuneration of Long Term Transmission Rights which exceeds the Congestion Income of a Bidding Zone border among themselves. The sharing shall take place proportionally to their Net Border Income from the respective CCR in order to ensure that all Net Border Incomes within the same CCR are non-negative under the conditions that:

i. the determination of long term Offered Capacity had been coordinated and agreed by the TSOs within the CCR; and

ii. the amount of long term Cross-Zonal Capacity which is subject to remuneration (e.g. FTRs or PTRs with UIOSI) does not exceed the day ahead Offered Capacity for the respective MTU.

This process step for the calculation of the Congestion Income addresses the revenue adequacy for each TSO by ensuring that the net congestion income over all timeframes is non-negative. Because two different allocation methods are used in the DA and LT time frame it could happen that the Commercial Flow resulting from DA FB is smaller than the Long Term Allocated values. Although the Long Term Allocated values were included in the FB domain, i.e. all combinations of LTA were feasible in the DA market time frame.



The result would be that the remuneration of LTRs is higher than the congestion income generated over a specific border within the CCR. Therefore, before distributing the Congestion Income to the Bidding Zone Borders the TSOs of the relevant CCRs can adjust the Congestion Income, so that the negative net border income is shared proportionally between the TSOs. This rule can only be applied when revenue adequacy for the entire CCR is guaranteed, or when the LTA domain is included in the FB domain. By this adjustment a fair treatment of all affected TSOs and incentives for investments in Interconnectors will be maintained.

Once the above adjustments have been implemented, if so needed, the Central Counter Parties, Shipping Agents, or entities assigned to distribute the Congestion Income within the timeframes of Article 73 (3) of the CACM Regulation shall ensure that adjusted Congestion Income are transferred to the TSOs no later than two weeks after the date of the settlement.

VI. Congestion Income Distribution on the Bidding Zone border

1. General description

After the distribution of Net Border Income to each Bidding Zone border as explained in Chapter IV, the TSOs on both sides of the Bidding Zone borders have to share the Net Border Income. This section provides further explanation of the rules for sharing the Net Border Income allocated to each Bidding Zone border among the relevant TSOs on both sides of a Bidding Zone border. The rules apply to the Net Border Income under both the Coordinated NTC Approach and the FB Approach.

As stated in article 4 of the CID Methodology, the distribution of the Net Border Income allocated to a Bidding Zone border will take place:

a) by firstly assigning the Net Border Income to the respective Interconnectors on that Bidding Zone border based on a parameter which takes into account the Interconnector's contribution to the allocated capacity (article 4(1) of the CID Methodology); and then,

b) After the assignment of the Net Border Income to each Interconnector according to a) above, the TSOs on each side of the Bidding Zone border will receive their share of this Net Border Income according to the applicable sharing key as described in article 4 (2) of the CID Methodology:

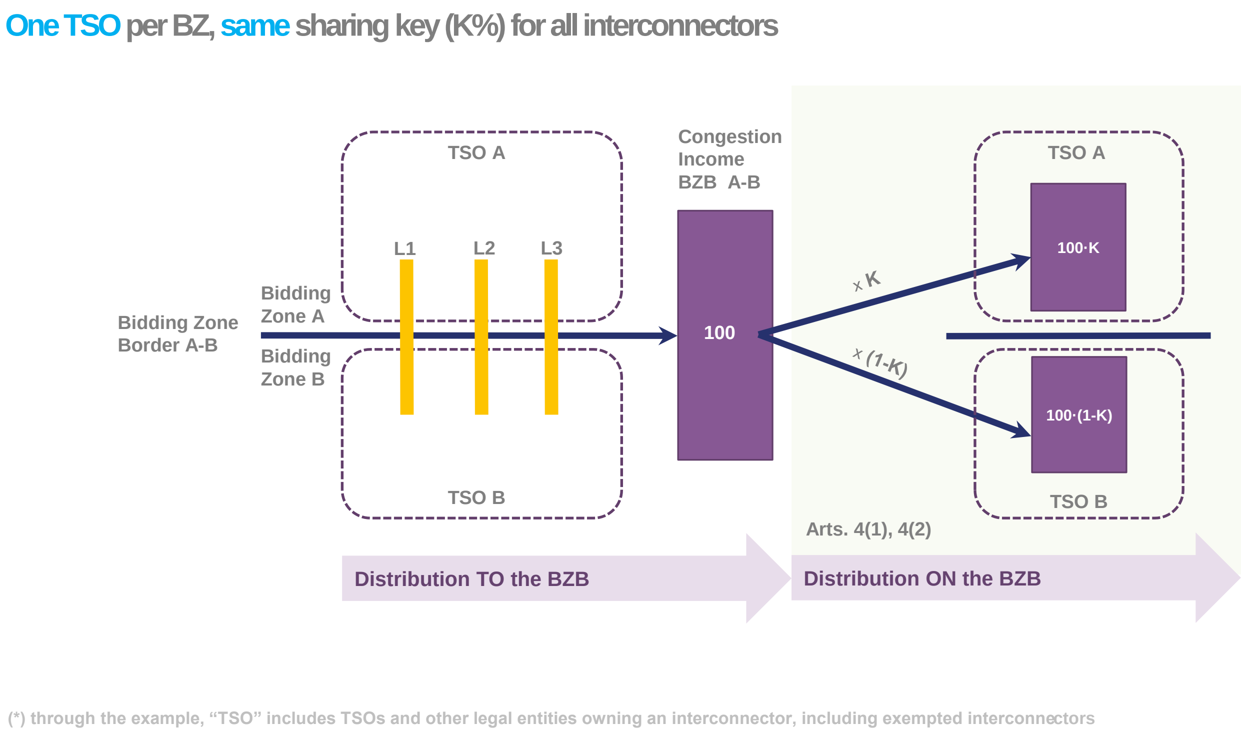
   - either a 50/50 sharing key or a 100% sharing key if an Interconnector is 100% owned by a single TSO or another legal entity; or

   - a sharing key reflecting the ownership share or the distribution of investment costs of a certain interconnector.

This two-step process is necessary to cover situations where there is more than one owner of Interconnectors on at least one side of the border, or where there are different sharing keys in use for the Interconnectors. Next section provides details on the practical implementation.

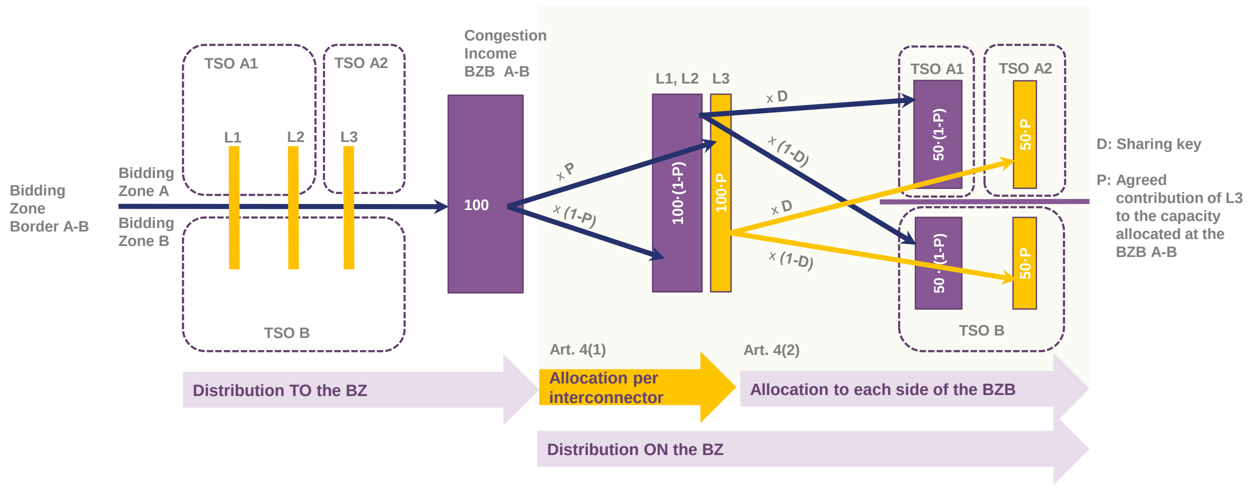
2. Detailed explanation of the Congestion Income Distribution on the Bidding Zone border

When there is one TSOs at each side of the Bidding Zone border and the same sharing key applies to all interconnectors in the Bidding Zone border, no further action is needed by the TSOs or the national regulatory authorities to implement the sharing key. The following picture describes that situation.



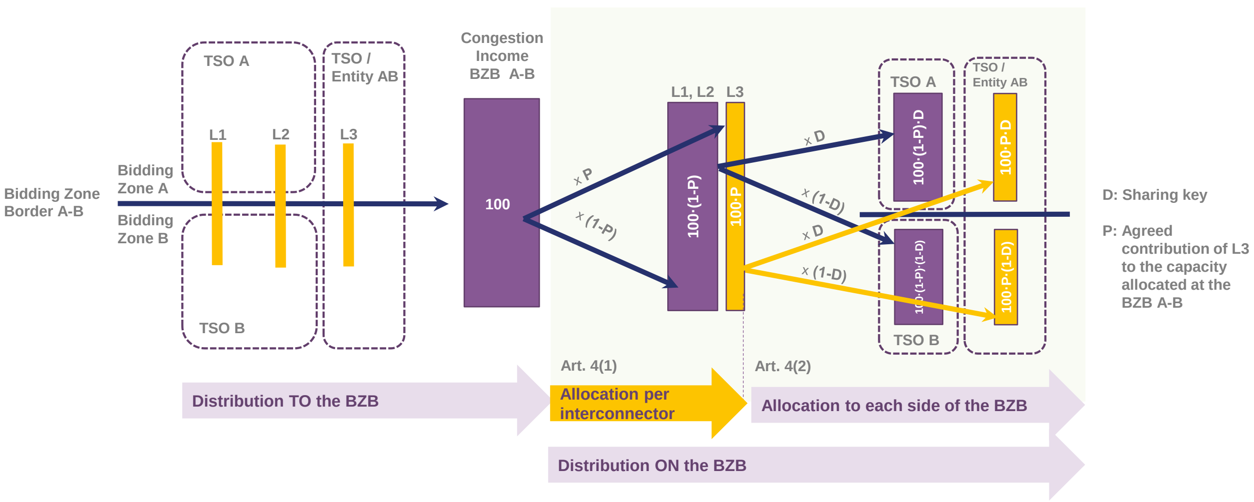
If there is more than one TSO on at least one side of the Bidding Zone border, the congestion income will be shared firstly among the interconnectors. Secondly, the Congestion Income allocated to each Interconnector is distributed to each side of the Bidding Zone Border. This case is illustrated in the next figure.

More than one TSO at one side of the BZB, same sharing key for all interconnectors



If an interconnector is 100% owned by a single TSO or another legal entity or if this interconnector has an exemption in accordance with Article 17 of Regulation 714/2009 that entitles it to earn the corresponding congestion revenues, the owner of such interconnector shall retain 100% of the congestion income assigned to that interconnector.

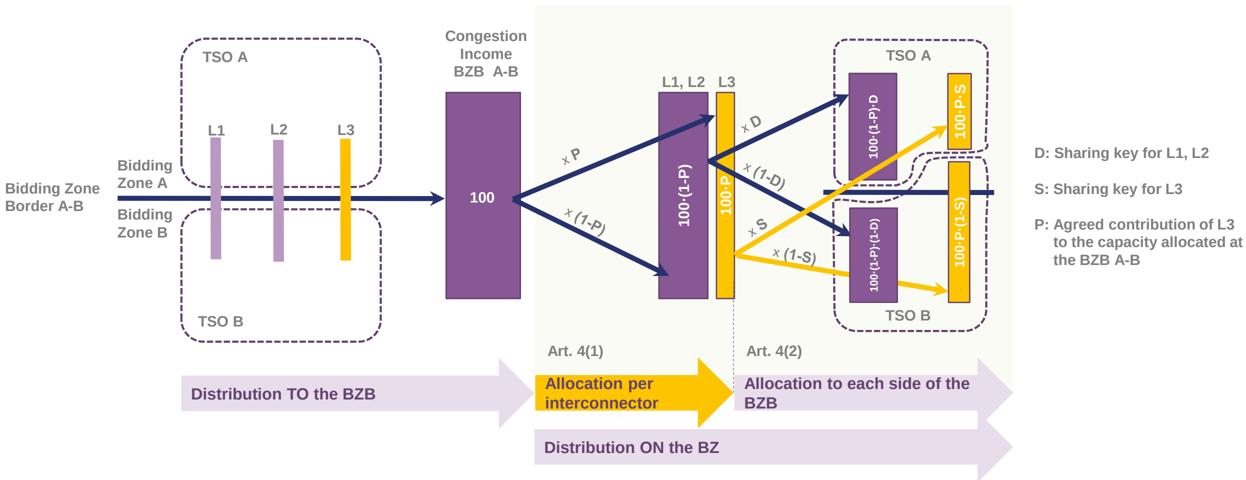
An interconnector is 100% owned by a single TSO / another entity, same sharing key



An analogue process is needed when different sharing keys are applicable to the interconnectors on a Bidding Zone border. Firstly, the congestion income must be shared among the interconnectors in the Bidding Zone border. Secondly, the congestion income allocated to each interconnector must be distributed to each side of the Bidding Zone Border. The following schematic figures illustrate situations with different sharing keys within the interconnectors on a Bidding Zone border:

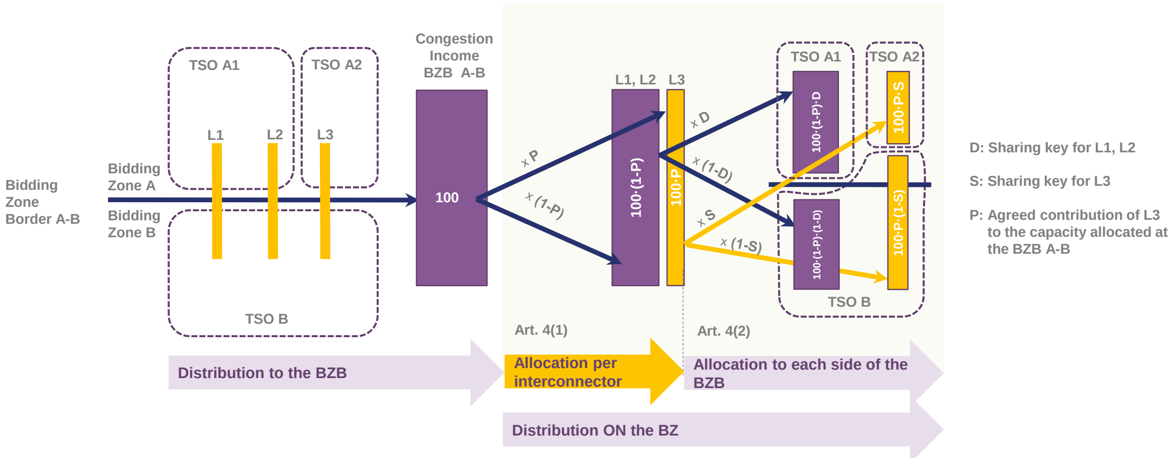
- One TSO at each side of the Bidding Zone border, with different sharing keys at different interconnectors:

One TSO per BZ, different sharing keys at different interconnectors



- More than one TSO on at least one side of the Bidding Zone border, with different sharing keys at different interconnectors:

More than one TSO at one side of the BZB, different sharing keys



- An interconnector is 100% owned by a single TSO or another legal entity or an interconnector has an exemption in accordance with Article 17 of Regulation 714/2009 that entitles it to earn the corresponding congestion revenues, and different sharing keys apply to different interconnectors.