

ENERGINET
Myndighedsenheden

Energinet
Tonne Kjærsvvej 65
DK-7000 Fredericia

+45 70 10 22 44
info@energinet.dk
VAT no. 28 98 06 71

Date:
November 1, 2021

ANNEX 6 – EXAMPLES OF THE NEW CAPACITY ADJUSTMENT SOLUTION

Further to section 4.3.2.6.2 in the methodology for procurement of countertrade energy, Energinet has provided a few examples of how the new capacity adjustment function will work in different scenarios. These examples enable a better understanding of the solution.

Example 1: Additional request of countertrade in the second slot

For the hours which are possible to trade both in the first slot and the second and/or third slot, it is possible for the requesting TSO to update the countertrade request before GOT of the next slot. In the example below 100MW extra has been requested in the second slot, however this is not based on a recalculation of the NTC, and the ATC on the border will become positive:

MORE COUNTERTRADE IS REQUESTED THAN CALCULATED NTC

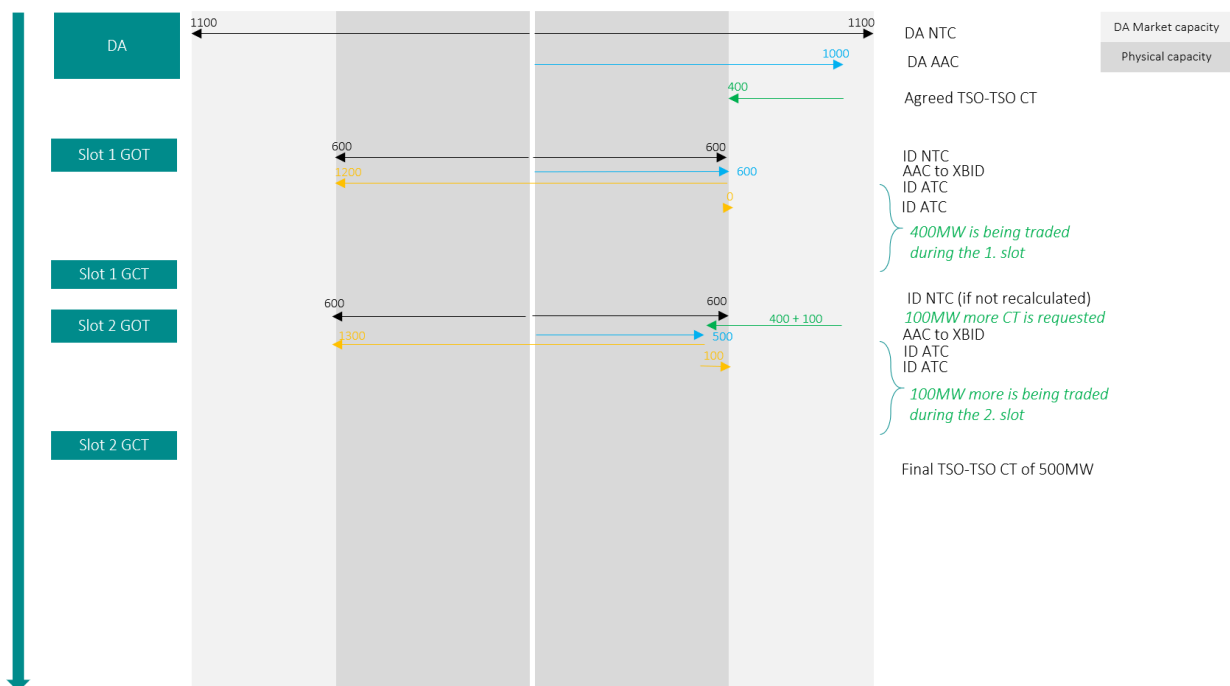


Figure 1: Illustration of the adjustments to the ATC in case 100 MW additional countertrade is requested at GOT for the second slot when the NTC has not been recalculated¹. In this case the ATC will be positive risking trades in the market flow direction.

Depending on the requesting TSOs NTC recalculation process the NTC is recalculated at certain times during the day ahead or during the operational day, and this may lead to an increase in the need for countertrade. If this is the case, then the NTC is likely to be decreased with the same volumes as the AAC (the CT volumes) resulting in a zero ATC (instead of a positive ATC), see example 2. In case the NTC recalculation has not been updated (as in the example above) prior to the AAC update (due to the increase in countertrade requested), the result will be a positive ATC re-releasing capacity in the market flow direction. As such, under the proposed model, the requesting TSO is not expected to request more countertrade than triggered by its NTC-calculation.

An example of an increase in requested countertrade and a recalculated NTC is provided below.

Example 2: More countertrade than anticipated (recalculated NTC)

¹ In this example it is assumed that the ID NTC submitted on the border by the limiting TSO is equal to DA AAC minus the requested countertrade. However, it is also likely that only a part of the countertrade need was requested in the first window, why the ID NTC would be lower than the ID AAC, and thus result in a negative ATC during trading in the first slot, and when CT is increased with 100MW more during the second slot, it may be that the calculated ATC is then 0 MW.

MORE COUNTERTRADE THAN ANTICIPATED, RECALCULATED NTC

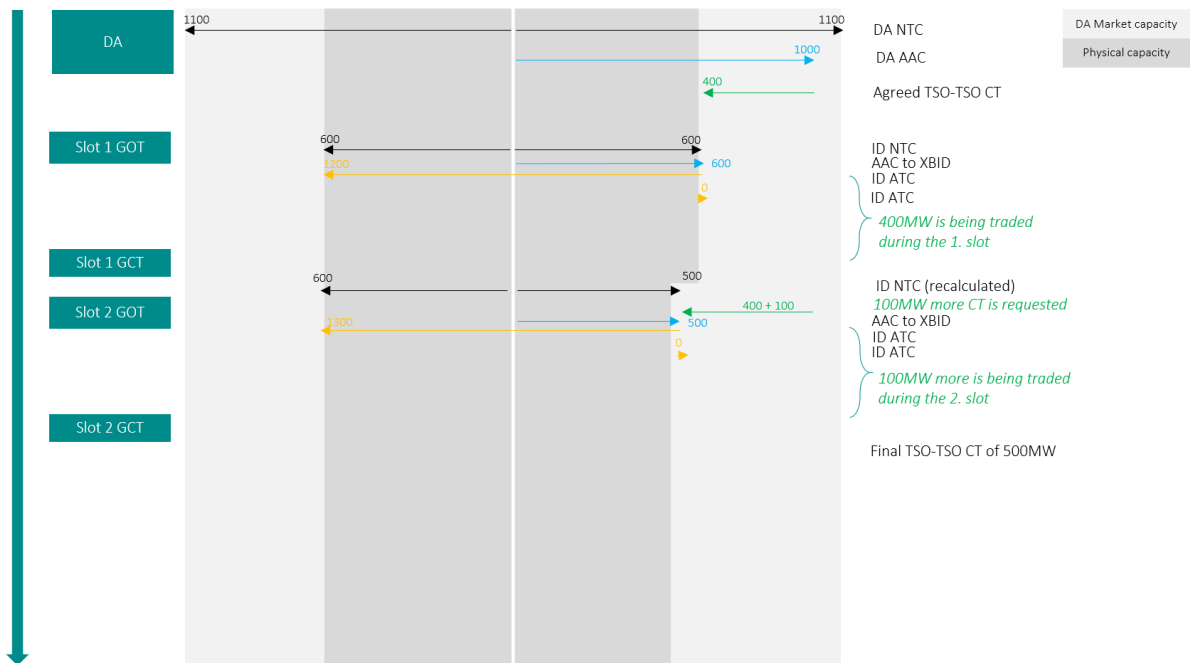


Figure 2: If a recalculation of the NTC leads to an increased need for countertrade, then the ATC will become 0 MW if the AAC also is adjusted with the increase in CT need.

Example 1 and 2 illustrates, that a prerequisite for the well-functioning of the new capacity adjustment solution is that the DA AAC minus the requested CT volume is the same as - or higher than - the calculated physical ID NTC. If a smaller CT volume is requested than the calculated physical ID NTC, then the ATC will become negative until the full CT volume is requested. An example is provided below:

Example 3: In case requesting TSO divides the countertrade need on two slots

In case the limiting TSO request a lower countertrade than the difference of DA ACC and ID NTC, and thereby chooses not to request the full countertrade need in the first slot, the ATC will be negative until the full countertrade is requested and the AAC is adjusted accordingly or until the ID NTC is updated to a higher value (due to external circumstances).

COUNTERTRADE REQUEST IS DIVIDED OUT ON SLOT 1 & 2

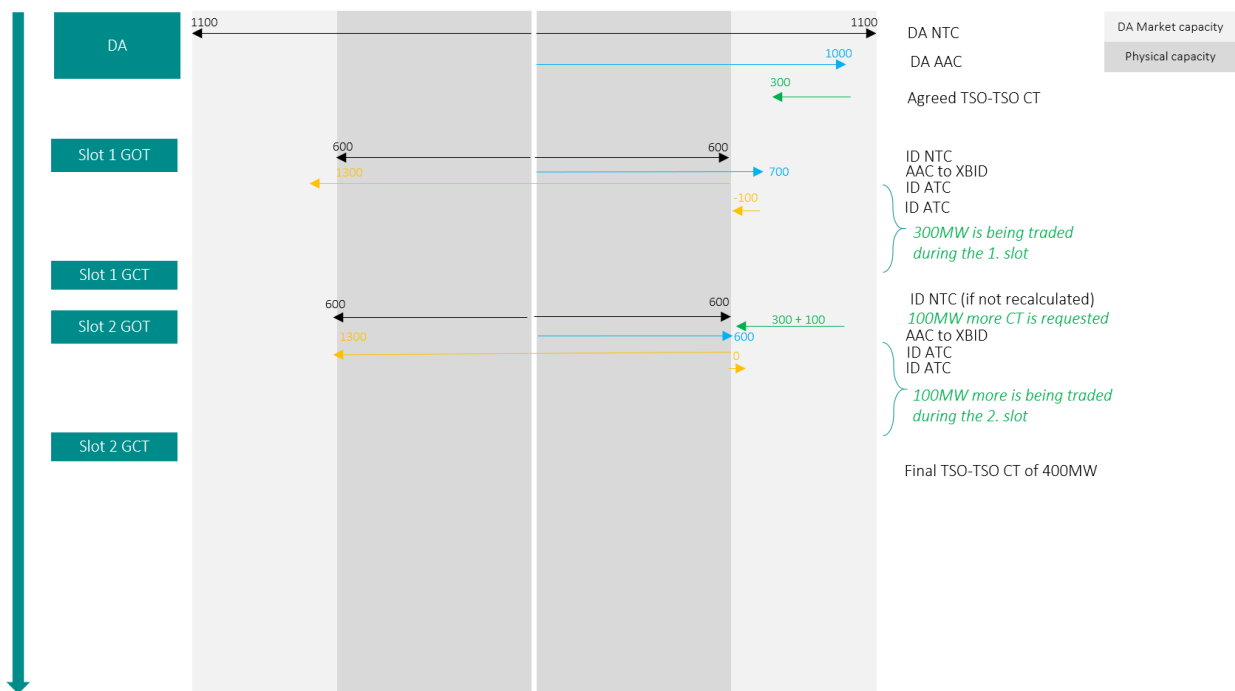


Figure 3: If NTC is lower than AAC it will result in a negative ATC until the full CT volume is requested.

Energinet find that a negative ATC is fine in this case, as the full CT volume has not been traded why the market is not limited without reason - the negative ATC may enable the market to help reduce the CT need if trades in the opposite direction of the market is performed. Further to this, overallocation in the opposite direction of the market flow is not a risk in this case.

Example 4: In case the total amount of countertrade could not be traded

In case the total countertrade volume was not possible to trade, the AAC will be adjusted accordingly as the countertrade is only firm once it has been traded. In the example below 100 MW was not traded on SIDC why the TSO-TSO CT is reduced to 300 MW. The 100 MW left over must be handled by the requesting TSO e.g., by redispatch internally, and the physical flow on the border will end up being 700 MW.

NOT ALL TRADED

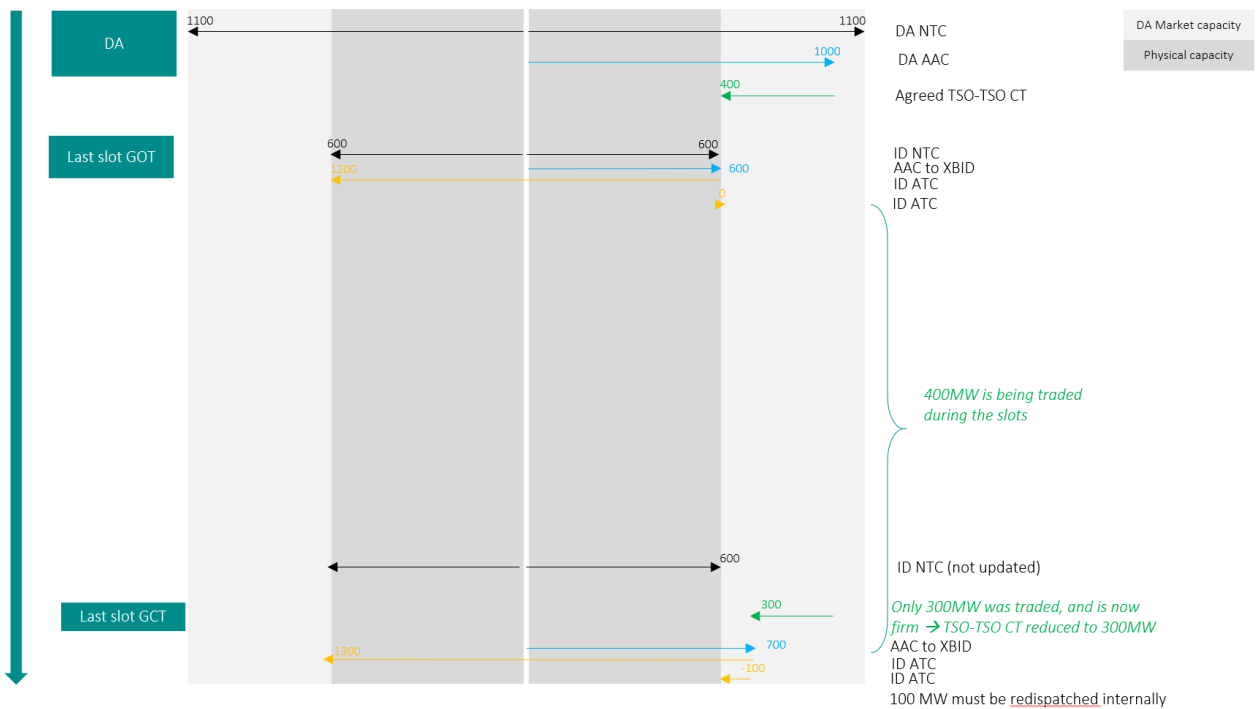


Figure 4: ID AAC is increased with 100MW as the final countertraded ended up only being 300MW as supposed to 400MW in the respective hour. The volumes which could not be traded will lead to a negative ATC until the market either helps by trading in the opposite direction of the market flow, or when it is redispatched internally and the NTC is recalculated and updated.

Example 5: unexpected countertrade – interconnector trip

In case of unexpected countertrade occurring after cross zonal intraday GOT the market must be closed on the specific border e.g. using the service halt function in SIDC when sending the adjusted capacities to SIDC. This does however not limit the market without cause as there is no physical capacity on the border.

The first 2 hours after the interconnector trip results in a 1000MW imbalance.

The interconnector is expected to be out for the rest of the day, and therefore the procurement of countertrade energy approximately 2 hours after the trip can be done in the intraday market for all relevant hours.

The exact timing of this will be detailed in operational procedures followingly.

INTERCONNECTOR TRIP

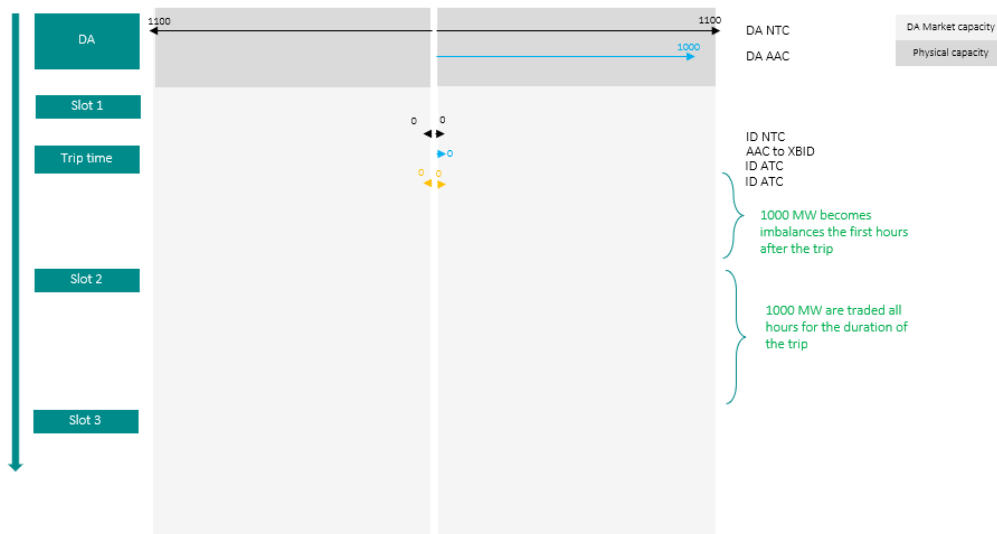


Figure 5: Capacity is set to zero when an interconnector falls out

ONLY ONE INTERCONNECTOR TRIPS (REDUCED CAPACITY)

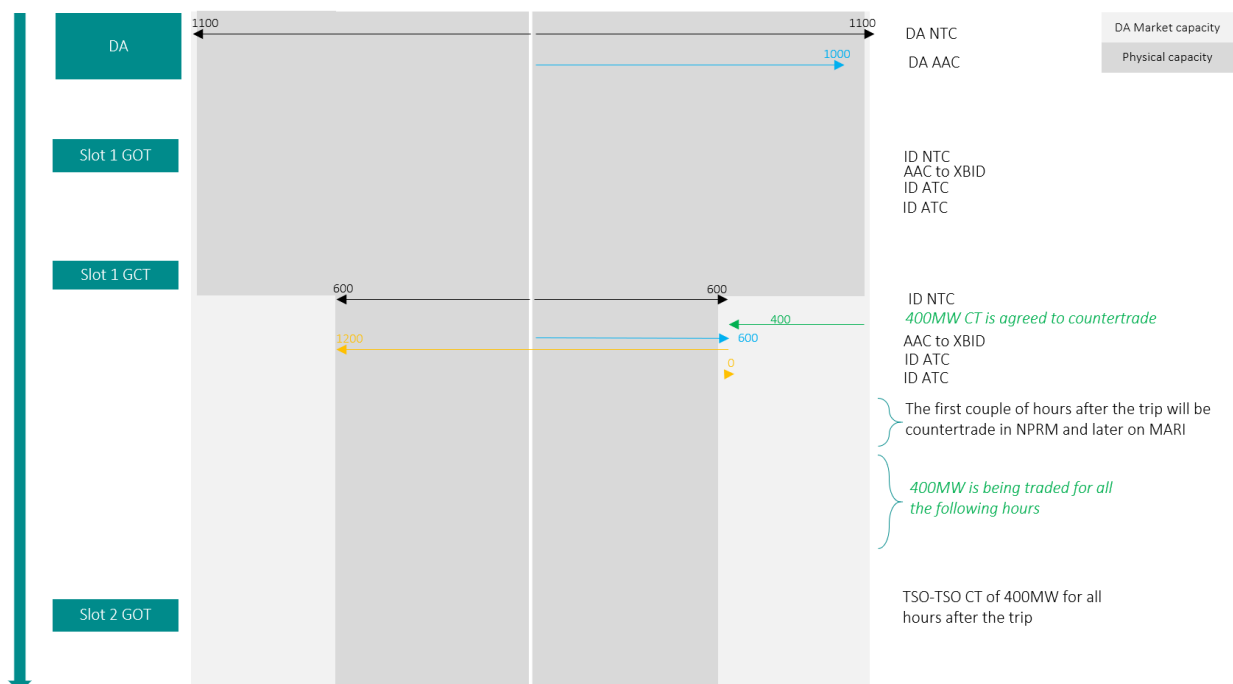


Figure 6: The capacity on a border contains the capacity on several parallel interconnectors. If only one out of two interconnectors trip, then the capacity will be reduced accordingly, and countertrade will be agreed upon between the TSOs.

In the above-mentioned case the service halt function must be used for a couple of minutes when submitting the new NTC and AACs to SIDC.