USERS' GROUP

WG EMD-SO
Workshop Intraday CCM escalation

17th July 2023
10:00 – 12:00

Objective of today's workshop

On the basis of the referral by the Core NRAs (4th April) of the 2nd and 3rd amendment of the ID CCM, ACER initiated the procedure ACER-ELE-2023-010, with the goal to issue a decision by 4th October. To prepare its decision ACER is running a consultation until Aug 1st.

Key objectives: deep dive into the key topics for ACER's consultation, hereby creating a better understanding of the challenges for IDCC. This has been structured as follows:

- Recap of the problem statement
- Theme 1: process architecture (interaction IDCC-ROSC) – Questions 1 & 2 of ACER's consultation
- Theme 2: internal congestions – Questions 3 & 4 of ACER's consultation
- Wrap-up of Elia's proposal for themes 1 & 2
- Theme 3: other topics – Questions 5 & 6 of ACER's consultation

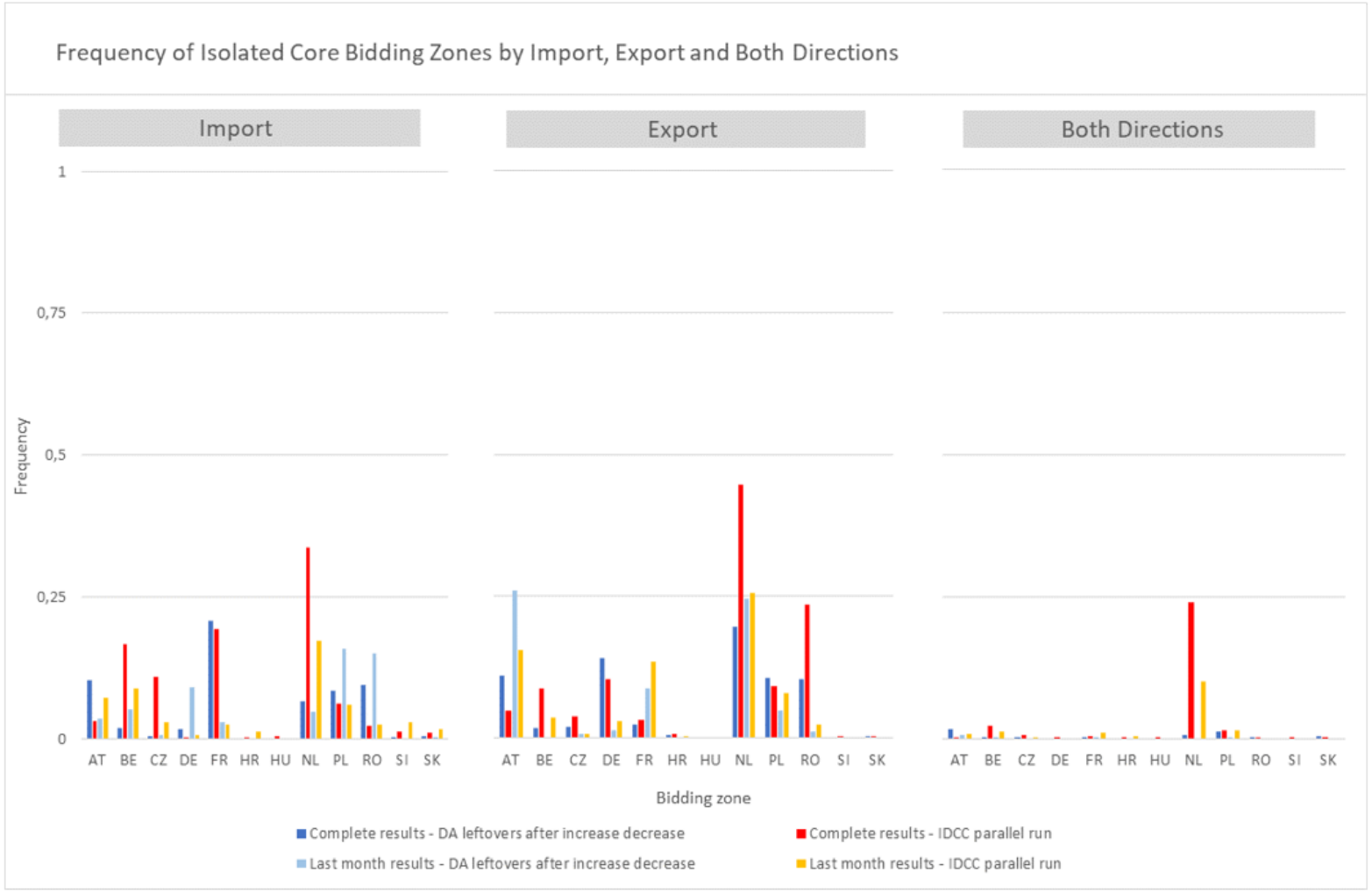
In addition: put into perspective how this relates to the topic of balancing an offshore bidding zone.

Problem statement recap

Several concerns have been raised the past months

- **Methodology:** CREG presented its red flags during Elia's WG EMD-SO May 31st:
  - 1) negative RAM, negative ATC;
  - 2) removal of nRAO with no alternative to provide capacity around the MCP;
  - 3) turning XNEs into CNEs;
  - 4) extensive scope of use of IVA based on local tools;
  - 5) non-compliance to Art.16(8) on the 70% requirement (keeping loop flows + FRM below 30%)

- **EXT // run results:** market parties' feedback during Elia's WG EMD-SO Jan 31st and during Core Consultative Group Apr 18th:
  - Key concern: increased frequency of zero/negative ID ATCs around NL, thus also impacting BE borders
  - General observation: introduction coordinated process reduces the capacities on average in Core

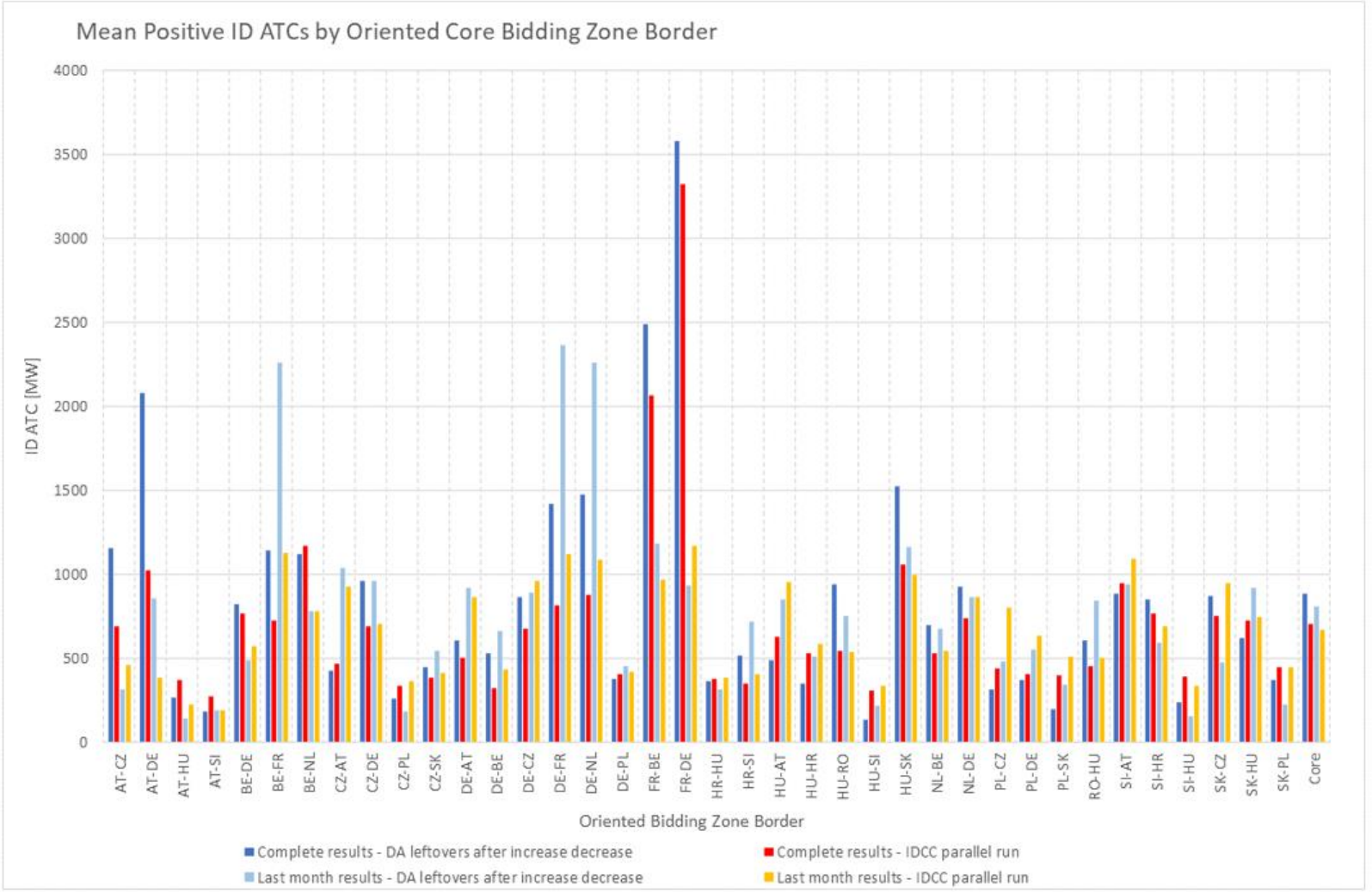


IDCC1 EXT // run results

Complete dataset: Sep 6th – Jun 4th

Last month dataset: May 8th – Jun 4th

- Recent results show reductions in the frequency of isolation for the bidding zones which are usually most negatively affected (NL, BE, CZ, RO) compared to overall results of the whole // run.
- The difference between monthly results and the results of the full EXT//run is caused by the difference in season and market coupling situation (i.e. France is now exporting instead of importing)



IDCC1 EXT // run results

Complete dataset: Sep 6th – Jun 4th

Last month dataset: May 8th – Jun 4th

- Recent results show improved IDCC ATC results on many borders.
- The difference between monthly results and the results of the full EXT//run is caused by the difference in season and market coupling situation (i.e. France is now exporting instead of importing)

Overview of intraday capacity calculation and allocation processes

AS IS

Time		Source	Capa Calc	Allocation
D-1	**22:00**	D2CF	DA left-over with TSO individual choice of amount of virtual capacity + increase/decrease by border	Continuous trade

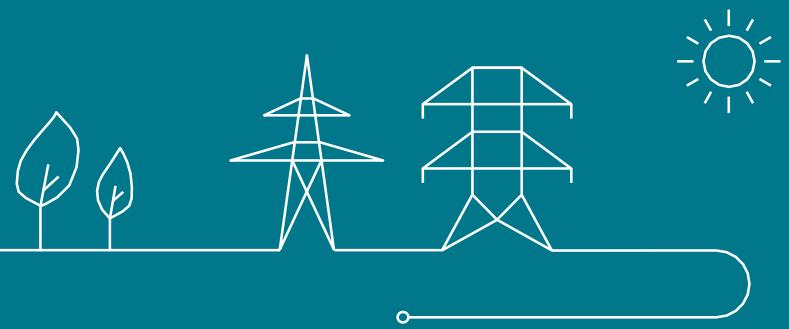
TO BE

Time		Source	Capa Calc	Allocation	Expected go-live of capacity calculation
D-1	**15:00**	D2CF	DA left-over*	IDA1 + CT	IDA go-live = Q2 2024
D-1	**22:00**	DACF	IDCC1	IDA2 + CT	To be defined after ACER's decision – *possible that it comes after the go-live of IDA, in which case the current process is applied for a longer period*
D	**03:00****	IDCF	IDCC3	CT	No legal requirement for implementation
D	**10:00**	IDCF	IDCC2	IDA3 + CT	To be defined after ACER's decision – *initial legal deadline was set to 12 months after IDCC1 go-live*
D	**15:00****	IDCF	IDCC4	CT	No legal requirement for implementation

** With TSO individual choice of amount of virtual capacity to keep from DA domain. No increase/decrease.*
*** Indicative – to be detailed during implementation phase (and to be aligned with ID CROSA timings)*

Theme 1: process architecture

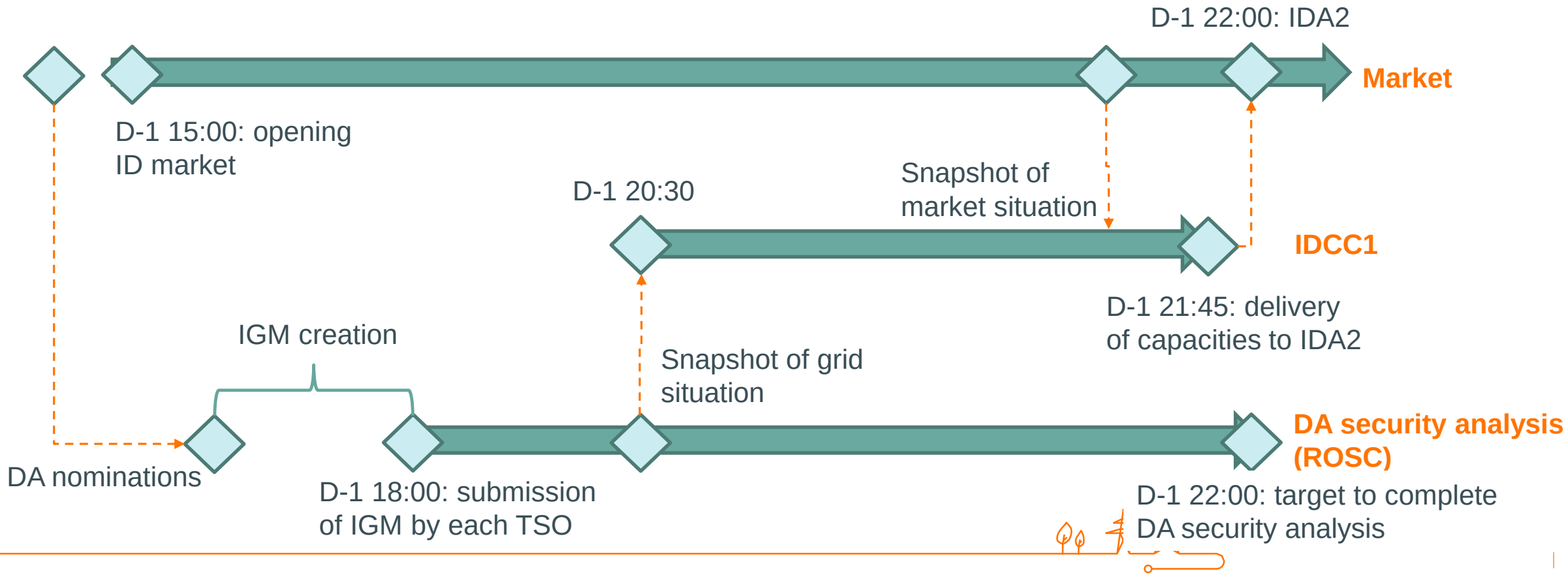
- Alignment of IDCC with DA security analysis and future ROSC
- Recalculation of capacities



Intrinsic challenge: managing parallel processes

It is the role of ROSC to coordinate the application of RAs. Hence it is key that as much as possible the non-costly and costly RA's from ROSC are integrated into the starting point of IDCC1.

By skipping the NRAO (non-costly remedial action optimizer) in IDCC1 we minimize the time needed to perform IDCC1, which in turn allows to integrate the (partial) outcome of the DA security analysis.



Target model: an update of capacities after each ROSC run ➔ IDCC 1/2/3/4

During capacity calculation:

- Capacity available for cross-zonal trade is determined and given to the market, only considering the limits of CNECs and the grid situation at the moment of the computation
- The market allocates offered capacities, which translates to additional cross-border flows on the grid

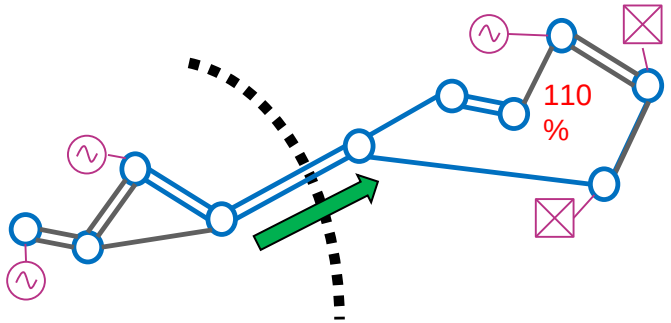
During the CROSA process:

- The grid security is assesses on XNECs (all 220 and 380 kV elements)
- On overload on an network element could be detected, which was not considered in the CC process (e.g. due to low sensitivity)
- Remedial actions will be activated to resolve the overload, in this case also reducing the loading on the overloaded CNEC, but also increasing the load for other CNECs

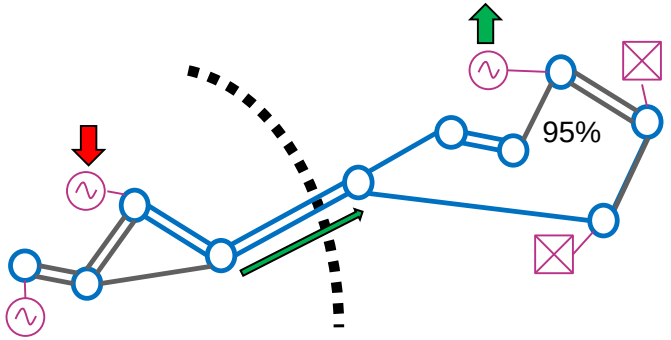
If CROSA is not followed by any form of IDCC process:

- The market could increase the loading on CNECs in the burdening direction as the computed margins in the previous IDCC were overestimated and not compatible anymore
- This would once more introduce the overload on the network elements by cross border exchanges
- This would then require another RA activation via FAP (fast activation process) to resolve it, leading to increased risks for grid security and additional costs – in case unsecured capacities are also released for the balancing timeframe, no time for additional RA activation before real-time

Situation before CROSA



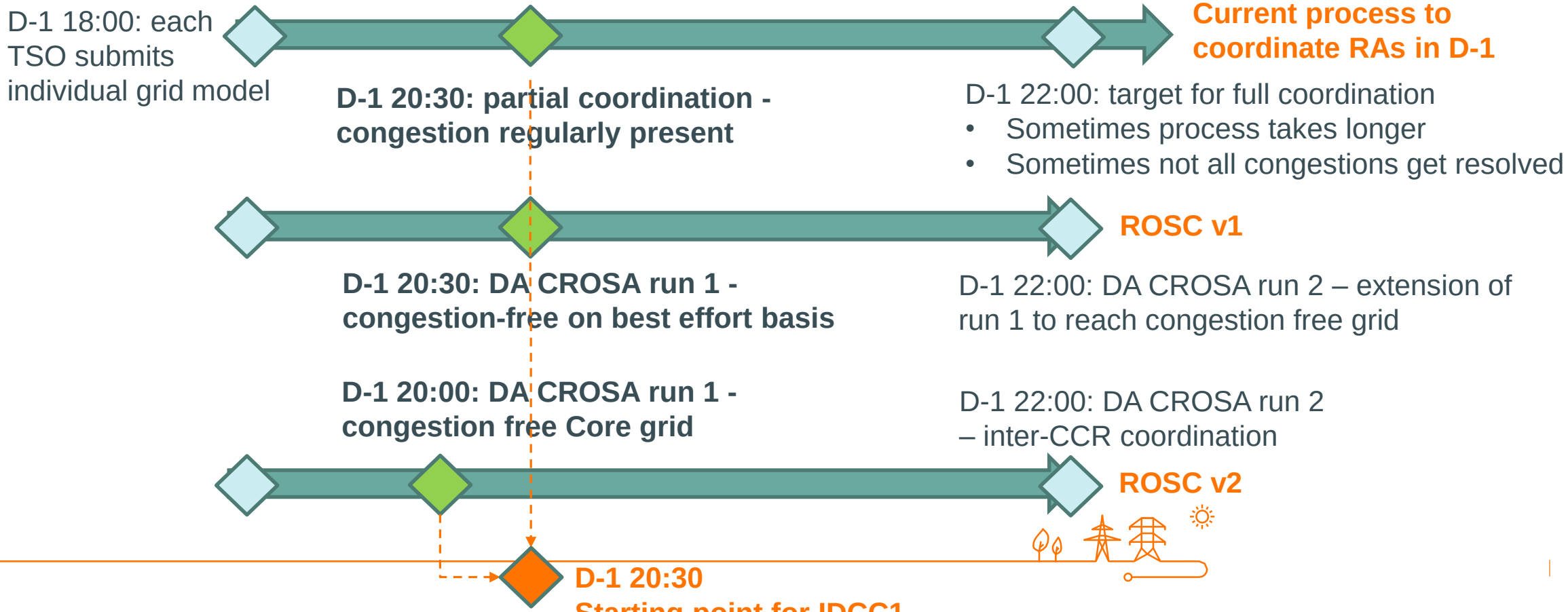
Situation after CROSA



CNEC, in scope for capacity calculation
XNEC, in scope for ROSC, but not CC

Until ROSC v2 is in place the starting point for IDCC1 can be pre-congested

- **Current process:** 'glue' together Coreso's CGM and TSCNET's CGM, limited automation, more “rough” approach to solve congestion thus sometimes margin is created by reducing loading < 100%
- **ROSC v1 with possible phased approached for DA & ID**
  - **DA CROSA earliest Q2 2025:** automation of PST & RDCT, topological RAs are manual, optimizes to reduce loading to 100%
  - **ID CROSA’s earliest Q4 2025:** same description as DA CROSA
- **ROSC v2 – Q4 2026:** integration of topological RAs into the automation + introduction of inter-CCR coordination



What is the perspective of an additional recalculation IDCC1bis after the completion of the DA security analysis process?

Rationale IDCC1bis: recalculate capacities for MTUs 4-24 upon a congestion-free DA grid model

ROSC	Ends at	IDCC	Capacities provided at	MTU coverage
DA CROSA to deliver congestion free Core grid model	Target: 20:00 D-1	IDCC1	22:00 D-1	00 - 24
	Current practice: between 22:00 D-1 and ~00:00	**IDCC1bis**	**02:00**	**04 - 24**
ID CROSA #1	02:00	IDCC3	04:00	06 - 24
ID CROSA #2	08:00	IDCC2	10:00	12 - 24
ID CROSA #3	15:00	IDCC4	17:00	19 - 24

Note: the 2h time window between the end of capacity calculation and the first MTU for which the recalculated capacities become effective is indicative. It may be shortened taking into account 15' MTU implementation.

IDCC1bis has value until the go-live of ROSC v1 / IDCC 3

- **For the period until ROSC v1 go-live**:
  - The introduction of an IDCC 1bis will have added value as it captures the margin on the CNECs that is freed up after 20h30 D-1. The current DA security analysis process does not necessarily stop at 100% loading, often some margin is created on the congested network elements.
  - Expectation management: the final result of the current DA security analysis process is not always congestion-free. Thus there will be moments where an IDCC1bis has no impact.

- **In the period between the go-live of ROSC v1 and the go-live of ROSC v2:**
  - During this period it is expected to have the ID CROSA and IDCC3 being put in place, which makes the IDCC 1bis largely obsolete.
  - Expectation management: as ROSC's objective function is fulfilled at the edge of the congestion (ROSC solves congestion but does not create extra margin) and there is an FRM effect in IDCC, there is no guarantee that a negative or zero RAM/ATC from IDCC1 can be turned into a positive RAM/ATC during a recalculation via IDCC1bis or IDCC3.

A recalculation of capacities after each CROSA is the way to go.

Until ID CROSA + IDCC 3 is implemented, an IDCC1bis has some value in picking up the remedial actions coordinated after 20:30 in D-1.

Theme 2: internal congestions

- Conversion of XNECs to CNECs
- Minimum capacity

Setting the scene

1. ROSC ensures that grid models are congestion free and thus creates the optimal starting point for a recalculation of capacities in intraday.
2. The capacity can be allocated up to 1h before RT, and this is expected to shorten to 30' in the future cf. electricity market reform.
3. Afterwards, when the ID market has closed, the capacities from the latest intraday recalculation will be updated within BTCC (balancing timeframe capacity calculation) using the latest results from ID market allocations. These capacities will feed into MARI & PICASSO.

Ignoring some internal congestion – by filtering out network elements not significantly influenced by cross-zonal exchanges, and/or by applying virtual capacity to reach minimum capacity targets – **is a known recipe from day-ahead capacity calculation to avoid undue discrimination. As a consequence, the validation step in DACC turns into a shadow capacity calculation process**

The intrinsic motivation to avoid undue discrimination is also relevant in the ID context, yet ignoring internal congestion becomes critical as we are approaching real-time grid operation:

- TSOs need to resort to local processes as there is no time anymore to run a coordinated CROSA.
- TSOs depend on the availability of local volume of fast resources to manage the congestion.
- The validation step in IDCC & BTCC also turns into a shadow capacity calculation, with in comparison to DACC much less time to execute and without a perspective to coordinate across borders.

Relevant as from ROSC v1 go live

Antagonistic requirements between ROSC and IDCC

CACM Art. 29(3b)
"When calculating cross-zonal capacity, each coordinated capacity calculator shall ignore those critical network elements that are not significantly influenced by the changes in bidding zone net positions"

Translation into ID CCM: application of PTDF threshold of 5%.

Core ROSC Art 31 (3)

3. In order to prevent the effect of activated XRAs on operational security to be diminished by additional cross-zonal trade Core TSOs may:
   (a) prevent the netting of cross-border schedules, which result from activated XRAs, with cross-zonal capacities and prevent that these schedules increase cross-zonal capacities in the directions in which additional trade could worsen operational security;
   (b) as a last resort measure, modify cross-zonal capacities outside the coordinated capacity calculation process pursuant to the day-ahead and intraday capacity calculation methodology of the Core CCR, if:
      i. waiting for the next coordinated capacity calculation would endanger operational security; and
      ii. additional cross-zonal trade would create operational security violations which would not be possible to be addressed with available XRAs.

Elia has no intention to include XNEC with PTDF<5% in capacity calculation.

It can be expected that the concerned Core TSOs apply IVA or reduce ATCs if not all XNECs are considered. This will be even more the case if virtual capacity is considered. Elia considers this to be less transparent and less efficient compared to the inclusion of XNECs with PTDF < 5%.

Can this escalation process tackle the revision of the target model?

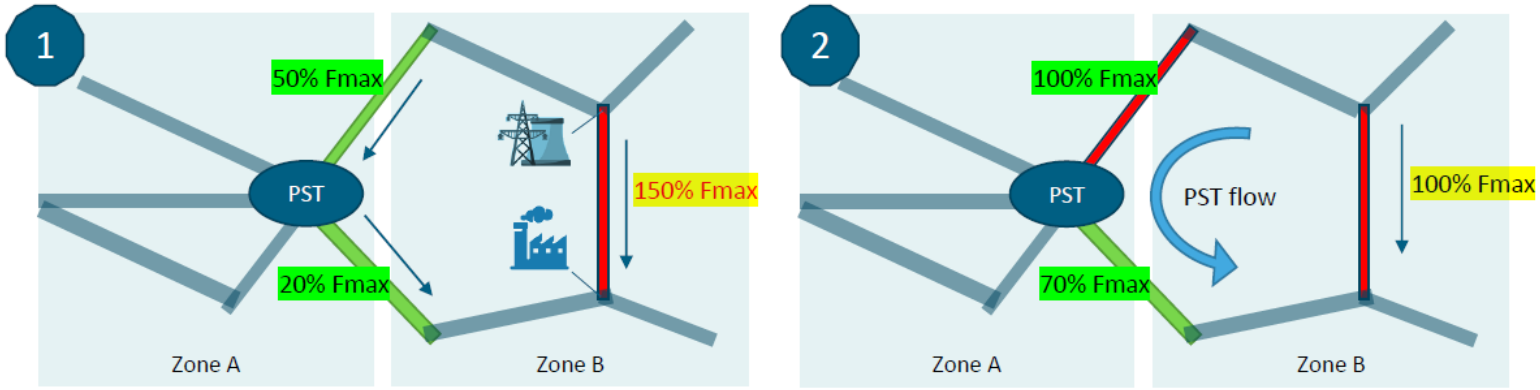
Acknowledging the implications from the previous slide, **Elia does not believe in adding large volumes of virtual capacity in IDCC**.

Elia agrees with CREG that the **ROSC objective function is part of the fundamental debate on the target model.**

The fundamental debate belongs to the revision of electricity regulation and network codes (CEP update, CACM 2.0, SOGL 2.0).

Elia expects the ID CCM escalation process to **focus on a feasible solution for IDCC, covering in first place the period until ROSC is fully implemented.**

Illustration with start of ROSC process with only one single congestion on an internal XNE after DA market clearing



Result DA market clearing

Congestion on internal XNE (non-CNEC)

Still capacity available on CNECs

If virtual margins are not removed, providing DA left-overs on CNECs is at least CEP compliant

Result ROSC Process (simplified illustration!)

Use of PSTs is preferred to the use of internal redispatching, thereby "consuming" capacity on CNECs

Using this ROSC output for extracting intraday capacities is not CEP compliant neither CACM compliant

CREG

Internal congestion is literally pushed to the borders

Elia's view on the use of minimum capacity in the interim solution

DACC

Minimum capacity for exchanges on **Core + non-Core borders: 70% or applicable value from action plan / derogation**

Minimum capacity for exchanges on **Core borders[1]: 20% ➔ minRAM20%**

LTA inclusion

Left-overs 15:00 D-1

Reference is DA domain where TSOs can individually reset the **minRAM X% + LTA Y%** parameters, **and LTA is capped to 1500 MW** on a border. Already Allocated Capacities in DA are subtracted from the applied MinRAM level.

Elia's view: minRAM = 20%, LTA = 100%, LTA capping should stop when LTCC is in place

IDCC

Elia's view: minRAM 20% minus Already Allocated Capacities (DA + ID)

Desired impact: avoid total isolation of a bidding zone, by keeping the direction open opposite to the DA market.

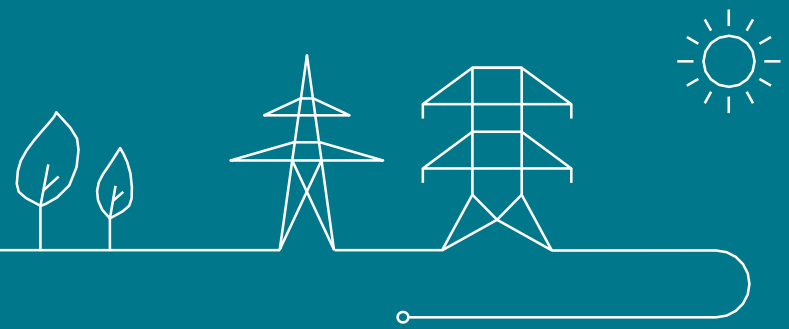
Subject to individual validation.

Elia finds a minRAM approach more sound than a minATC approach:

- minATC is a per border approach and this makes governance complex within a coordinated process
- minRAM is future proof, anticipating that SIDC switches to FB allocation in 2026/2027

(1) Implementation of AHC expands the scope to Core plus non-Core borders upon which AHC is applied

Wrap-up of Elia’s proposal for themes 1 & 2



Elia calls for a phased approach

Current process: left-over + increase/decrease

- Based on D-2 grid model
- Less coordinated
- Makes use of virtual capacity:
  - Keeping some level of minRAM & LTA from the DACC process
  - Bilateral Increase up to 300 MW
- Unilateral decrease

Interim solution IDCC

Objective # 1: take a step forward in terms of grid quality ➔ proper recalculation using D-1 grid model in which RAs are coordinated

Objective # 2: tackle concern on BZ isolation ➔ mitigation measures:

- IDCC1bis
- Re-offer 20% minRAM not yet allocated (as today via DA leftovers)

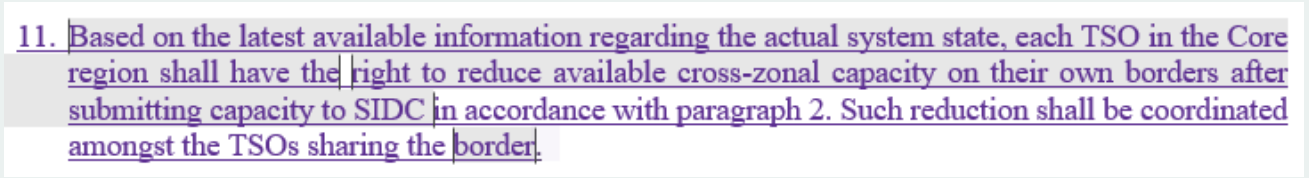
Target model discussion ROSC + IDCC

Objective # 3: avoid undue discrimination

Objective #4: bring markets & physics closer together

Theme 3: other topics

Overview of other topics embedded in 2nd & 3rd ID CCM amendment

Topic	Rationale
ATC-based validation	• Temporary solution until SIDC switches to flow-based in 2026/2027 • Subject to transparency & justification, just as for IVA-based validation • Use case 1: fallback in case IVA validation fails • Use case 2: TSO does not intend to perform daily IVA validation yet needs a simple approach in case of an exceptional situation: unexpected outage of grid element after the IDCC process started, mistake in input data.
Right to reduce capacities between IDCC computations	• Initial TSO proposal:  11. Based on the latest available information regarding the actual system state, each TSO in the Core region shall have the right to reduce available cross-zonal capacity on their own borders after submitting capacity to SIDC in accordance with paragraph 2. Such reduction shall be coordinated amongst the TSOs sharing the border. • The initial proposal can be improved by referring to the objective behind it. Objective = avoid to go in alert state or an emergency state, as defined in SOGL Article 18

(1) negative ATC is preventing the netting effect in case there are trades in the direction towards the 'safe' capacity domain. For ID Auctions, a zero ATC will be provided instead of a negative ATC.

Overview of other topics embedded in 2nd & 3rd ID CCM amendment

Topic	Rationale
FRM: set ID FRM = 50% DA FRM instead of 10% default	• DA FRM will become a lump sum value of 10% • Hence ID FRM will become a lump sum value of 5% • Lower ID FRM value = more capacity for the ID market
Providing for a possibility to delay the delivery of intraday capacities	• At ROSC go-live, the IDCC process will become dependent on a timely executed DA / ID CROSA. • This change in the ID CCM allows to submit capacities until the latest moment that IDA can still accept them. This to maximize chances to avoid application of a fallback.
ID ATC Extraction Methodology improvements: negative ATC[1] extraction/calculation, including a PTDF filtering in case of low/negative CNEC RAMs	• Take PTDFs into account when distributing negative RAM to borders to avoid that on distant borders a relative small negative RAM leads to disproportionate negative ATCs • PTDF filtering to prevent that cross-zonal exchanges are blocked whilst they use only a small portion of the CNEC with very low / negative RAM • Settings applied in EXT // run: in case a CNEC has RAM < 50 MW, only PTDFs of >3% are taken into account in the extraction. PTDFs below 3% are set to 0.

Use case: balancing an Offshore Bidding Zone

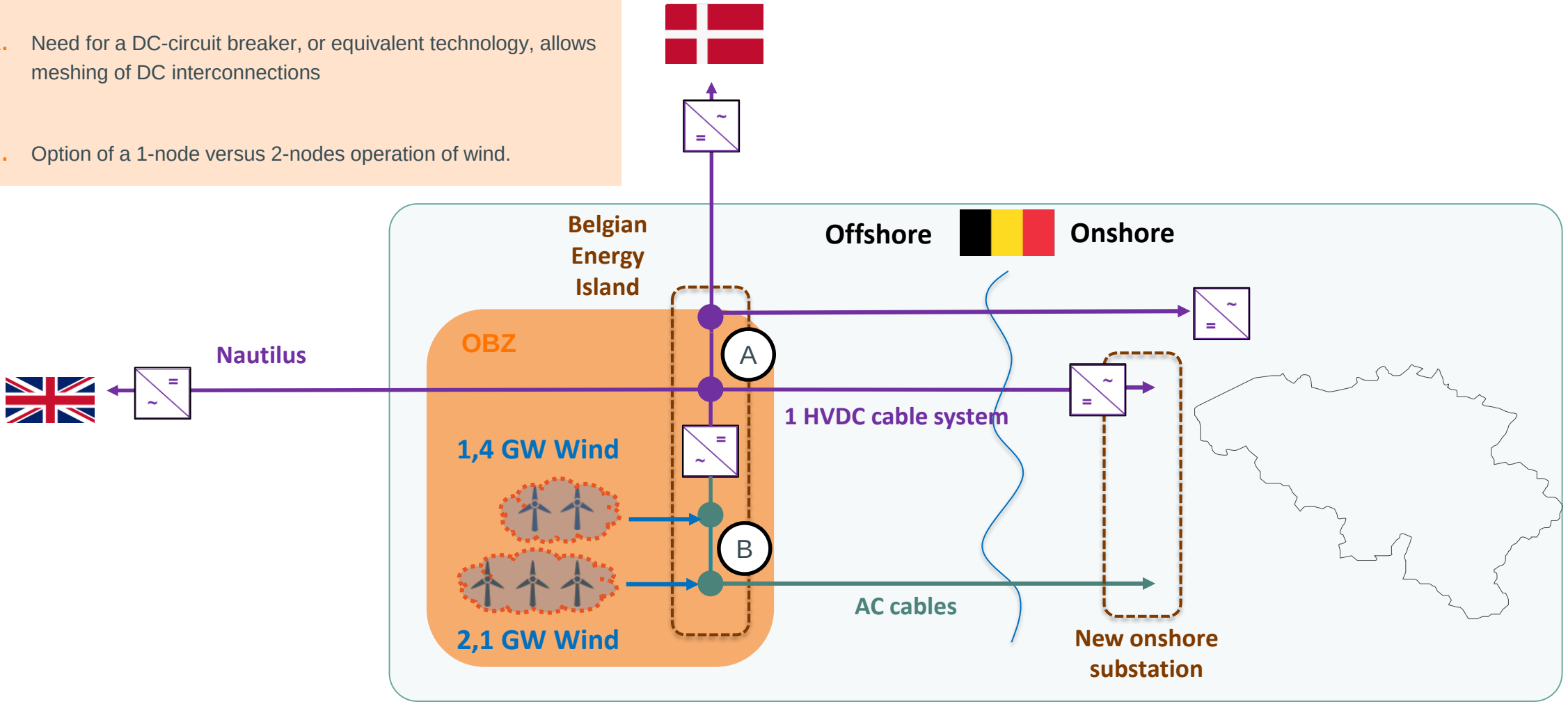
Princess Elisabeth Island

Reference grid design according to Belgian Federal Development Plan

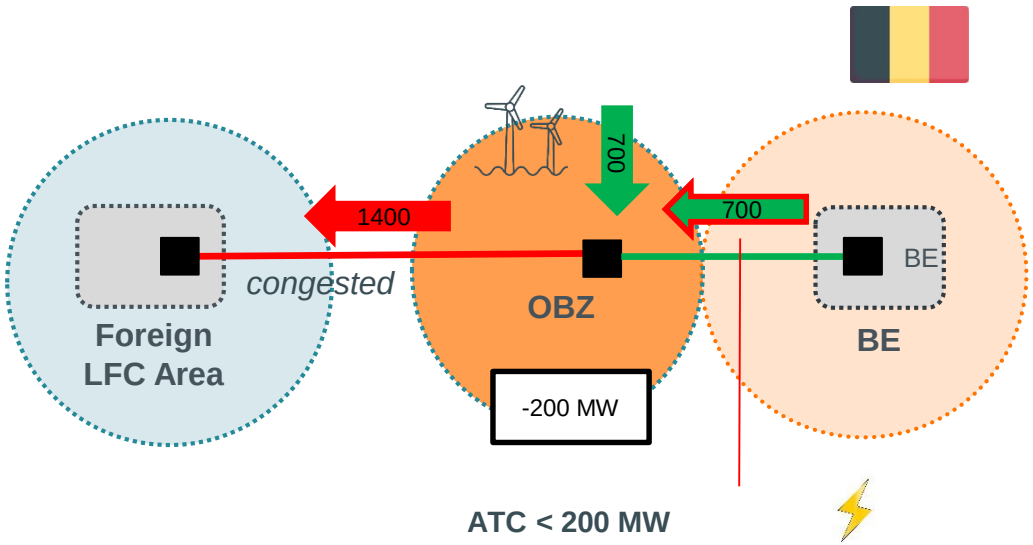
Technical uncertainties

A. Need for a DC-circuit breaker, or equivalent technology, allows meshing of DC interconnections

B. Option of a 1-node versus 2-nodes operation of wind.



Shortage wind power during high export conditions and ATC limitation.



ATC < 200 MW

700 MW cross-zonal capacity was allocated in DA/ID. The cross-zonal capacity available for balancing is less than 200 MW.

Note that despite physical capacity on the HVDC interconnector, the available cross-zonal capacity for balancing can be limited as it is subject to a coordinated capacity calculation in the Core CCR. The limitation may be due to :

- **Capacity calculation methods**
- **Operational limits in the onshore network**

Assume a shortage of 200 MW of wind power in the OBZ.

The insufficient cross-zonal capacity from Belgium to the OBZ inhibits the activation of upward flexibility in Belgium to balance the HVDC system and sustain the export to the Foreign LFC Area.

A combination of measures is to be envisaged

Technical / operational timeframe

Objective: secure system operation = must

Operational agreement

- Enables to reduce export in reaction to shortage in OBZ
- It is standard to have such agreement on all interconnectors
- The extent of such agreement will likely be wider with UK as the problem is more acute

Balancing market timeframe

Objective: increase access to balancing platforms = economic efficiency

- UK joins MARI/PICASSO

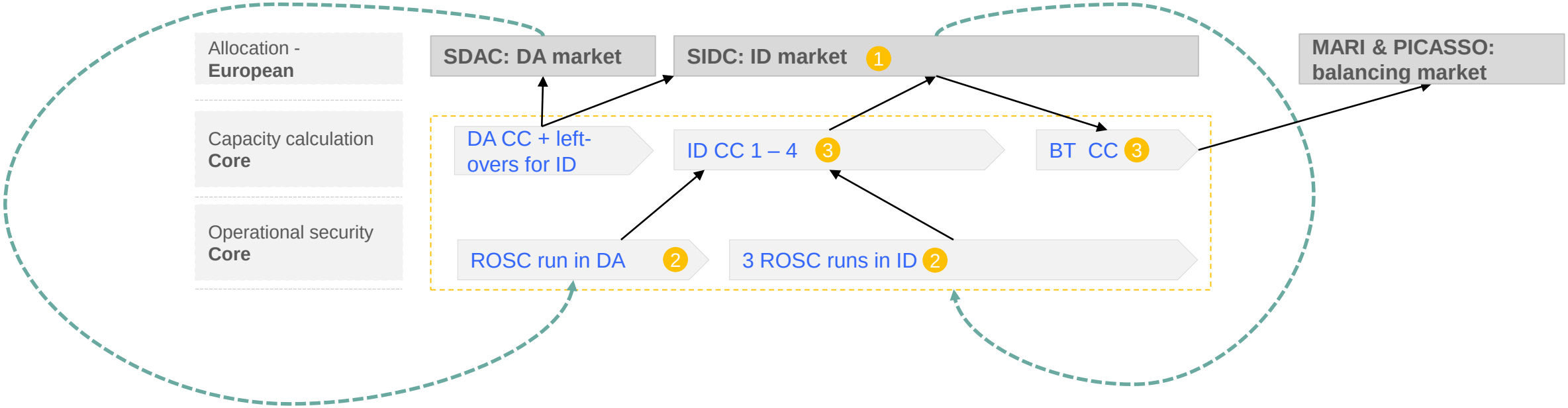
OR

- UK-BE bilateral balancing cooperation

Improve capacity calculation

Improve capacity calculation – anticipated improvements

1. **Move to a more efficient allocation mechanism in the ID market.** Switch from so-called “ATC-based” to “Flow-based” allocation. We will no longer speak of ‘ATC limitations’ in ID.
2. **Better grid models with ROSC**. The outcome of a ROSC run is a congestion-free grid model, and this will be the starting point for capacity calculation in ID & balancing.
3. **Frequent recalculation of capacities.** Four recalculations in intraday, which also form the basis also for balancing.



The current IDCC1 EXT // run results are not representative for the situation in 2030.

Improve capacity calculation – further methodological improvements?

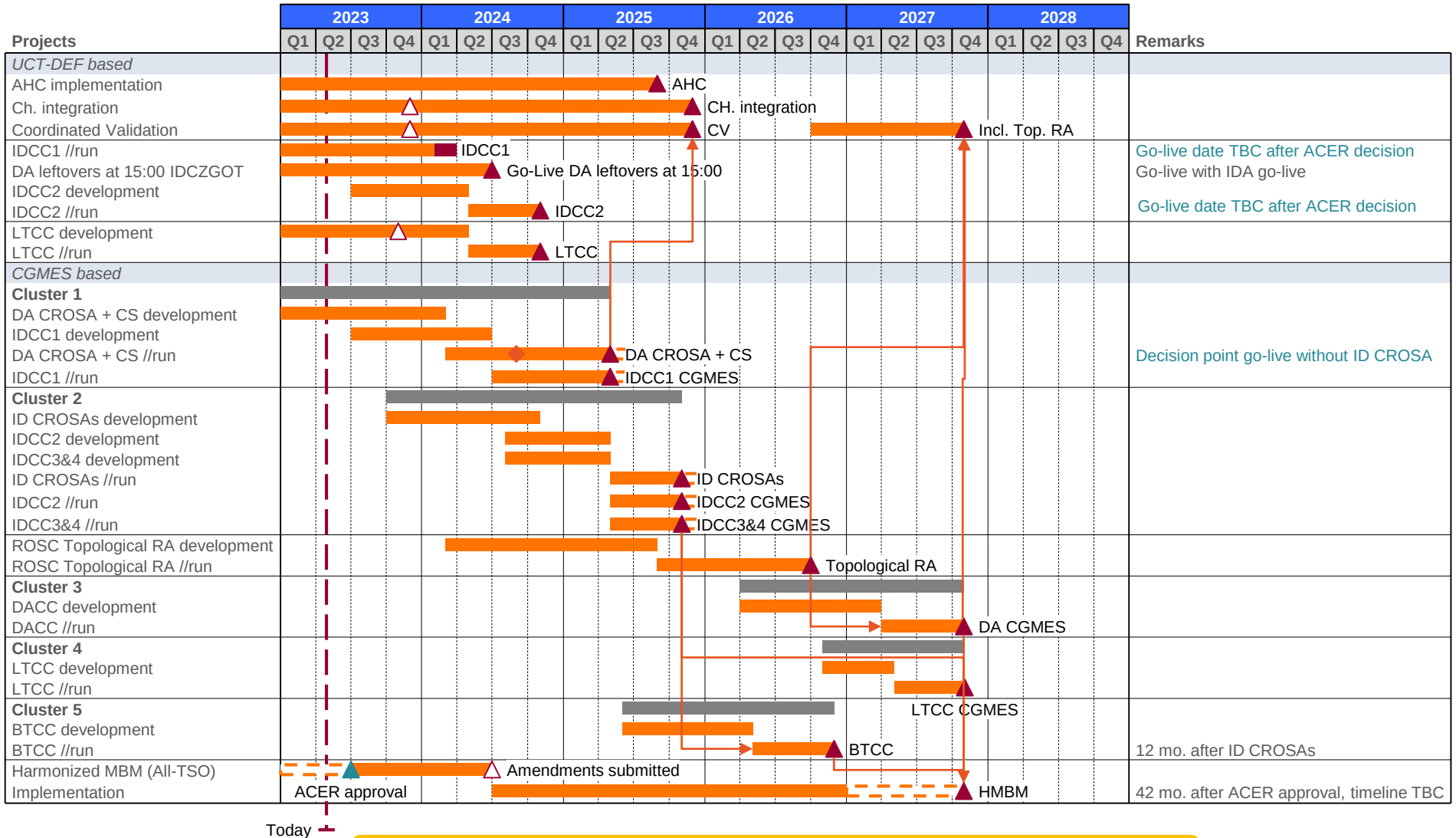
- **Should consider the planned improvements as baseline**
- **The baseline in itself is work in progress as the methodologies for intraday and balancing capacity calculation are pending regulatory decision making:**
- **The specific use case of OBZ can certainly be part of future discussions at Core / EU level. At the same time we note that :**
  - Aiming for 70% in ID/balancing, beyond the fact that it is a heavily disputed interpretation at EU level, does not ensure that there is no issue:
    - When the 70% are already allocated in preceding timeframe, the rule would be without effect
    - TSOs have the right to reduce capacities for reasons of operational security
  - Whatever the design of the capacity calculation methodology, **a residual problem will always remain**. It can indeed not be hoped/wished that a capacity calculation methodology will have as unique outcome that the results of the capacity calculation process matches the thermal capacity, as it would be similar to saying that the capacity calculation does not calculate anything and does not need any kind of coordination.

The target model can be improved, but we cannot guarantee non-zero capacity in all directions at all moments.

ANNEX

Core CCR integrated roadmap

Due to the escalation of the ID CCM amendments to ACER the IDCC timeline, and potentially the BTCC timeline, will have to be reviewed after ACER's decision (expected in Oct. 2023)



Note: The presented roadmap illustrates the clusters & sequence of projects/implementation. The timings of implementation can shift

Overview of how each Core TSO defines the parameters of virtual capacity for the current ID ATC left-over + increase/decrease process

	AT	BE	CZ	FR	HR	HU	NL	PL	RO	SI	SK	LU	DE			
	APG	ELIA	CEPS	RTE	HOPS	MAVIR	TenneT NL	PSE	Transelect.	ELES	SEPS	CREOS	TransnetBW	TenneT DE	50 Hertz	Amprion
rAMRid	0,2	0,2	0,7	0,2	0,2	0,2	0,2	0,2	0,2	0,7	0,2	NA	0,2	0,2	0,2	0,2
rLTAincl	0,5	1	1	1	1	0,2	0,2	0,001	0,2	0,5	0,2	NA	0,2	0,2	0,2	0,2

For rLTAincl, for each border the minimum of values provided by the adjacent TSOs is used

In line with ACERs decision on 06/2022 on the first amendment of the Core ID CCM art 32(a) LTA inclusion should be capped upon 1500MW. This means that the rLTAincl value would be changed in case this together with the LT value would possibly lead towards an excess of the 1500MW cap. E.g. for a given TSO the LT capacities are 3000MW and the original rLTAincl = 1. In that case an adapted rLTAincl = 3000MW/1500MW = 0.5 will be applied.

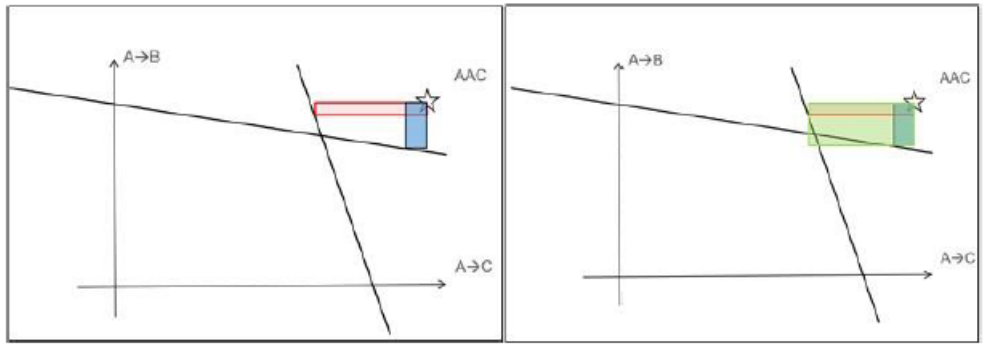
rLTAincl per border	AT-CZ: 0.5 AT-DE: 0.2 AT-HU: 0.2 AT-SI: 0.5	BE-DE: 0.2 BE-FR: 1 BE-NL: 0.2	CZ-AT: 0.5 CZ-DE: 0.001 CZ-PL: 0.001 CZ-SK: 0.2	FR-BE: 1 FR-DE: 0.2	HR-HU: 0.2 HR-SI: 0.5	HU-AT: 0.2 HU-HR: 0.2 HU-RO: 0.2 HU-SK: 0.2 HU-SI: 0.2	NL-BE: 0.2 NL-DE: 0.2	PL-CZ: 0.001 PL-DE: 0.001 PL-SK: 0.001	RO-HU: 0.2	SI-AT: 0.5 SI-HR: 0.5 SI-HU: 0.2	SK-CZ: 0.2 SK-HU: 0.2 SK-PL: 0.001	DE-AT: 0.2 DE-BE: 0.2 DE-CZ: 0.001 DE-FR: 0.2 DE-NL: 0.2 DE-PL: 0.001

D2 = TenneT Germany
D4 = TransnetBW
D7 = Amprion
D8 = 50Hertz

The new ID ATC extraction process works in several steps: In the first step positive ATCs are extracted by curtailing all negative RAMs to zero.

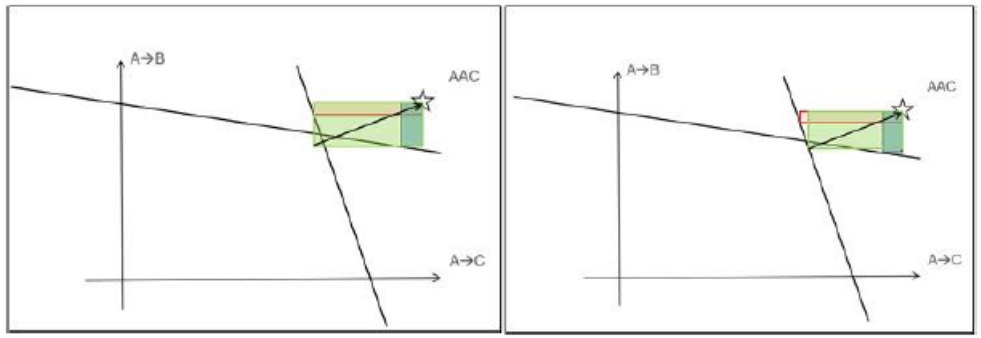
This first step is the iterative process according to the current ID CCM and not changed.

The second step aims at calculating the negative ATCs that result from the negative RAMs before curtailing them to zero. Only for this second step the sharing of RAMs shall be adapted to take PTDFs into account (instead of equal share over all borders). It will calculate negative ATCs for all borders for which a CNEC with negative RAM and positive PTDF exists. The idea of this approach is to keep the ratio of negative ATCs the same but only have as much negative ATCs as is needed to ensure that all negative RAMs can become zero or positive. A visual description of this approach follows:



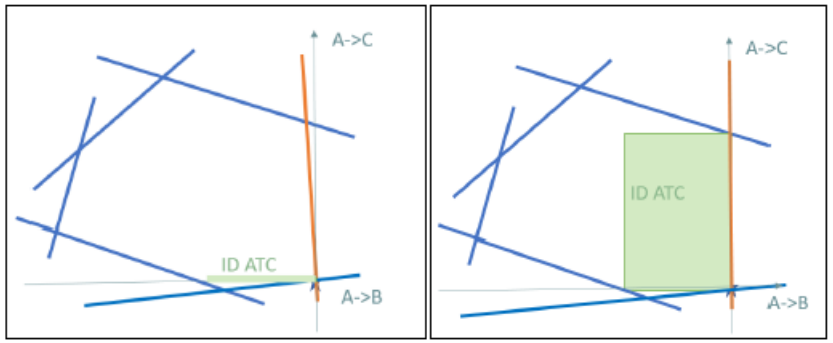
Red and blue are negative ATCs of CNEC 1 and CNEC 2. The green area represents the resulting negative ATCs before scaling. As it is determined by the most negative ATCs it reaches inside the FB Domain.

During scaling, as visualized below, the green ATCs are reduced to just touch but not reach inside the safe FB Domain.



4. Possibility to set low PTDFs to zero before ATC extraction

In addition to the optimization of the extraction of negative ATCs as described in chapter 3, TSOs are performing studies on the modification of PTDFs before ATC extraction in order to increase the ID capacities that can be provided to the market. The aim of the studies is to investigate if low positive zone-to-zone PTDFs of certain CNECs can be set to zero before the ATC extraction. This shall tackle the fact that very distant CNECs with low PTDFs and low or even negative RAMs block the exchanges on certain borders. In the following example, in the left picture, the orange CNEC leads to an ID ATC of zero for the border direction A→C. However, already a slight adaption of the FB Domain allows the ATC extraction algorithm to extract significant ATCs in this direction. The modification done in this example is to put the zone-to-zone PTDF of the orange CNEC for the border A→C to zero. After the modification, the orange CNEC neither blocks exchanges in the direction A→C nor in the direction C → A.



However, modifying the PTDFs means that some flows caused by cross-border trade are neglected and could therefore pose a security risk. TSOs are therefore analysing the benefits and risks of different thresholds that could be applied. One investigated parameter is the threshold below which PTDFs should be set to zero. The second point of interest is how capacities and grid security change when this modification of PTDFs is applied on different subsets of CNECs. The parameter to choose a subset of CNECs is the RAM. The reasoning behind it is that CNECs with high RAM anyway are not likely to block borders. Therefore, the PTDFs of such CNECs could stay as they are. To find the right RAM threshold below which the PTDFs should be modified is also part of the conducted studies.

The first results from the aforementioned studies, based on a limited set of business days, showed some preliminary promising results. An interesting benefit-risk balance could be reached, in term of capacity provided and neglected flow, with the following set of parameters:

PTDF threshold of 2% or 3% and RAM threshold of 10 or 50 MW (e.g.: setting PTDF lower than 2 or 3% to zero, if the CNEC is below 10MW or 50MW of RAM).

TSOs are willing to commit to thresholds in this range of configuration in case it confirms it enables to reach significant positive results in terms of capacity provided to the market and grid security. More experience during parallel run of IDCC process should help to confirm this approach.

SOGL Article 18

2. A transmission system shall be in the alert state when:

(a) voltage and power flows are within the operational security limits defined in accordance with Article 25; and

(b) the TSO's reserve capacity is reduced by more than 20 % for longer than 30 minutes and there are no means to compensate for that reduction in real-time system operation; or

(c) frequency meets the following criteria:

(i) the absolute value of the steady state system frequency deviation is not larger than the maximum steady state frequency deviation; and

(ii) the absolute value of the steady state system frequency deviation has continuously exceeded 50 % of the maximum steady state frequency deviation for a time period longer than the alert state trigger time or the standard frequency range for a time period longer than time to restore frequency; or

(d) at least one contingency from the contingency list defined in accordance with Article 33 leads to a violation of the TSO's operational security limits, even after the activation of remedial actions.

3. A transmission system shall be in the emergency state when at least one of the following conditions is fulfilled:

(a) there is at least one a violation of a TSO's operational security limits defined in accordance with Article 25;

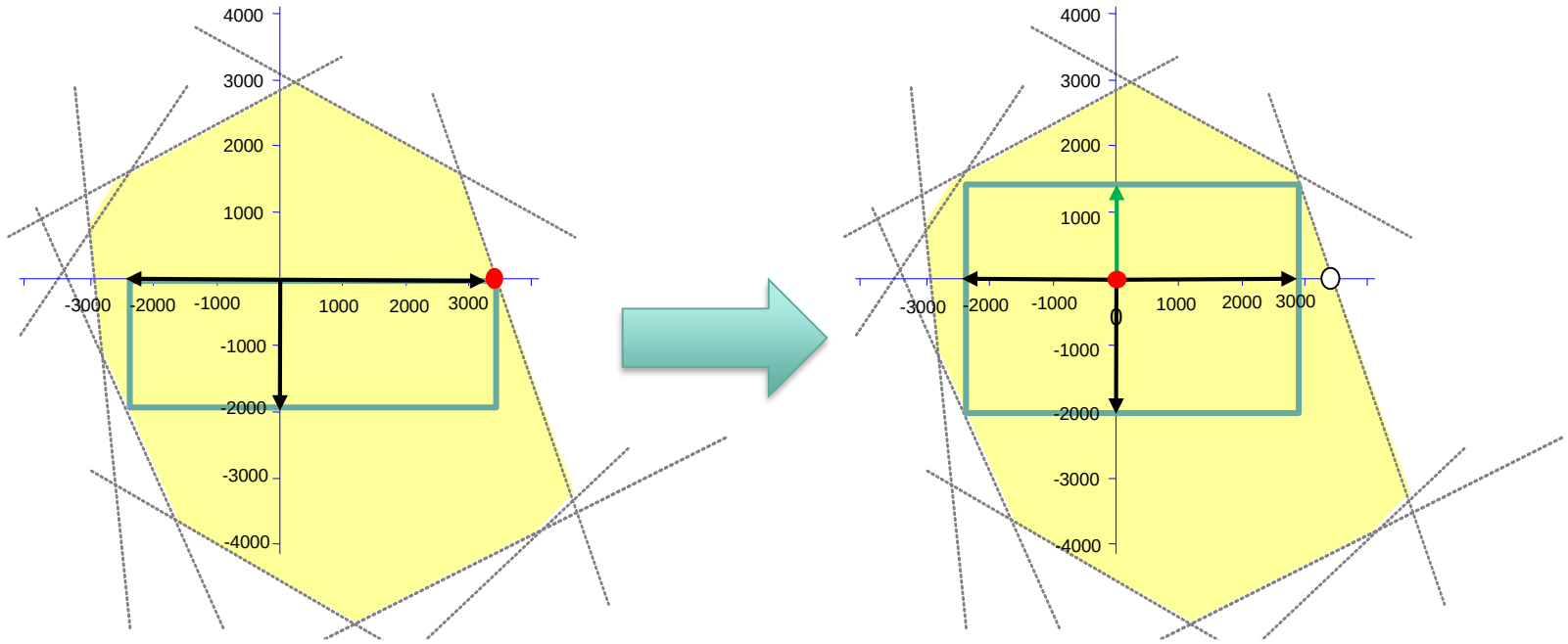
(b) frequency does not meet the criteria for the normal state and for the alert state defined in accordance with paragraphs 1 and 2;

(c) at least one measure of the TSO's system defence plan is activated;

(d) there is a failure in the functioning of tools, means and facilities defined in accordance with Article 24(1), resulting in the unavailability of those tools, means and facilities for longer than 30 minutes.

Improve capacity calculation – anticipated improvements

For balancing the cross-zonal capacities initially calculated for intraday are updated after the closure of the intraday market by changing the reference point based on the latest market position



Yellow = cross-zonal capacities for ID
Red point = position of the market
Green rectangle = extraction of ATC capacities available for balancing
By adapting to the reference point the green rectangle increases