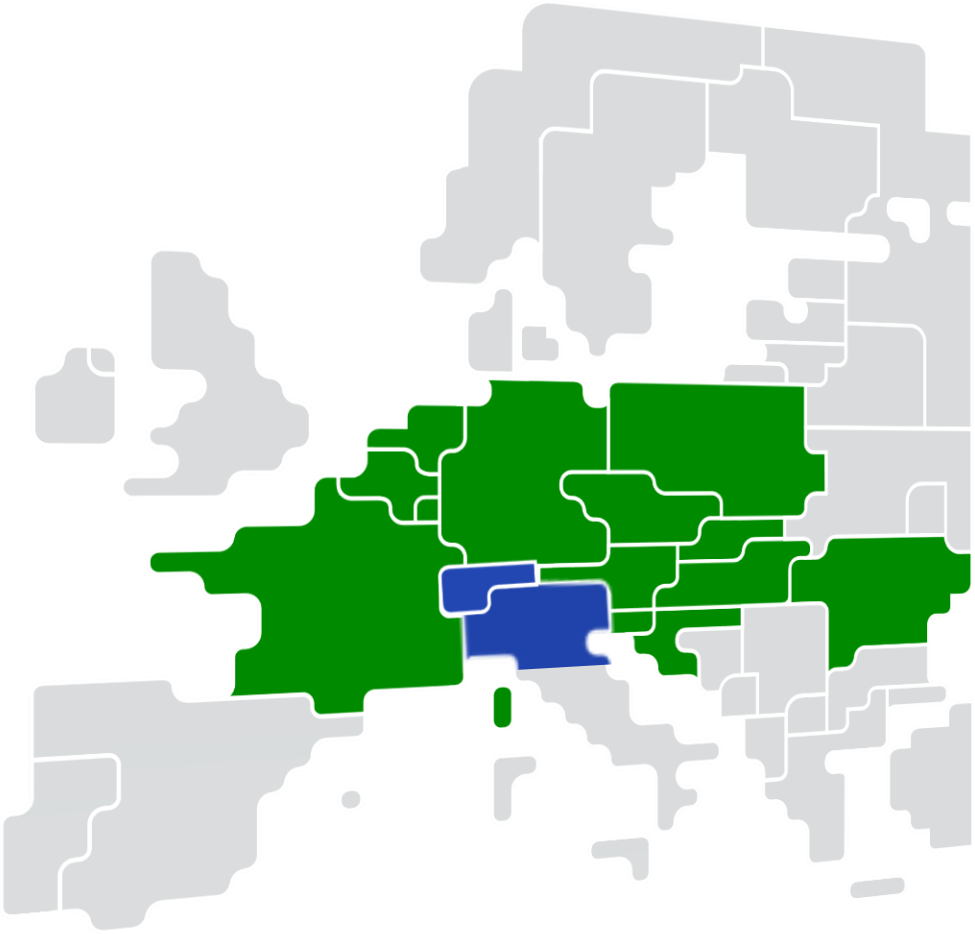
Core & CE Consultative Group

11 October 2024
09:00 – 16:00h (CET)
Brussels



1. Welcome and Introduction

R.OTTER/S. VAN CAMPENHOUT
Z.GAUTIER

Practicalities, announcements and reminders

Co-chairs

Zélie Gautier
Market Participants, Engie

Ruud OTTER
Core TSOs, Tennet BV

Steve Van Campenhout
Core TSOs, ELIA

Harald Köhler
CE Chair, APG

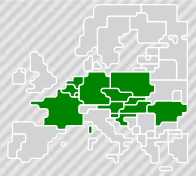
Practicalities

- During meeting
  - Please use the **chat** in Teams to address questions. If you have a specific question on the slide, include the slide number in your question.
  - After each topic there will be a short Q&A section to see if all key questions have been addressed
- Follow up
  - Minutes and final meeting documents will be shared with CCG distribution list
  - JAO Q&A forum

1. Welcome and introduction

Agenda

Z. GAUTIER



#	TOPIC	WHO	TIMING
1	**Welcome and introduction** • Announcements • Agenda for today	STK managers	09:00 – 09:15
	CCR Central		
2	**CE CCR** • Impact of CE CCM (compared to Core) and next steps CE	H.KÖHLER, L.WACHTER & F.CHIANESE	09:15 – 10:30
	CCR Core		Break: 10:30 – 11:00
3	**Core CCR** • Overall program update • Geographic Extensions: Celtic Interconnector	STK managers	11:00 – 11:15
4	**Day-Ahead Capacity Calculation - Core TSOs** • Update on Core DA CCM 3rd amendment • Update on AHC implementation • SPAICC update **Day Ahead Capacity Calculation – MPs** • Feedback from MPs on individual validation	R.KAISNGER Z. GAUTIER	11:15 – 12:15
			Lunch: 12:15 – 13:15
5	**Long-Term Capacity Calculation** • LTCC implementation approach	P. BRHLIKOVA	13:15 – 13:45
6	**Intraday Capacity Calculation** • Q&A - follow-up CG 11/07 • Post-go-live results (incl. Pre-congested KPIs) • Capacity improvement study update • IDCC roadmap: IDCC(C)	B.MALFLIET	13:45 – 14:30 Break: 14:30 – 15:00 15:00 – 15:45
#	**AOB & closure** • Next Core CG meeting • Update on Core CCR legal framework • Default Flow-Based Parameters on BD 25/06/2024 • CEP 70% actions plans & derogations • Overview of MP questions	STK managers	15:45 – 16:00

2. CCR Central Europe

CE DA CCM - Introduction

Reminder

- On 30 November 2023, 'ENTSO-E', on behalf of all TSOs having obligations pursuant to the CACM Regulation, submitted to ACER the 'All TSOs' proposal for amendment of the Determination of capacity calculation regions methodology'. The TSO proposal included inclusion of the Celtic interconnector into Core CCR and defining a new CCR Central Europe for the merge of CCRs Core and Italy North for the day-ahead capacity calculation.
- On the 19th March 2024 ACER published the Decision No 04 2024 (link) providing a favorable opinion to this proposal
- The Core and Italy North CCRs will be merged and form a new CCR called Central Europe. Initially, this merger will initially only apply to the day-ahead capacity calculation process. It will improve the coordination and efficiency of capacity calculation and allocation processes in continental Europe.
- CE TSOs clarify that the Celtic interconnector will first be integrated into the Core CCR prior to the merger of the Core & Italy North regions into Central Europe CCR
- The CE TSOs shall submit the day-ahead flow-based capacity calculation methodology for the newly formed Central Europe CCR by January 2025.

The objective for today is for MPs to be presented with the overview of topics where main changes will be introduced in the CE DA CCM compared to the Core DA CCM in preparation of the Public Consultation and to answer any questions from MPs

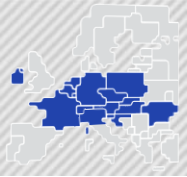
Next steps

- Q4 2024 – CE TSOs to run Public Consultation on proposed CE DA CCM through ENTSO-E Website
- Jan 2025 – Formal Submission of CE DA CCM to NRAs
- Under assessment by CE TSOs – Operational Go Live for Central Europe DA replacing Core DA & IN DA Processes

2. CCR Central Europe

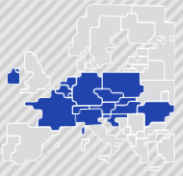
CE DA CCM - Overview of topics

CE DA Convenors



Topic		Status	Description	Justification for inclusion in scope
1	CH inclusion		Assessment of preferred way forward to include CH inclusion in CE DA CCM as SWG is not part of SDAC	• Different concepts have been identified to include CH inclusion in CE DA CCM. • TSOs would like to receive feedback from MPs regarding explicit capacity allocation on CH borders
2	IN specific elements		Consideration of non-modelled lines in CE DA CC	• CE TSOs propose to consider the non-modelled tie-lines with increased Fmax values on affected elements. • There are only 4 non modelled tie lines between CH, IT & AT and the increase of the Fmax on affected elements
3	Core & IN interface for IDCC: IDA 1		Core & IN interface for IDA 1	• TSOs are investigating the possibility of having coordinated capacity calculation for IDA 1 as of CE GL
	Core & IN interface for IDCC: 110kV consideration		Consideration of 110kV network elements during validation	• 110kV element consideration during validation to ensure consistency between CE DA & Core IDCC • This will allow TSOs to apply IVAs on 110kV elements
4	HVDC consideration		Solution to consider HVDCs as an RA in NRAO and with EFB	• TSOs are preparing a solution adapted to HVDC PiSa considering HVDC setpoint in NRAO & using EFB
5	Allocation Constraints		Terna will use ACs and ramping constraints in CE DA CC.	• Terna is currently using line-set constraints in Italy North for operational constraints related to voltage control and dynamic stability • Therefore, a proper solution to take into account Terna needs is currently under investigation.

CE TSOs provide an explanation of the proposed solutions for HVDC consideration & CH Consideration in the next slides



2. CCR Central Europe

1 CE DA CCM - CH integration: Introduction

Background

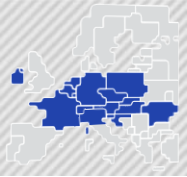
- CE TSOs & regulators are striving to have an integrated CC solution between SWG and CE TSOs, aiming to minimise the impact on capacities due to the inefficiency of not having CH participating in market coupling, and providing fair capacities within CE CCR and CH borders.
- CE TSOs are currently assessing different options and expect Market Parties to provide feedback during Public Consultation.

Options currently under assessment by TSOs

- Extraction of NTCs for CH bidding zone borders
- Explicit day-ahead flow-based allocation on CH bidding zone borders
- Both options require a principle to share capacities between CE and CH, which will be detailed after the initial submission of the CE DA CCM.

Guiding principles for the consideration of CH in the CE DA CCM proposal

- Same rights and responsibilities for CH during FB CC including validation
- CE DA CCM needs to be functional even without this consideration
- EU methodologies cannot impose rules on Swissgrid
- → Separate agreement is needed between CE TSOs and SWG necessary on cooperation
- Non-CE BZBs can be taken into consideration in 3 ways:
  - Standard Hybrid Coupling (Currently CH)
  - Advanced Hybrid Coupling (only countries included in SDAC)
  - As an “integrated technical counterparty“ (iTCP)
- In the Article related to the calculation and publication of final flow-based parameters, a separate step is introduced to consider the capacities between CE BZBs and the BZ of the iTCP



Explanation of Extraction of NTCs for CH bidding zone borders

1. This approach consists in taking the validated full CE domain as basis and extracting an NTC domain for the CH borders out of it.
2. Parametrisation of the extraction process shall be tested and defined during implementation phase.

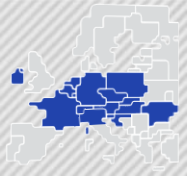
How are the NTCs extracted from the FB domain? (1/2)

1. As a result of FB CC, flow-based domains are determined for each MTU as an input for the FB MC process. The flow-based domains will serve as the basis for the determination of the Swiss border NTC values that are input to explicit day-ahead NTC allocation for CH borders.
2. As the selection of a set of NTCs from the flow-based domain leads to an infinite set of choices, the algorithm adopted for determining Shadow-Auction ATCs for the Core Day-Ahead process is selected as basis for the extraction. This algorithm shall determine NTC values in a systematic way. It is based on an iterative procedure starting from a pre-determined point.

- Starting point: First, the remaining available margins (RAM) of the presolved constraints (CNEs, CNECs and ECs) have to be adjusted to take into account the starting point of the iteration. From the zone-to-slack PTDFs (PTDFz2s), one computes zone-to-zone PTDFs (pPTDFz2z), where only the positive numbers are stored:

$$pPTDF_{z2z}(A > B) = max\left(0, PTDF_{z2s}(A) - PTDF_{z2s}(B)\right)$$

- Where A, B are two different bidding zones. The iterative procedure to determine the NTC starts from a pre-determined point. As such, the RAMs need to be adjusted in the following way:



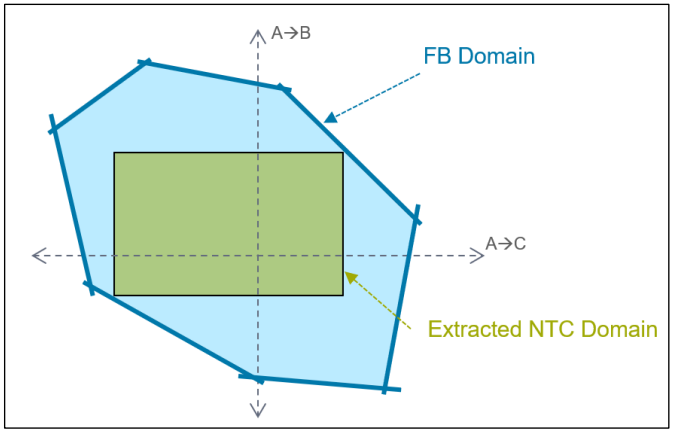
How are the NTCs extracted from the FB domain? (2/2)

- $RAM(0) = RAM_{bn} - pPTDF_{z2z} * Starting\_Point$
- Iteration: The iterative method applied to compute the NTCs in short, comes down to the following actions for each iteration step i:
  1. For each CNE, CNEC and EC, the remaining RAM between bidding zone borders that are positively influenced is shared.
  2. From those shares of RAM, maximum bilateral exchanges are computed by dividing each share by the positive zone-to-zone PTDF.
  3. The bilateral exchanges are updated by adding the minimum values of each oriented border obtained over all CNEs, CNECs and ECs.
  4. Update the RAMs on the CNEs, CNECs and ECs using new bilateral exchanges from step 3 and go back to step 1.
- These iterations continue until the maximum value over all constraints of the absolute difference between the margin of iterations i+1 and i is smaller than a stop criterion.
- The resulting NTCs are the maximum bilateral exchanges. After algorithm execution, there are some CNEs, CNECs and ECs with no RAM left. These are the limiting constraints of the NTC computation.
- *Note: CE TSOs are investigating alternative options to the algorithm described above , with the intent of improving the efficiency of the extraction procedure.*

Explicit day-ahead flow-based allocation on CH bidding zone borders

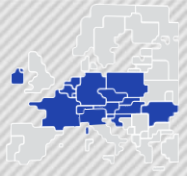
- Another option for determining capacities on the CH border in an explicit manner, consists in bypassing the NTC extraction by submitting to the market allocation a zone-to-zone oriented FB domain.. This domain is obtained by splitting the RAM of the CNECs of the joint CE FB domain, to feed the two separate allocations (CE FBMC vs. CH eFBA). The distribution of capacity follows a sharing key principle that takes into account the forecasted market demand.

- See graphical example of eFBA domain vs. NTC domain comparison



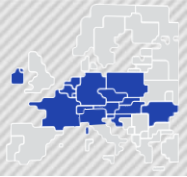
- The flow-based domain for the explicit allocation on CH borders needs to be deducted from the CE domain, while in an NTC extraction approach only the NTCs needs to be deducted (with a sequential auctioning, non-used explicit capacities could theoretically be fed back into CE FB for MC – see questions for MPs on slide 12)

- This approach was intended to be implemented in former CEE day-ahead CC



Introduction to explicit Flow-Based allocation

- Explicit flow-based allocation on the CH borders requires a change in the market design of the affected bidding zone borders.
- In an explicit flow-based allocation regime, cross-border capacities compete for the flows on the most critical branches. The flow-based domain is constituted by a single set of PTDFs (zone-to-zone) and RAM per CNEC for each MTU.
- In contrast to existing bilateral auctions, bids can be placed for each pair of zones for which the capacity is required. As a result, there will no longer be the need for separate market allocations per CH border, but instead, a single auction will take place allocating all the capacity rights at once. Bids such as DE>IT could theoretically also be accommodated. This will result in some changes for Market Participants compared to today where single border auctions are run. Bidding and results will be treated per BZ border direction like today.
- It continues to be an explicit mechanism for allocating physical transmission rights. Only after the auctioning of transmission capacity, the energy market opens, and the required quantities of energy can be bought and transmitted according to the awarded transmission rights.
- During the auctioning process of a flow-based coordinated explicit auction, three steps can be defined:
    1) TSOs inform JAO about physical network parameters (for PTDF calculation and border capacities). JAO then merges data and opens an auction.
    2) Market participants place their bids for capacity between any of the participating countries.
    3) JAO conducts the clearing and notifies Bidders and TSOs about the outcome.
- This approach was intended to be implemented in former CEE day-ahead CC

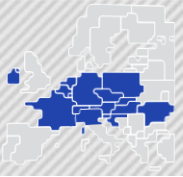


2. CCR Central Europe

1 CE DA CCM - CH integration: differences between methods

Summary of differences between the two capacity/allocation methods

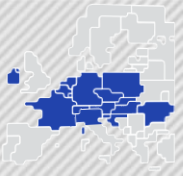
	NTC-based Allocation	Explicit FB Allocation
Capacity Calculation	NTCs for CH borders are extracted from the CE FB domain and published for the existing market allocation mechanisms. No visible changes to the market participants other than an expected increased volatility on the magnitude of capacities due to a daily computation.	There are no NTCs anymore. A sub-space from the calculated CE FB domain is reserved for allocation on CH borders, allowing to bypass the inefficiencies associated to an NTC extraction process. TSOs will provide FB domain (PTDFs and RAMs), which represents the available capacities to be allocated and offers a better representation of physical flows when compared with its NTC counterpart.¨ Market participants will need to interpret these new set of values ahead of placing their bids.
Market Allocation	Status-Quo: Independent allocations per CH border continue to exist as current practice.	CH market re-design: One single allocation mechanism comprised of different borders/directions, ensuring competition for cross-zonal capacities on all CH borders. Market participants can individually bid for any of the available borders/directions.



1 CE DA CCM - CH integration: Questions to Market Participants

Questions to Market participants:

- Which calculation/allocation option would be preferrable and why?
- What time for implementation do Market Participants need in case the CH market design switches to explicit flow-based allocation?
- Is there an openness for a shift of current CH border auction timings to enable a sequential market allocation between CH borders and CE FBMC? Leftovers from CH allocation could then be re-used for CE FBMC.



4 CE DA CCM - HVDC Consideration: Introduction

Reminder

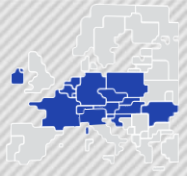
- In the current Core DA CC process & CCM, evolved flow-based (EFB) methodology is the reference for treatment of HVDC interconnectors, currently HVDC Alegro (BE-DE)
- Currently in the Italy North CCR there are 2 HVDC links of 600MW capacity each on FR-IT border: HVDC Savoy Piedmont (PiSa). In the IN DA CC process & CCM, the HVDC Setpoint Range is a non-costly remedial Action applied in the NRAO process. Then, the operational setpoint is calculated by taking the ratio between exchanges and NTC on Italian borders.

Background of HVDC PiSa

- HVDC PiSa was designed differently from ALEGrO and was designed to be used as a remedial action in IN CCR to relieve congestion on cross border elements.
  - In capacity calculation process, NRAO tool modifies injection on both nodes (sum = 0) to relieve the congestions during the dichotomy steps to increase capacity.
  - In real time operation, FR-IT cable is used as a PST to resolve congestion (like any other RA).
- Compared to the DE-BE border, there are 380/220 kV interconnection lines at the FR-IT border whose RAM could be increased using a coordinated combination of RA. Indeed, the increase of FB domain is even greater thanks to the coordination of this RA with the topological RAs present in this geographical area (like opening of the busbar coupler in Piossasco or Grand Ile).

Proposed solution

- RTE & Terna propose following treatment of HVDC in DA CE CCM:
  - The DA CC process will consider the HVDC Setpoint Range as a new non-costly remedial action, in addition to those already reported in article 10.7 of the CORE CCM.
  - In the allocation phase, EFB methodology will be the reference for treatment of HVDC interconnectors.
  - For HVDC PiSa, RTE and TERNA are in favor of keeping the possibility to use a PTDF threshold in order to exclude CNECs less sensitive to the HVDC, already included in Core 3rd amendment.



4 CE DA CCM - HVDC Consideration: explanation and proposed solution

Reasoning behind PTDF threshold for HVDC cable

- Based on the experience from Elia and Amprion on HVDC ALEGrO, RTE and TERNA identified that the same issues could happen for HVDC PiSa: having the setpoint of HVDC optimized in order to release constraint on a CNEC with low sensitivity to HVDC PiSa to maximize the social welfare during DA Market Coupling.
- The risk would be to have a high frequency of circular flows on FR-IT border. By keeping the PTDF threshold option, the goal would be to avoid those situations where HVDC setpoint direction changes every hour because of CNECs with low sensitivity.
- RTE and TERNA aim to have an operational tool working by the time CE DA goes live, in order to calculate the operational setpoint to be used after Euphemia optimization.
  - However, RTE and TERNA would like to keep the possibility of implementing PTDF threshold.
  - RTE and TERNA acknowledge respective Core TSO reasoning provided in the Explanatory Note provided with the Core DA CCM 3rd amendment: *"In general, Core TSOs do not see the usage of PTDF threshold as an adequate way forward as it implies neglecting some physical effects in the grid. Therefore, the PTDF-Threshold for the Evolved flow-based Virtual Hubs shall only be applied if there is no adequate alternative solution to solve given issues of circular flows in the proximity of evolved flow-based Virtual Hubs. A PTDF threshold is not considered for any other use case."*

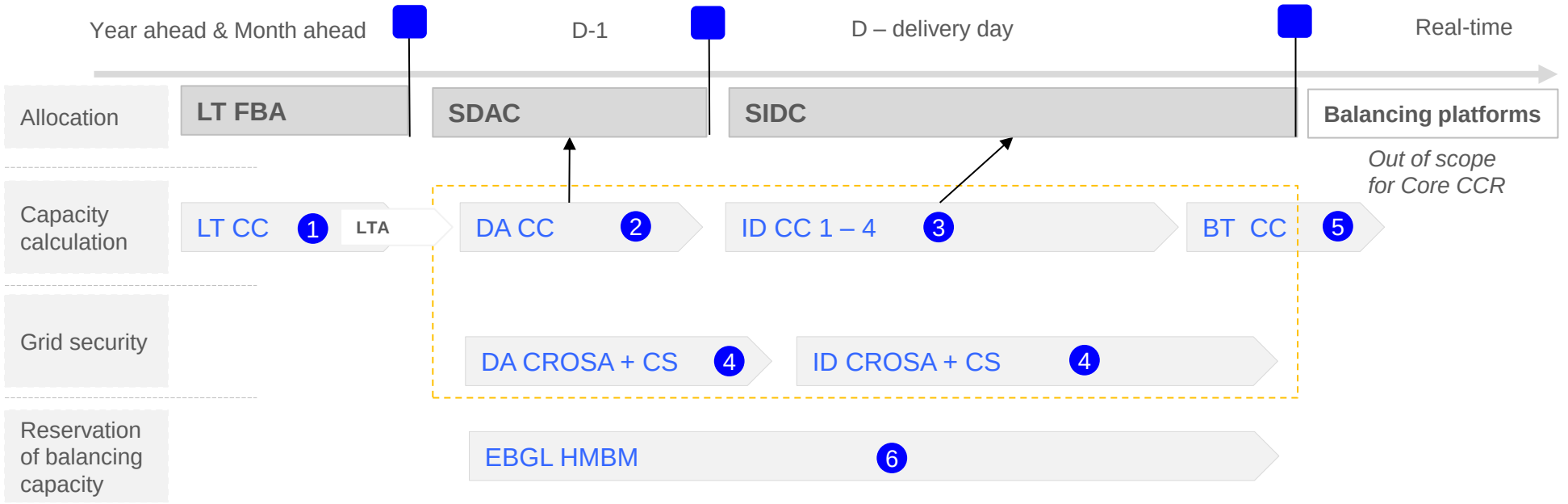
Benefits of the proposed treatment

- Optimises and enlarge the FB domain around NPF in coordination with other remedial, like topological RA (opening/close busbar coupler) or PSTs in the NRAO process.
  - Without HVDC RA, these other RAs could be not triggered, or their application could be uncoordinated.
- NRAO objective function will not be changed.
- The most realistic set of non-costly remedial actions, which is also included in the DACF, is given to intermediate FB computation.
- As stated in the CACM (art 25.1), each TSO shall individually decide to include HVDC setpoint range as a RA in the CC.
- The usage of HVDC as RA reflects its real time operation.
- Keeping EFB in the allocation phase
- This proposal does not modify EFB definition in CCM Core 3rd amendment.

3. Core CCR Overall program update

S. VAN CAMPENHOUT

Core Processes: Key considerations



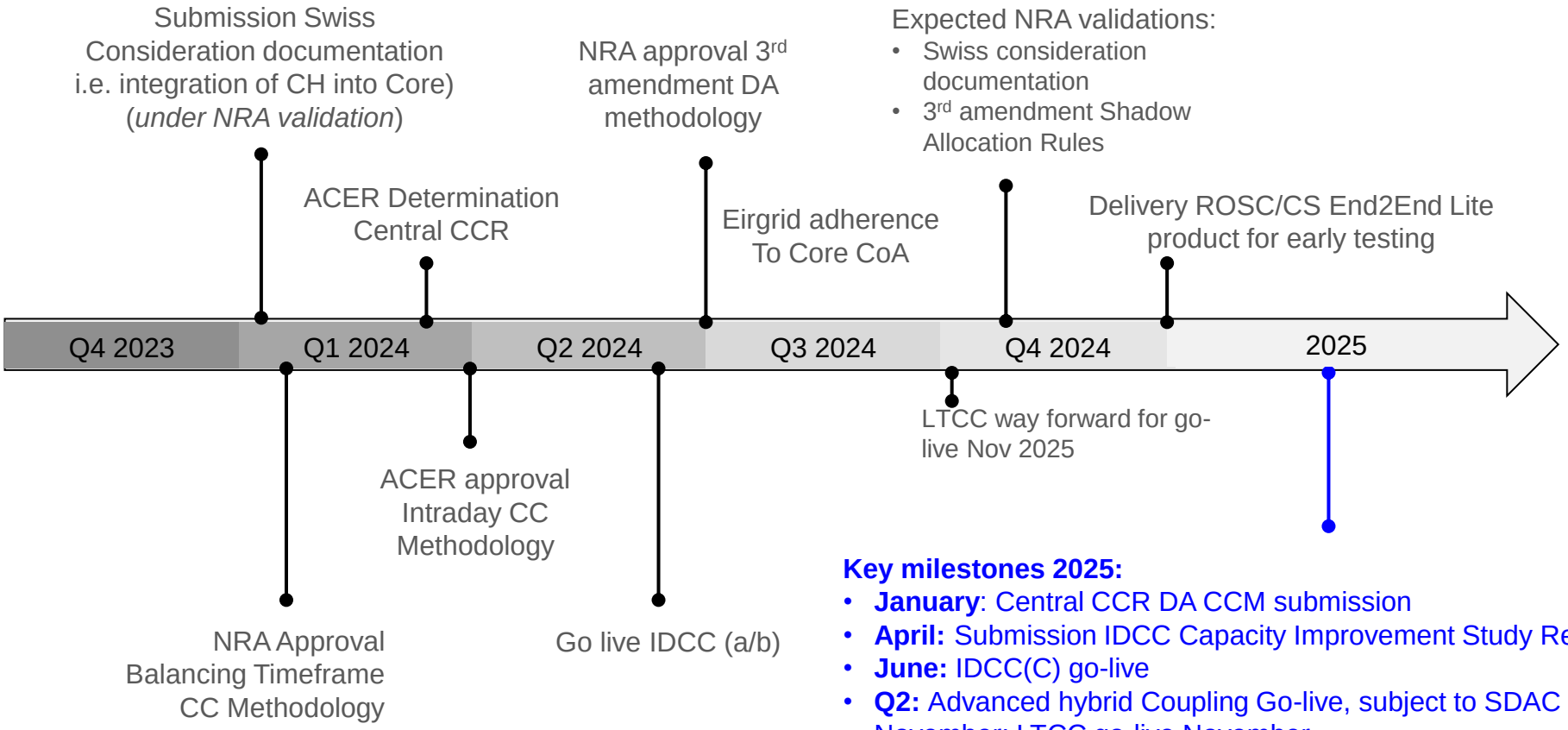
What are the key considerations for the different capacity calculation timeframes:

1. Long-Term CC: Core TSOs present today the way forward to implement a coordinated capacity calculation by Nov 2025
2. Day-Ahead CC: Operational market since 2022; Operational improvements ongoing, e.g. advanced hybrid coupling, coordinated validation and CGM improvements. Central CCR (merger of Italy-North & Core CCR) focusses on DA CC.
3. Intraday CC: Operational market with IDCC(a/b) since June 2024. IDCC(c) implementation.
4. ROSC & Cost sharing: stepwise approach to conclude on the scope for a first go-live. On 25/9 European court ruled on the appeals and annulled the cost sharing methodology.
5. BT CC: Methodology approved. Implementation expected after full ROSC implementation.
6. EGBL MBM will require to update DACC, IDCC, ROSC processes (both the legal framework, as well as IT tools and processes) once triggered.

3. Core CCR Overall program update

S. VAN CAMPENHOUT

Core Processes: Key milestones



Key milestones 2025:

- **January**: Central CCR DA CCM submission
- **April:** Submission IDCC Capacity Improvement Study Results
- **June:** IDCC(C) go-live
- **Q2:** Advanced hybrid Coupling Go-live, subject to SDAC readiness
- November: LTCC go-live November
- End of 2025: Delivery ROSC/CS End2End Product for assessing efficiency and possible simplification
- Submission of amendments for the Long-term, Intraday and Day-ahead methodologies

Core TSOs are in the process of validating their updated roadmap for 2024 and beyond

3. Geographical extensions

Celtic Interconnector

S. VAN CAMPENHOUT

Background

- Celtic is a 700 MW (excluding losses) HVDC interconnector connecting the Irish and French power grids that is expected to go live in Q1 2027 and is jointly owned and operated by EirGrid and RTE.
- This interconnector will recouple the Single Electricity Market (SEM) of Ireland and Northern Ireland with the European Integrated Electricity Market (IEM).

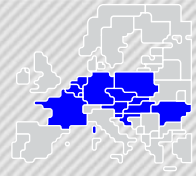
Integration of Celtic Interconnector into Core CCR has been initiated

- The new France – SEM bidding zone border is already included in the Core Capacity Calculation Region (CCR). Eirgrid adhered to the Core Cooperation Agreement (CoA) as of 01 July 2024.
- Celtic will be included in all the market designs of Core, which includes:
  - Implementation of all capacity calculation methodologies for all timeframes (long-term / day ahead / intraday / balancing)
  - Allocation of long-term FTRs through annual and monthly auctions
  - Participation in the Core Regional Operational Security Analysis (ROSC) process
- The SEM will retain its current electricity trading arrangements with GB, in particular the two coupled SEM-GB intraday auctions.
- The status of SONI with regards to the integration is currently being clarified.
- Besides integration into Core CCR, Eirgrid will furthermore participate to: SDAC, XBID, IDAs and MARI platform.

4. Day-Ahead Capacity Calculation

Update on Core DA CCM 3rd amendment

R. KAISINGER



Introduction

- Core DA CCM 3rd RfA was informally submitted to Core NRAs on 08/12/2023
- Last formal submission 06/02/2024

Core NRAs approved the DA CCM 3rd amendment on 01/07/2024

Content of the DA CCM 3rd amendment

- Coordinated validation methodology (See updated step-wise implementation roadmap in next slide)
- Amendment on harmonization of FRM approach
- Postponement of definition of CNECs methodology, detailed Flow Reliability Margin determination and proposal for harmonized GLSK
- Review of Allocation Constraints methodology
- Methodology for circular flows around HVDC interconnectors
- Corrections detected in the approval of the DA CCM 2nd amendment

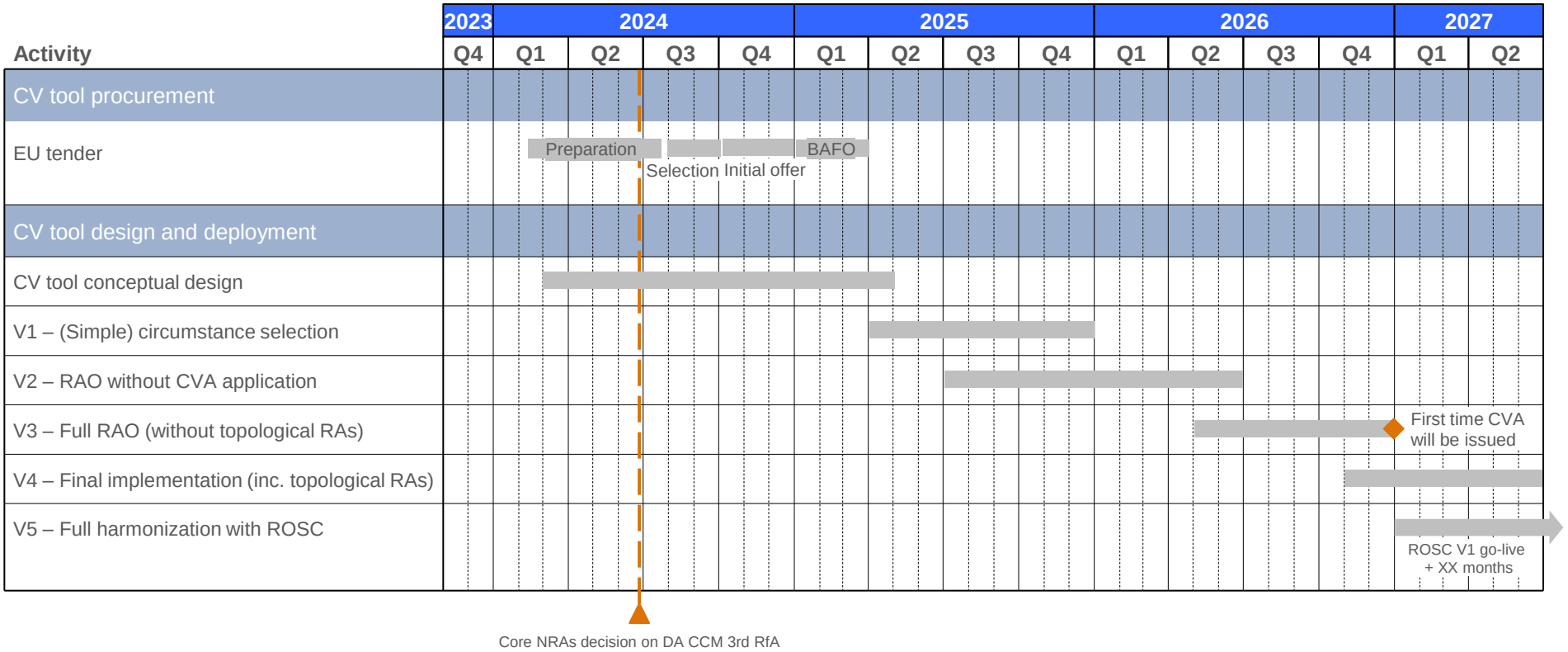
Core DA CCM 3rd amendment publication

- Public consultation page – LINK
- Once ENTSO-E page for Core CCR is updated, MPs will be notified

4. Day-Ahead Capacity Calculation

Update on Core DA CCM 3rd amendment: Coordinated Validation details

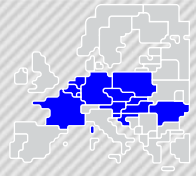
CV implementation roadmap



- Note: Exact versions and scope might be re-evaluated together with vendor once selected

4. Day-Ahead Capacity Calculation

R. KAISINGER



Advanced Hybrid Coupling status update 1/3

Background and introduction

- Advanced Hybrid Coupling (AHC) to be introduced mid 2025
- Legal obligation for Core TSOs to be ready on capacity calculation tooling end of Q1/2025
- Readiness of SDAC/EUPHEMIA still not confirmed, as introduction of 15-min MTU go live and AHC interfere
- As only a one-month EXT//run will be conducted for AHC, Core TSOs started “offline”-testing in so-called SPAICC-like runs
- Testing reports (data sets) of SPAICC-like runs will be shared starting with SPAICC-like run #2

Core AHC-Borders
DE-DK1
DE-DK2
DE-NO2
DE-SE4
NL-DK1
NL-NO2
PL-LT
PL-SE4
RO-BG

Computation results

- SPAICC-like run #1 computed successfully
- SPAICC-like run #1 comprises limitations
  - Individual validation not yet considered
  - NRAO not yet considered
  - No market coupling simulation performed as SDAC alignments still ongoing
- Overview of results of SPAICC-like runs on next slides and in appendix

Next steps

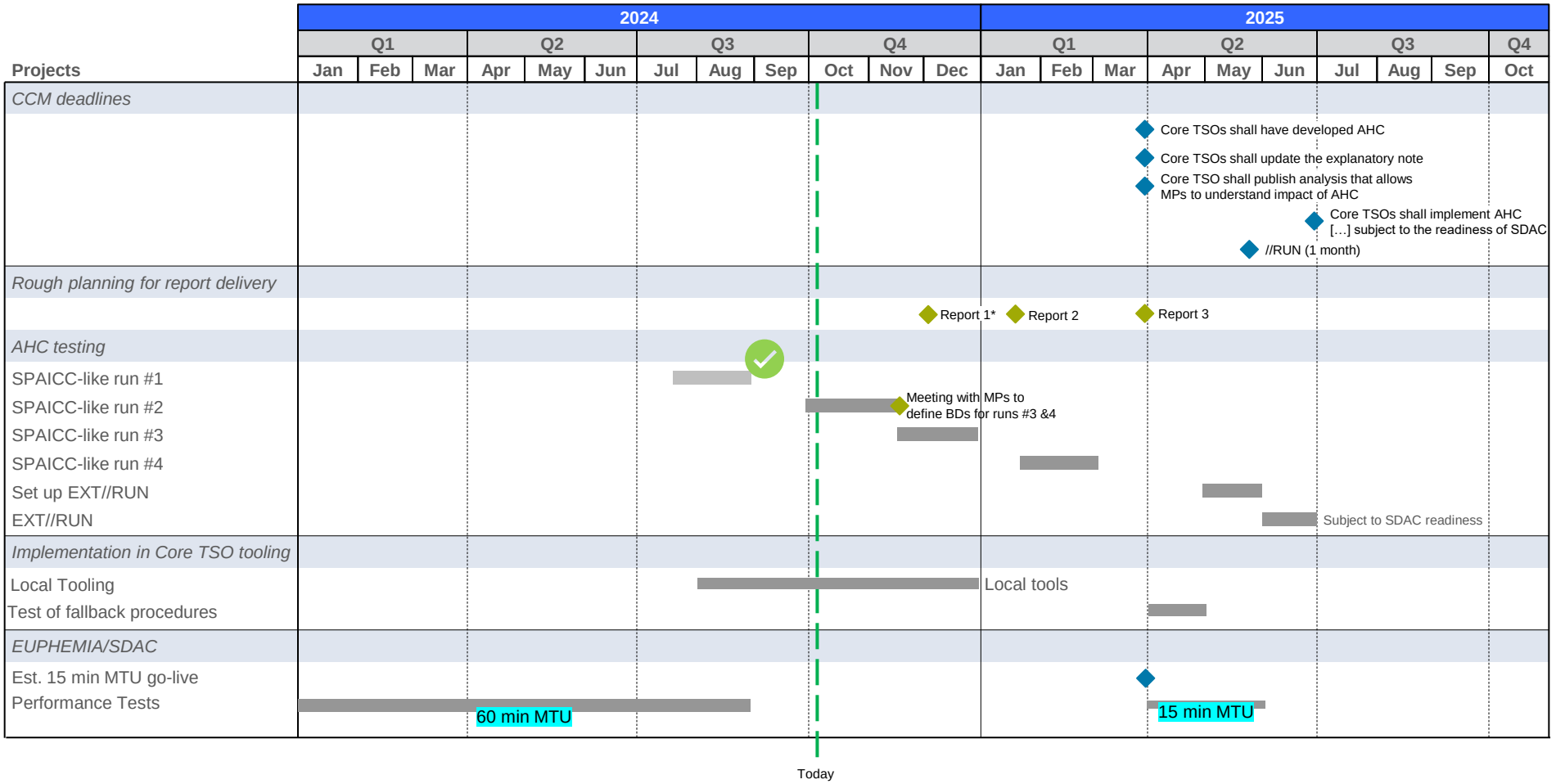
- Start of SPAICC-like run #2 (involving local TSO tools for the first time)
- Start SPAICC-like run #2 delayed by approx. 2 weeks to allow considering new vertex computation approach
- Dedicated call with MPs to be planned for mid-November to discuss BDs to be considered for run #3 and #4

4. Day-Ahead Capacity Calculation

R. KAISINGER

Advanced Hybrid Coupling status update 2/3

Despite facing challenges regarding AHC implementation in local and central tools, Core TSOs are on track for their AHC implementation:



*SPAICC-like run #2 will not include market coupling simulations. Validation tools are currently being adapted and will be tested for the first time during SPAICC-like run #2.

4. Day-Ahead Capacity Calculation

Advanced Hybrid Coupling status update 3/3

Computation results of SPAICC-like run #1

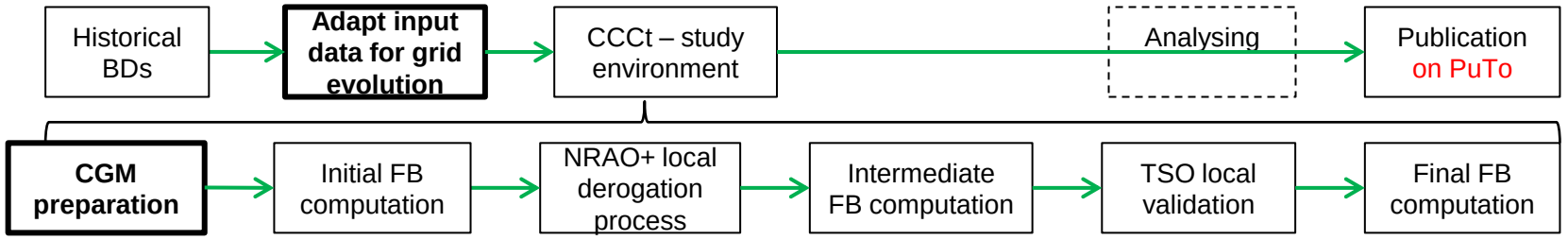
- SPAICC-like run #1 successfully conducted
  - CCCt running stable in AHC target configuration
  - No performance issues identified
  - Files and outputs correspond to expected formats
- Key limitations to be considered when interpreting the results
  - No individual validation has been performed
  - No NRAO has been performed
- In total, 7 BDs were computed with CCCt
  - Summer weekend BD with high wind feed-in → 2023-04-01
  - Winter weekend BD with low wind feed-in → 2023-12-02
  - Winter weekend BD with high wind feed-in → 2023-12-23
  - Winter weekday BD with high wind feed-in → 2024-02-06
  - Winter weekday BD with low wind feed-in → 2024-03-20
  - Summer weekday BD with high wind feed-in → 2023-08-03
  - Summer weekday BD with low wind feed-in → 2023-08-21

As SPAICC-like run #1 faces significant limitations, only some exemplary results are shown. They have been picked by availability of data (*see first exemplary results in Appendix)*

→ Considering the limitations, Core TSOs deem SPAICC-like run #1 a signification step towards AHC implementation

4. Day-Ahead Capacity Calculation

SPAICC: On half-yearly SPAICCs for grid evolutions - background & progress

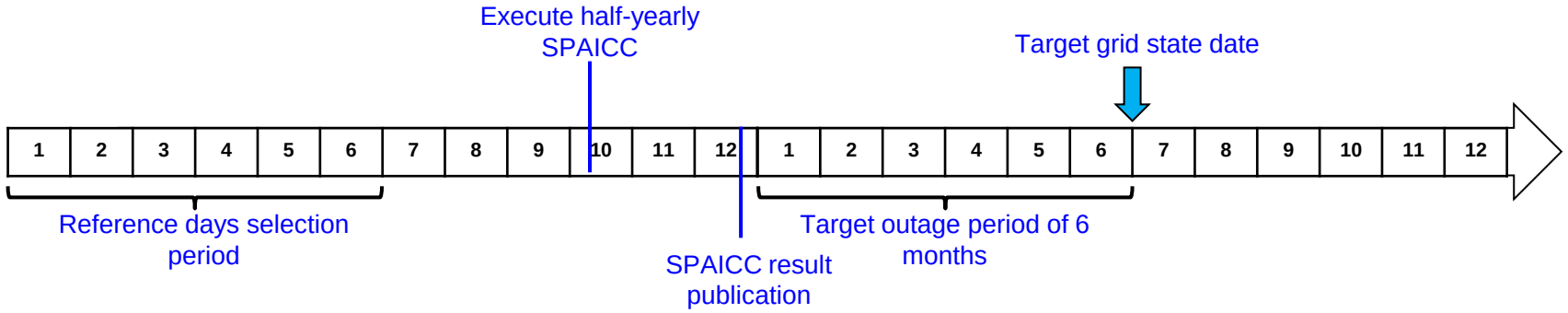


Key principles:

- SPAICC = Standard Process for Assessing Impact of Changes in Core
- Core half-yearly SPAICC: To assess the impact of future grid evolutions, every 6 months the future full grid situation is calculated and compared with the full grid situation of the period before.

Key activities:

- Developed a PowerBI dashboard for reference BDs selections.
  - Reminder: 7 BDs are considered for half-yearly SPAICC to represent different grid situations including MPs suggestions. The final 7 BDs list is available in APPENDIX Y
- Prepared internal handbook and tooling support to ensure high quality of modelling the target grid state
- Conducted a test SPAICC for a single BD (DAY3) up to the initial FB domain step to be well-prepared for the real SPAICC



4. Day-Ahead Capacity Calculation

R. KAISINGER

SPAICC: On half-yearly SPAICCs for grid evolutions - ongoing activities & next step

		Test SPAICC for DAY3			SPAICC Run Weeks							
Responsible party	**Task**	16/9-20/9	23/9-27/9	30/9-4/10	7/10-11/10	14/10-18/10	21/10-25/10	28/10-1/11	4/11-8/11	11/11-15/11	18/11-22/11	25/11-29/11
SPAICC TF	Preparing selected BDs											
	Allign with SPAICC RCC to inform unicorn for SPAICC environment preparation											
	Support Coreso for CGM preparetion											
	Results publication											
SPAICC RCC	Preparing input files for CGM adaptation											
	Process instances creation											
	DACC process											
Coreso	CGM preparation & data quality checks											
TSOs	CGM adaptation											
	Initial data gathering											
	DACC process											

Ongoing activities:

- Half-yearly SPAICC is running.

Announcement: possible delay for the first Core half-yearly SPAICC result publication

- The #1 SPAICC-like run for AHC uses the same CCCt environment as the half-yearly SPAICC during the summer. Therefore, it was necessary to wait until the AHC run was completed.
- As the outage planning coordination with ENTSO-E is expected to be completed by mid-October and the initial outage planning will be available from October, it has been decided to initiate the SPAICC run from mid-October. The outage planning information is crucial for the reference BDs of DAY 6 and DAY 7 of our SPAICC, where an additional variant containing long-duration outages will be considered. The definition of long outages is provided in the APPENDIX Y. Additionally, it has been agreed to conduct a test run of SPAICC, which was involved executing the initial FB domain step for a single BD, in September.

Next steps:

- Finish the first Core half-yearly SPAICC – Q4 2024
- Publication of H1 2025 on PuTo –by the end of 2024

4. Day-Ahead Capacity Calculation

Feedback from MPs on individual validation

Context:

- Exceptional events occurred on the eastern borders of the French network mostly between March and May 2024
- The lack of visibility for MPs on this issue led to discussions on good practice in terms of communication and justification.

Discussion:

In general, market participants note the need for :

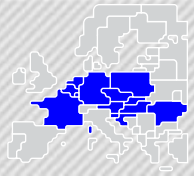
- **Improved communication**: communication could be improved (e.g. summary retrospective of main event); moreover, a deadline should be set to communicate towards market participants (e.g. TSOs could have a maximum time to provide in-depth explanations about the event to market participants).

- **Greater clarity on justification for IVA** : the IVA justifications could be improved during long lasting events (e.g. usage of IVAs during multiple days). Reasons for use of IVA may change several times leading to a lot of uncertainty on the side of market participants on the issues.

- **More consistency on REMIT transmission outages across Core**: The practice of REMIT transmission outages varies considerably from one TSO to another, which poses some difficulties for market participants.

- **Improved analysis**: impacts of constraints on the network should be properly assessed and anticipated for all neighboring countries.

P. BRHLIKOVA



LTCC implementation approach: strategy to deliver

Reminder

(1) In July 2024 All TSOs could not reach a majority to restart LT FBA implementation

(2) Core TSOs initiated an assessment on the way forward with the goal to deliver the coordinated LTCC process and achieve the next milestone in the integration of the European energy markets.

TSOs' objectives

(1) Legal Compliance: **Meet the legal obligations (implement FB CC) with minimized delay by 2025**

(2) Provide hedging opportunities to market parties by offering sufficient and proper level of cross-border capacities

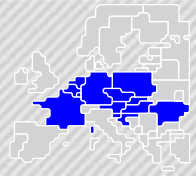
(3) Ensure operational security

The "How": Core TSOs commit to deliver a scenario-based flow-based coordinated capacity calculation solution **with NTC extraction** for capacity allocation purposes to achieve the objectives:

- **Develop a straight-forward, pragmatic and fast solution based on the work done and focusing on implementation for go-live in 2025 (2026 yearly auction). Emphasize result-orientation and process robustness:**
  - Benchmark: Offer at minimum similar values as historically offered to the LT market on most borders and avoiding zero-capacity borders
  - Constraints: Ensure operational security while avoiding excessive focus on physical constraints
  - Robustness:Strive for clarity on degrees of freedom, predictability and stability of results
- Build on experience with NTC extraction and distribution to single borders from DACC and IDCC
- Re-use of ID ATC extraction module, subject to improvements cf. benchmarking, and minimize the impact on JAO systems
- **Bring together the expectations of market parties, regulatory authorities and operational security constraints**
- Pragmatic amendment of the LTCC methodology
- Not forgetting "other" activities like taking care of details, tooling, training, contracts
- **Go-live with a viable solution** (as opposed to continuous discussions on different theoretical optima)
- **Evaluate the results and improve**

LTCC implementation approach: next steps and outlook

P. BRHLIKOVA



Next steps

- **September 2024 -** start working on an implementation plan for the LTCCM with ATC extraction benefiting from previous developments, preparations and operational experiences in other timeframes.
- **September / October 2024** – assess the results from ATC extraction with different parametrisations for further consideration to achieve a satisfactory level of offered capacity.
- **October 2024 – Q1 2025**
  - Prepare amendments to the current methodology framework (LTCCM, LTSRM & other relevant regional and pan-EU methodologies)
  - Prepare and implement necessary IT changes
- **January 2025:** Availability of extensive capacity calculation and allocation simulation results (using the agreed method incl. improvements)
- **April 2025** – Local TSO tools ready
- **Latest by May 2025:** Start of EXT // run
- **November 2025:** Core LTCC Go Live

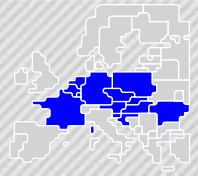
Outlook: The implementation of coordinated LTCC is a first step

- The implementation strategy aims for
  - delivering coordinated LTCC in 2025 while complicated and complex discussions on target model are ongoing.
  - **reducing risks for the crucially important long-term markets** stemming from the introduction of new methodologies.
- **The approach is open for implementation of other components discussed in the target model** such as a more explicit reflection of hedging needs, statistics, removal of LTA inclusion etc. should those components be decided in the next stages.

6. Intraday Capacity calculation

Q&A – Follow up CG 11/07

B. MALFLIET



Introduction

- Core CG 11/07 requested answers on multiple questions related to the publication of results and updates.

Methodology question: How TSOs are computing the rescaled FB domain for IDCC(a) incl. LTA inclusion?

- The Core IDCC process description is available on the ENTSOE Website (LINK)
- A detailed explanation has been provided during Core CG 12/03 (recording available via LINK)
- Core TSOs follow the description available in Art.11 from the ID CCM 3rd amendment. (LINK)
  - Based on parameter value included the table of rLTAincl and rAMR parameter values (JAO website (LINK)) to recalculate the RAM for the ID ATC extraction. Core TSOs calculate a new RAM based on these parameters which will rescale the FB domain. This is the FB domain that is the input to the ATC extraction in ID1 process according to Art. 11.

The parameters for the IDCC(a-b) are:

IDCC (a) Common parameters for all TSOs

PTDF threshold	0,5%
RAM_ID threshold	10 MW
FRM	10%

IDCC(b) Common parameters for all TSOs

PTDF threshold	3%
RAM_ID threshold	50 MW
FRM	5%

PTDFs of CNECs with a RAM below the RAM_ID threshold will be set to zero during the ATC extraction step if they are below the PTDF threshold.
The FRM is the flow reliability margin, which is the reliability margin as defined in Article 2(14) of the CACM Regulation applied to a CNE.

IDCC (a) Individual parameters per TSO

	50 Hertz	Amprion	APG	CEPS	ELES	ELIA	HOPS	MAVIR	PSE	RTE	SEPS	TTG	TTN	TEL	TNG
rLTAincl	0,2	0,2	0	1	1	1	1	0,2	0	1	0,2	0,2	0,2	0,2	0,2
rAMRid	0,2	0,2	0	0,7	0,7	0,2	0,4	0,2	0,2	0,2	0,5	0,2	0,2	0,2	0,2

The parameters rLTAincl and rAMRid are used to modify the RAMf,DA according to Article 11(2) of the ID CCM.
The parameter rLTAincl determines which share of LTAs will be taken into account for the IDCC(a) capacity calculation. A parameter of 0.2 means that 20% of the LTAs will be taken into account.
The parameter rAMRid determines which share of minRAM will be taken into account for the IDCC(a) capacity calculation. A parameter of 0.2 means that a 20% minRAM is applied.
Note that the RAMf,DA will be adapted to reflect the already allocated capacities according to Article 11 (1) of the ID CCM. rLTAincl and rAMRid will therefore not guarantee any minimum capacity available for ID trade.

An example is available on the next slide

IDCC(a/b) - ID ATC extraction in Core IDCC (a) and (b)

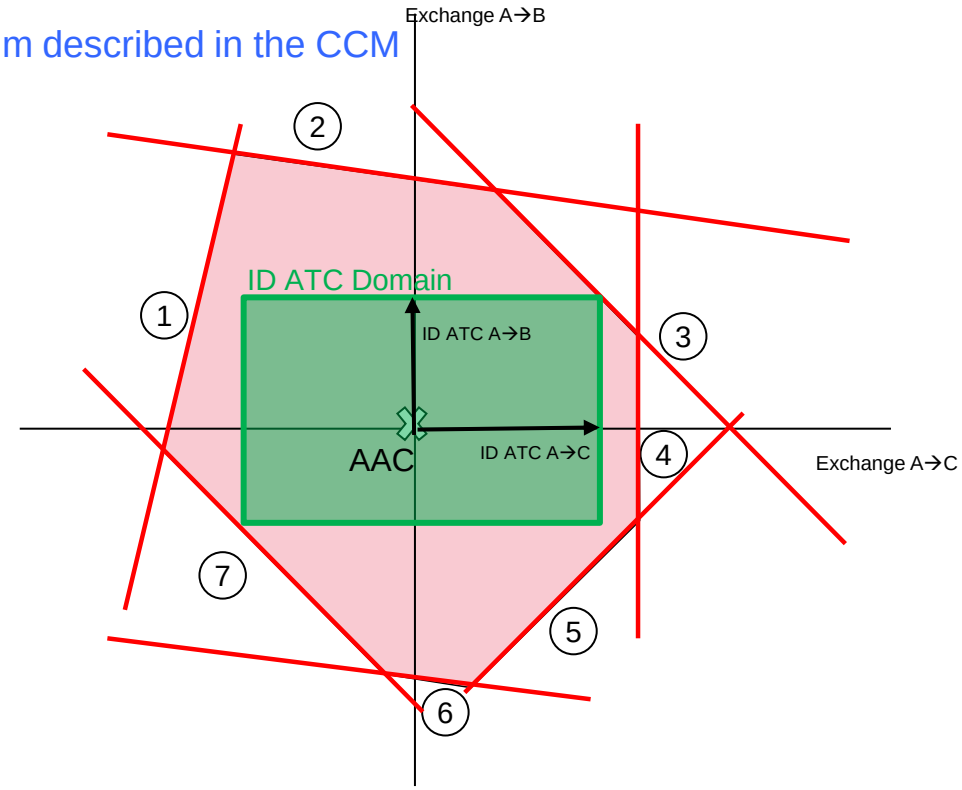
- In line with the ID CCM Art. 20. Calculation of ATCs for SIDC fallback procedure, in case the SIDC is unable to accommodate FB parameters, the CCC shall convert them into ATCs for each Core oriented bidding zone border.
- This will be the case for the next years.

ATCs are extracted by the iterative ATC extraction algorithm described in the CCM

CNEC	Final RAM
1	750
2	650
3	600
4	550
5	450
6	650
7	700

ID ATC Extraction

Border	ID ATC
A→B	**400**
B→A	**450**
A→C	**300**
C→A	**350**



IDCC(a/b) - ID ATC extraction - **with AAC outside the FB Domain**

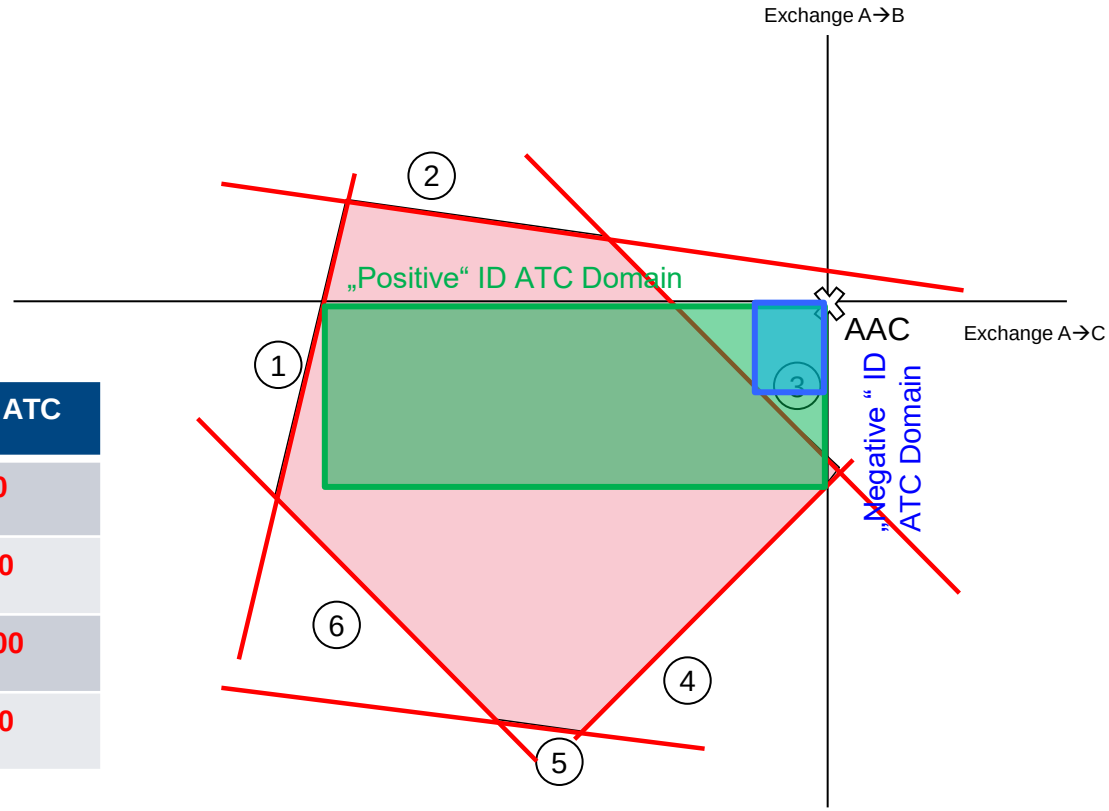
The below example shows what happens when the market clearing point is outside of the ID FB domain

- ID ATC will be set to zero in case it comes out negative of the extraction

CNEC	Final RAM
1	550
2	450
3	-300
4	250
5	850
6	900

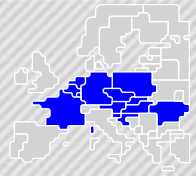
ID ATC Extraction

Border	ID ATC
A→B	**-80**
B→A	**200**
A→C	**-100**
C→A	**500**



6. Intraday Capacity calculation

B. MALFLIET



Q&A – Follow up CG 11/07

Publication questions

Q1: Is there a plan and/or possibility to still publish the results in case of fallback on the regular location of JAO Publication Tool?

- The fallback results are already published today when there is domain fallback.(LINK)

Q2: Is there a fundamental reason for capacities not to be published on ENTSO-E Transparency Platform in case of delay in delivering the capacities after the IDCCs?

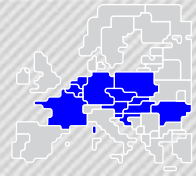
- Answer provided by MCSC experts: This is due to settings in the XBID platform. The XBID system is configured so that TSOs can update capacities up to the moment of the cut-off time, i.e. until 14:55 for IDA1, until 21:55 for IDA2, until 09:55 for IDA3Following the cut-off moment the file that includes the capacities is created and is provided to ETP. ETP will be again updated with the new capacities after the IDA. Note that if the capacities are provided almost at the very same moment as the cut-off moment, the ETP publication for the capacities from TSOs might not be successful.

Q3: What can be done in terms of improving communication on API updates?

- This is JAO competence and therefore to a certain degree not in Core TSO`s hands. However, JAO was made aware about the high impact of API changes on market parties. For all development items initiated by TSOs a check will be performed if this causes an API update. If this is the case then a market message will announce the API update in advance.

Q4: When will the ATC validation limits for IDCC(a) and (b) be published on JAO?

- The implementation and tests are still ongoing on PuTo side. In the next weeks, the new version of Publication Tool will be deployed by JAO. A market message will be sent about it



6. Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(a) – Background and summary

Background on IDCC(a) results from go-live 14/06/2024 to 13/08/2024

- The KPIs on the next slides are based on the final ID ATCs from the IDCC(a) process, as published on the JAO publication tool.
- KPIs presented on the next slides cover the period since IDCC(a) go-live. The IDCC(a) capacities will be provided to IDA1 for allocation at 15:00.

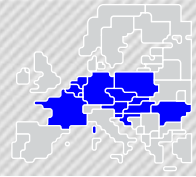
Summary of results

- Results for IDCC(a) are stable since go-live. Safe and accurate capacities are provided to the market for IDA1 at 15:00 D-1

Parameter settings of TSOs for IDCC(a)

- ≈ 10% FRM for all CNECs
- 0.5% PTDF Threshold and 10MW RAM_ID threshold
  - Positive zone-to-zone PTDFs of CNECs with RAM below the RAM_ID threshold of 10 MW will be set to zero for ID ATC extraction if they are below the PTDF threshold of 0.5%.

Detailed KPI results are available in annex



6. Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(b) – Background summary

Background on IDCC(b) results since go-live 29/05/2024 to 26/09/2024

- The IDCC(b) KPI results are presented as of the go-live end of May until BD20240926
- BDs for which the process failed are not included in the KPI results
- The IDCC(b) capacities will be provided to IDA2 for allocation at 22:00.

Summary of the observed results

- Results for IDCC(b) are stable since go-live and in line with the earlier presented results.

Parameter settings of TSOs for IDCC(b)

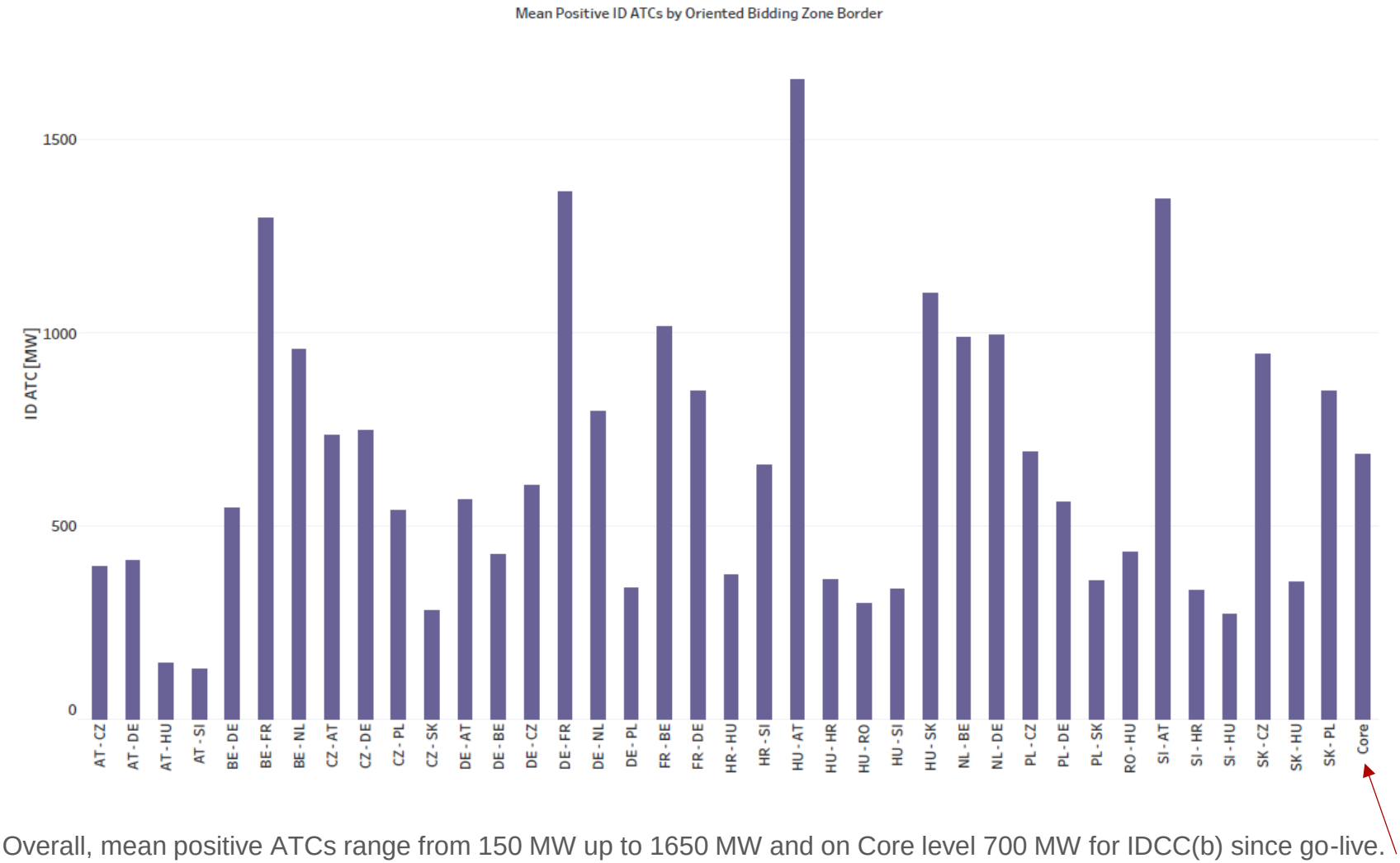
- ≈ 5% FRM for all CNECs
- 3% PTDF Threshold and 50MW RAM_ID threshold
  - Positive zone-to-zone PTDFs of CNECs with RAM below the RAM_ID threshold of 50 MW will be set to zero for ID ATC extraction if they are below the PTDF threshold of 3%.

Detailed KPI results for IDCC(b) are available in the the next slides and the annex

6. Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(b) (29/05/2024 – 26/09/2024)

Mean positive ID ATCs



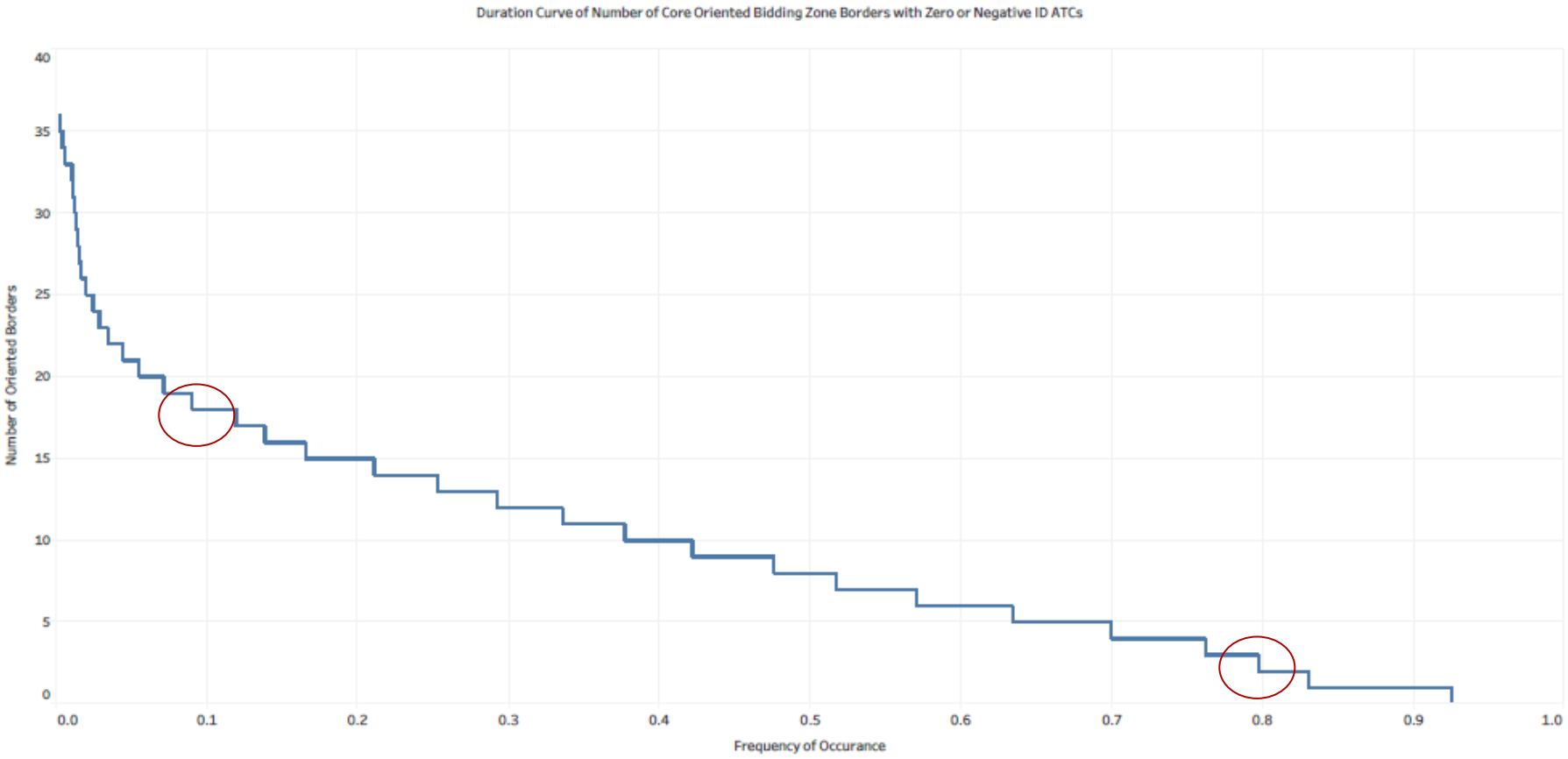
- Overall, mean positive ATCs range from 150 MW up to 1650 MW and on Core level 700 MW for IDCC(b) since go-live.
- Note: Focus must be on the most relevant BZ border directions, as some of the decreased positive ATCs are in directions which are not used by the market very often

6. Intraday Capacity calculation

B. MALFLIET

IDCC Post-go-live status KPIs – IDCC(b) (29/05/2024 – 26/09/2024)

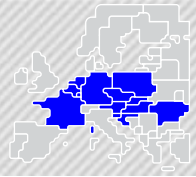
Zero ATC values



- 20% of the time there are 2 or less borders that have simultaneously zero or negative ATC values for IDCC(b) since go-live.
- 18 or more borders that have simultaneously zero or negative ATC values occur 10% of the time.

6. Intraday Capacity calculation

B. MALFLIET



Identification of pre-congestions after IDCC(b) process across the Core region

Reminder

- During Core IG /CGs more insights had been requested in the location of pre-congestions for the IDCC(b) process during HY1 2024.
- Initial results were presented to Core CG and updated results were requested for the following Core CG.

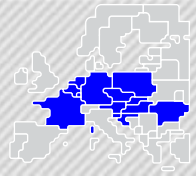
Core TSOs further developed the KPI with insights in the pre-congestions for IDCC(b)

- Goal of the KPI on pre-congested CNEs is to give more insights why 0 ATCs and bidding zone isolation cases occur:
  - At the end of the IDCC(b) process it regularly occurs that CNECs have zero or negative RAM. This limits cross border exchanges and creates bidding zone isolation.
  - Assess and give insight where the pre-congestions are located.
  - Analyse the relationship between the location of CNECs with RAM ≤ 0 and the observed 0 ATC and bidding zone isolation cases
  - Analyse the root causes behind the occurrence of CNECs with RAM ≤ 0 and which root causes are inherent to the methodologies
- By providing transparency potential mitigations can be identified and expectations can be managed
  - Clarify for which root causes IDCC can potentially improve the current pre-congestion results (IDCC(c) can be a potential mitigation measure)
    - Capacity improvement study ➔ identify use cases
    - IDCC(c)
  - Clarify which root causes are inherent to the methodologies

Core CG is invited to share questions and thoughts. The aim is to have an open conversation on the next steps.

6. Intraday Capacity calculation

B. MALFLIET



Identification of pre-congestions after IDCC(b) process across the Core region

Root causes of pre-congestion:

- Limitations of parallel processes
  - The DACF is not always congestion-free when IDCC(b) starts. Meaning the identification and coordination of RAs is ongoing to secure the forecasted congestions including the combination of cross-border exchanges until 16:00 D-1. Extensive SDAC allocation with virtual capacities increases the amount of RAs to be identified and coordinated.
  - The ID market continues to use earlier provided capacities in parallel to the DACF and IDCC(b) processes. The next recalculation of capacities (IDCC(c)) will re-evaluate the available capacities using a more recent grid model (= updated representation of the ID trades and the RAs to secure them)
  - Application of FRM will show CNECs as congested

The pre-congestion KPI depicts 0/negative RAM at the end of the process, i.e., at the final FB domain shifted to the latest ID trade. It thus illustrates the combined effect of the root causes.

6. Intraday Capacity calculation

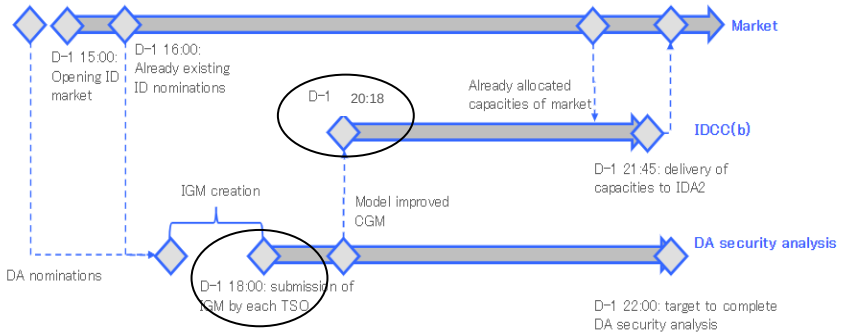
Identification of pre-congestions after IDCC(b) process across the Core region

Day ahead security analysis successfully identifies and coordinates RAs

- **DACF at start of DA SA:** Congestions are present in the DACF CGM at the beginning of the DA security analysis. Congestions represent the combined effect of cross-border exchanges until 16:00 D-1
- **DACF at start of IDCC(b):** The DA SA minimizes congestions by the time the IDCC(b) process starts at 20:18. In doing so, it applies RAs and redistributes flows between CNECs
- **DACF at start of IDCC(b) + FRM:** IDCC(b) takes into account a FRM=5%.

Conclusion:

- **Even with a fully complete day ahead security analysis at the start of IDCC(b), pre-congestions can arise. This is inherent to the methodological framework.**

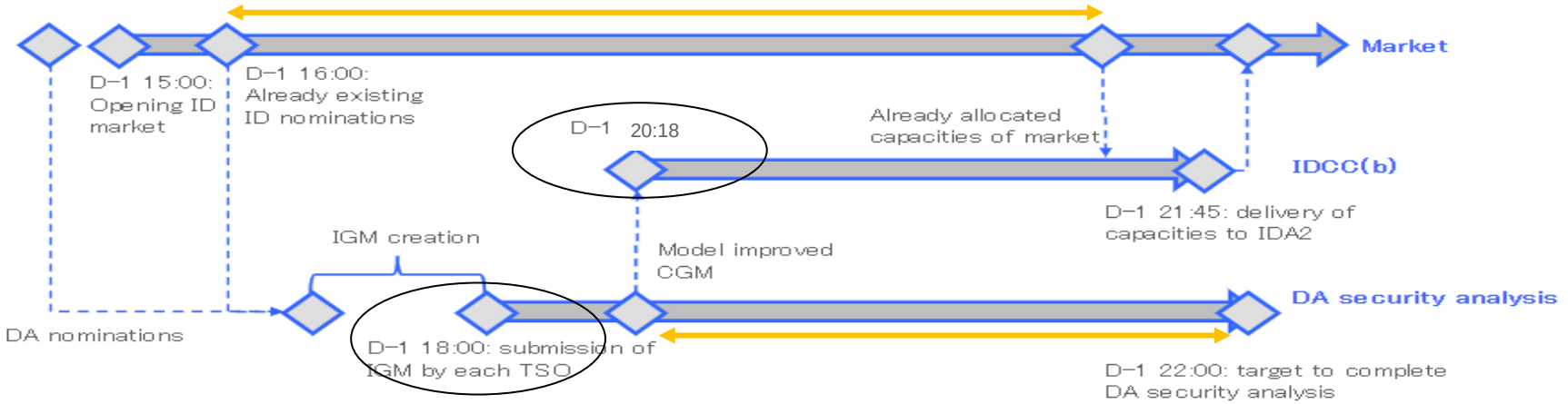


Congested forecasts including XB exchanges DA MC + IDA1 + CT until 16:00

	DACF: DA SA start	DACF: start of IDCC(b)	DACF: start of IDCC(b) + FRM
CNEC 1	120% loaded	100%	105% loaded
CNEC 2	110% loaded	90%	95%
CNEC 3	100%	100%	105% loaded
CNEC 4	80%	100%	105% loaded
CNEC 5	50%	95%	100%
CNEC 6	40%	50%	55%

6. Intraday Capacity calculation

Limitations of parallel processes



The identification and coordination of RAs in the DA security analysis is on-going at the start of IDCC(b)

- Coordination is on-going: A CNEC is still overloaded since the required RAs couldn't be coordinated with the respective TSOs
- **DACF at start of IDCC(b) + FRM:** IDCC(b) takes into account a FRM=5%.

Congested forecasts including XB exchanges DA MC + IDA1 + CT until 16:00

	DACF: DA SA start	DACF: start of IDCC(b)	DACF: start of IDCC(b) + FRM
CNEC 1	120% loaded	100%	105%
CNEC 2	110% loaded	90%	95%
CNEC 3	140% loaded	140% loaded	145% loaded
CNEC 4	80%	100%	105%

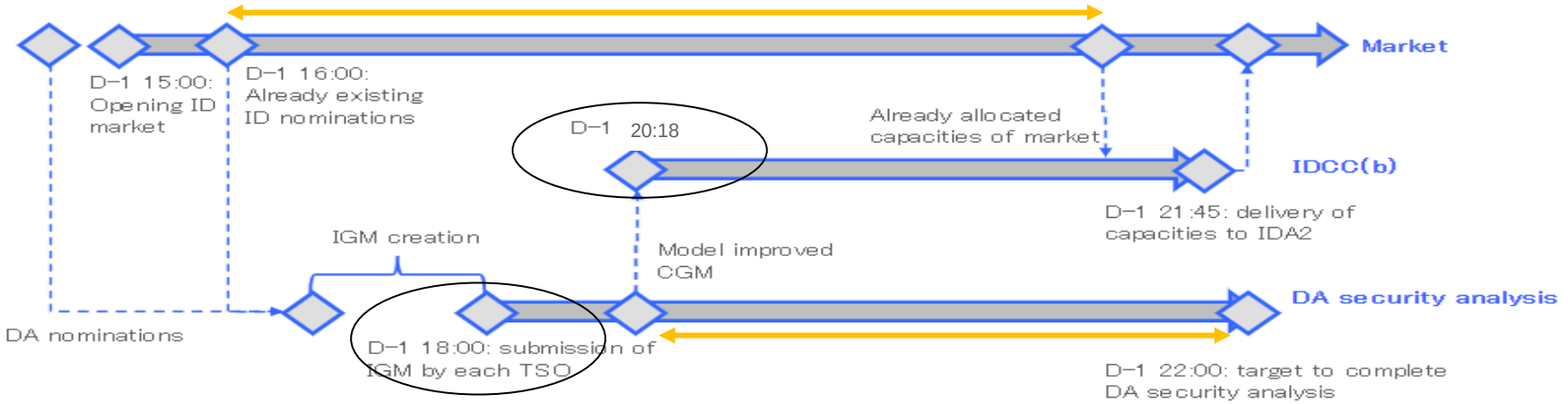
Conclusion:

- CNECs loaded > 105% at the initial FB domain indicate the identification and coordination of RAs is on-going
- Additional IDCC runs based on ID security analysis can potentially improve the current pre-congestion results due to additional identification and coordination of RAs

6. Intraday Capacity calculation

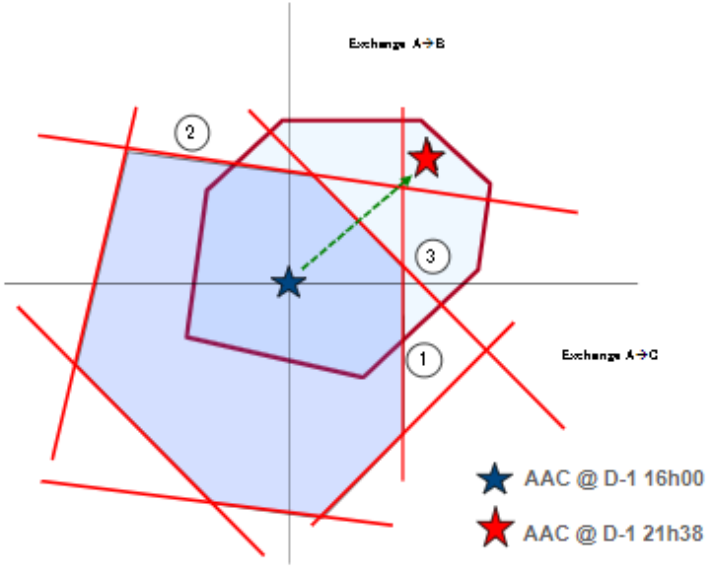
B. MALFLIET

Limitations of parallel processes



The ID market continues to use earlier provided capacities between 16:00 and 21:38

- → Note that at the beginning of the European DA SA process, the included market schedules of the DACF will be already outdated for 2 hours.
- → Additional ID trades are not modelled in the DACF. Neither are the possible required RAs to secure these trades
- → Thus, when IDCC(b) process integrates these trades at the end of the process, the physical flow that results from these trades are added onto the CNECs, possibly turning positive RAMs into pre-congestions

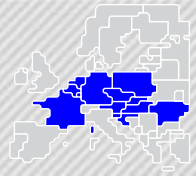


Conclusion:

- → IDCC(b) can improve or worsen the current pre-congestions results due to continuous usage of earlier provided capacities between 16:00 and 21:38

6. Intraday Capacity calculation

B. MALFLIET



Results: pre-congestions after IDCC(b) process across the Core region since go-live

KPI assumptions:

- Period: Since IDCC(b) go-live (29/05) until 11/09
- File considered: final flow-based domain shifted to the latest AAC
- Granularity: 15 min, expressed in hour = 0,25h
- CNEs considered are the pre-congested CNEs per TS(0,25h) and if:
  - RAM < -5%Fmax
  - No fallback is applied
  - It has at least one z2z PTDF > 3%

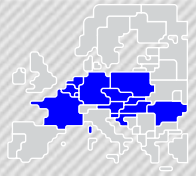
KPI definitions:

- PPI (percentage of pre-congestion index) = # congested hours / # total hours (excluding fallback)
- PPI per border = # congested hours on border direction / # total hours (excluding fallback)
- # congested hours = number of congested hours of all border directions by the CNE
- # total hours (excluding fallback) = total hours of assessment excluding when fallback is applied
- # BZBd congested = number of bidding zone border directions congested
- Max BZBd #congested hours = number of congested hours of the border(s) most limited by the CNE

AAC: Already allocated capacities
PTDF: Power transfer distribution factor

6. Intraday Capacity calculation

B. MALFLIET



Results: pre-congestions after IDCC(b) process across the Core region since go-live

NE_Name	NE_EIC	TSO	# cong. hours	# Total hours	PPI	# BZBd cong.	Max BZBd #cong.hour
Ensdorf - Vigy VIGY2 S	10T-DE-FR-000068	AMP-RTE	421	2351	17.9%	8	421
Portile de Fier - Resita c2	30TPDFE220RESI2Q	TEL	335	2351	14.2%	1	335
Portile de Fier - Resita c1	30TPDFE220RESI1S	TEL	325	2351	13.8%	1	325
Ensdorf - Vigy VIGY1 N	10T-DE-FR-00005A	AMP-RTE	313	2351	13.3%	7	313
Ensdorf - Uchtelfangen TAUBNT S	11T0-0000-0605-K	AMP	312	2351	13.3%	8	312
V.Dur - Levice 1	24T-V490-000000G	SEPS	310	2351	13.2%	13	310
Ensdorf - Uchtelfangen TAUBNT N	11T0-0000-0604-N	AMP	308	2351	13.1%	7	308
Diele - Meeden WEISS	10T-DE-NL-00002T	TTG-TTN	254	2351	10.8%	10	237
220 kV Podlog - Obersielach	10T-AT-SI-00003P	APG-ELES	236	2351	10.0%	9	236
Diele - Meeden SCHWARZ	10T-DE-NL-00001V	TTG-TTN	233	2351	9.9%	10	221

#cong. hours = number of congested hours of all border directions by the CNE
#total hours = total hours of assessment excluding when fallback is applied
PPI = percentage of pre-congestion index
#BZBd cong. = number of bidding zone border directions congested
Max BZBd #cong.hour = number of congested hours of the border direction(s) most limited by the CNE

PPI per border (Top 10 PPI)

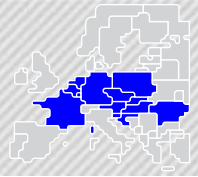
NE Name	NE EIC	AT>CZ	AT>DE	AT>HU	AT>SI	BE>DE	BE>FR	BE>NL	CZ>AT	CZ>PL	CZ>SK	DE>BE	DE>FR	DE>NL	DE>PL	FR>BE	FR>DE	HR>HU	HR>SI	HU>HR	HU>RO	HU>SI	NL>BE	NL>DE	PL>SK	RO>HU	SI>HR	SI>HU	SK>HU	SK>PL	Across borders
Ensdorf - Vigy VIGY2 S	10T-DE-FR-000068	2.3%	8.8%			3.1%		17.8%				12.2%				17.9%	17.9%							7.2%							17.9%
Portile de Fier - Resita c2	30TPDFE220RESI2Q																									14.2%					14.2%
Portile de Fier - Resita c1	30TPDFE220RESI1S																									13.8%					13.8%
Ensdorf - Vigy VIGY1 N	10T-DE-FR-00005A	2.1%	7.8%					13.2%				8.6%				13.3%	13.3%							4.0%							13.3%
Ensdorf - Uchtelfangen TAUBNT S	11T0-0000-0605-K	0.0%	4.8%			2.8%		13.2%				8.7%				13.3%	13.3%							5.7%							13.3%
V.Dur - Levice 1	24T-V490-000000G			13.2%	4.9%				0.1%	12.8%	13.0%				12.1%			13.2%			1.7%				0.8%		11.2%	13.2%	13.0%	0.2%	13.2%
Ensdorf - Uchtelfangen TAUBNT N	11T0-0000-0604-N	2.1%	7.7%					13.0%				8.0%				13.1%	13.1%							3.8%							13.1%
Diele - Meeden WEISS	10T-DE-NL-00002T					0.7%	0.6%	10.0%				10.1%	10.1%	10.1%		6.0%	0.7%						0.7%	0.7%							10.8%
220 kV Podlog - Obersielach	10T-AT-SI-00003P	10.0%	10.0%	10.0%	10.0%						0.1%								7.8%	10.0%	0.1%	10.0%									10.0%
Diele - Meeden SCHWARZ	10T-DE-NL-00001V					0.5%	0.2%	9.3%				9.4%	9.4%	9.4%		6.0%	0.5%						0.5%	0.5%							9.9%

Guidance for Interpretation of the results:

- The PPI accounts to the number of congested hours by the total number of hours assessed excluding when fallback is applied, meaning the % of time a CNE is limiting flow exchanges out of the total hours assessed. The higher the PPI, the more often a CNE is limiting the flow exchanges.
- The PPI alone however does not reveal if the CNE is limiting only one border direction or more. Hence, the parameter # BZBd congested allows to know the overall number of bidding zone border directions congested by the CNE.
- For this reason, the PPI per border demonstrates the distribution of the flow's limitations per border and can give insights whether a CNE is highly impacting one or more borders, or if a CNE is limiting several borders but with low intensity.
- The KPI does not indicate if sufficient total cross-zonal trading capacity (DA+ID) has been offered on a specific CNEC, respectively the min 70% requirement is reached. Example: A CNEC can be pre-congested after IDCC(b), while/because the minimum 70% cross-zonal trading margin had been offered and used by the market in the day-ahead timeframe.
- Continued on next slide

6. Intraday Capacity calculation

B. MALFLIET



Results: pre-congestions after IDCC(b) process across the Core region since go-live

NE_Name	NE_EIC	TSO	# cong. hours	# Total hours	PPI	# BZBd cong.	Max BZBd #cong.hour
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Ensdorf - Uchtelfangen TAUBNT S	11T0-0000-0605-K	AMP	312	2351	13.3%	8	312
V.Dur - Levice 1	24T-V490-000000G	SEPS	310	2351	13.2%	13	310
Ensdorf - Uchtelfangen TAUBNT N	11T0-0000-0604-N	AMP	308	2351	13.1%	7	308
Diele - Meeden WEISS	10T-DE-NL-00002T	TTG-TTN	254	2351	10.8%	10	237
220 kV Podlog - Obersielach	10T-AT-SI-00003P	APG-ELES	236	2351	10.0%	9	236
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#total hours = total hours of assessment excluding when fallback is applied
PPI = percentage of pre-congestion index
#BZBd cong. = number of bidding zone border directions congested
Max BZBd #cong.hour = number of congested hours of the border direction(s) most limited by the CNE

PPI per border (Top 10 PPI)

NE Name	NE EIC	AT>CZ	AT>DE	AT>HU	AT>SI	BE>DE	BE>FR	BE>NL	CZ>AT	CZ>PL	CZ>SK	DE>BE	DE>FR	DE>NL	DE>PL	FR>BE	FR>DE	HR>HU	HR>SI	HU>HR	HU>RO	HU>SI	NL>BE	NL>DE	PL>SK	RO>HU	SI>HR	SI>HU	SK>HU	SK>PL	Across borders
Ensdorf - Vigy VIGY2 S	10T-DE-FR-000068	2.3%	8.8%			3.1%		17.8%				12.2%				17.9%	17.9%							7.2%							17.9%
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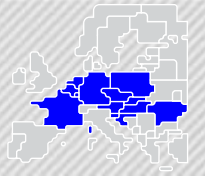
Ensdorf - Uchtelfangen TAUBNT S	11T0-0000-0605-K	0.0%	4.8%			2.8%		13.2%				8.7%				13.3%	13.3%							5.7%							13.3%
V.Dur - Levice 1	24T-V490-000000G			13.2%	4.9%				0.1%	12.8%	13.0%				12.1%			13.2%			1.7%				0.8%		11.2%	13.2%	13.0%	0.2%	13.2%
Ensdorf - Uchtelfangen TAUBNT N	11T0-0000-0604-N	2.1%	7.7%					13.0%				8.0%				13.1%	13.1%							3.8%							13.1%
Diele - Meeden WEISS	10T-DE-NL-00002T					0.7%	0.6%	10.0%				10.1%	10.1%	10.1%		6.0%	0.7%						0.7%	0.7%							10.8%
220 kV Podlog - Obersielach	10T-AT-SI-00003P	10.0%	10.0%	10.0%	10.0%						0.1%								7.8%	10.0%	0.1%	10.0%									10.0%
Diele - Meeden SCHWARZ	10T-DE-NL-00001V					0.5%	0.2%	9.3%				9.4%	9.4%	9.4%		6.0%	0.5%						0.5%	0.5%							9.9%

Guidance for Interpretation of the results (continued):

- The Max BZBd #congested hours identifies the number of congested hours of the border(s) most limited by the CNE.
  - If Max BZBd #congested hours < #congested hours, the border direction(s) with a higher impact on the flow exchanges by the CNE is limited less hours than the overall time that the CNE is limiting the flow exchanges.
    - Example: The most impacted border directions by Diele – Meeden SCHWARZ are DE>BE, DE>FR and DE>NL. The PPI per border is lower than the overall PPI. This means these border directions impacted happen to be congested during different timestamps
  - If Max BZBd #congested hours = #congested hours, the border direction(s) with a higher impact on the flow exchanges by the CNE is limited as much time as the CNE is impacting the overall flow exchanges.
    - Example: The most impacted border directions by Ensdorf – Vigy VIGY 2 S CNE are FR>BE and FR>DE. The PPI per border is the same as the overall PPI, meaning these two borders are limited as much time as the overall border directions by the CNE.

6. Intraday Capacity calculation

B. MALFLIET



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Ensdorf - Vigy VIGY2 S	10T-DE-FR-000068	2.3%	8.8%			3.1%		17.8%				12.2%				17.9%	17.9%							7.2%							17.9%
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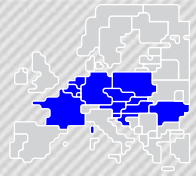
Ensdorf - Uchtelfangen TAUBNT S	11T0-0000-0605-K	0.0%	4.8%			2.8%		13.2%				8.7%				13.3%	13.3%							5.7%							13.3%
V.Dur - Levice 1	24T-V490-000000G			13.2%	4.9%				0.1%	12.8%	13.0%				12.1%			13.2%			1.7%				0.8%		11.2%	13.2%	13.0%	0.2%	13.2%
Ensdorf - Uchtelfangen TAUBNT N	11T0-0000-0604-N	2.1%	7.7%					13.0%				8.0%				13.1%	13.1%							3.8%							13.1%
Diele - Meeden WEISS	10T-DE-NL-00002T					0.7%	0.6%	10.0%				10.1%	10.1%	10.1%		6.0%	0.7%						0.7%	0.7%							10.8%
220 kV Podlog - Obersielach	10T-AT-SI-00003P	10.0%	10.0%	10.0%	10.0%						0.1%								7.8%	10.0%	0.1%	10.0%									10.0%
Diele - Meeden SCHWARZ	10T-DE-NL-00001V					0.5%	0.2%	9.3%				9.4%	9.4%	9.4%		6.0%	0.5%						0.5%	0.5%							9.9%

Insights from the top 10 CNEs pre-congested CNEs since go-live:

- The KPI reveals that 4 CNEs close to FR-DE border (**Vigy-Ensdorf-Uchtelfangen**) are limiting the flow exchanges for 7 to 8 borders directions, the most impacted being the import border directions to BE (from DE and FR), to DE (from FR, AT, NL) and to NL (from BE). Note: Formally internal elements Ensdorf-Uchtelfangen are a direct extension of interconnectors Ensdorf-Vigy and have similar loadings and pre-congestions
- **Portile de Fier – Resita c2/c1** (TEL) CNEs are impacting only one border direction, the RO>HU, but ~14% of the time since go-live.
- **V.Dur – Levice 1** (SEPS) is the CNE limiting flow exchanges for more border directions than other CNEs, 13, with a higher impact in import border directions to HU (except for RO), and import border directions to PL (from DE and CZ), and CZ>SK, SI>HR.
- **Diele – Meeden WEISS/SCHWARZ** (TTG-TTN) CNEs limit 10 border directions, the most impacted being the export border directions from DE (to FR, NL and BE), from FR to BE, and from BE to NL.
- **220 kV Podlog – Obersielach** (APG-ELES) CNE limits flow exchanges for 9 border directions with a higher impact in export border directions from AT (except for SK), and from HU to HR and SI.

6. Intraday Capacity calculation

B. MALFLIET



Capacity improvement study update

Introduction

- Core TSOs are working on the capacity improvement study and informed Core CG 11/07 on measures to mitigate BZ isolation and to increase capacities.
- Core TSO drafted a scope for the Capacity Improvement Study in line with article 25(2) and 25(3) of the ID CCM. Core TSOs are currently preparing the capacity improvement study and would like to inform Core CG on the progress

Core TSOs are progressing on the capacity improvement study an identified and extensive list of topics that will be researched

- The key objectives of the study are:
  - Define feasible measures to improve capacities in IDCC in the short term and assess how these measures can contribute to the 70% CEP.
  - To coordinate the individual TSO assessments linked to the BZR (incl. targeted investments) and take the information to extract the quantitative output to perform a CNEC-by-CNEC analysis
- Core TSOs focus on measures that can improve capacities in short term and within the current ID CCM.
  Additionally, measures that can improve capacities on the longer term and require ID CCM amendment are also assessed.
- Core TSOs aim to complete the CNEC-by-CNEC analysis using the BZR study data

Detailed overview of topics available on the next slides

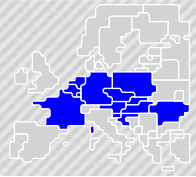
6. Intraday Capacity calculation

Capacity improvement study update

Core TSOs harmonised approach

- The figure shows high-level how they organise compliance with the study requirements, what is expected to have potential impact on capacities in the short term and long term. No specific timeline can be attributed to a certain measure
  - Short-term improvement: does not require an amendment of the ID CCM
  - Long-term improvement: requires an amendment of the ID CCM
- See the next slides for a more detailed planning of the activities per groups as visible in the roadmap

Art 25(2) Common assessment			Art 25(3) Individual assessment			
Ignore marginal PTDF values in case of FB to ATC conversion.	Remove interconnectors with non-Core BZs from the list of CNEs	Activate remedial actions closer to real time	Ras activated closer to Realtime	Further potential refinements of capacity calculation principles & data	Targeted investments contributing to min. capacity requirements on specific CNECs	Alternative bidding zone configurations
Short-term improvements • ATC parameter optimisation • Removal of interconnectors with non-Core bidding zones from CNEC list. Long term improvements: • ATC extraction		Medium term improvements: • PST optimisation • RAs in CGMs/RA optimisation • Process and IT optimisation Long-term improvements • Increase of FB domain			Core TSOs are currently assessing how to complete the CNEC-by-CNEC analysis: - By extracting quantitative data from the BZR study	

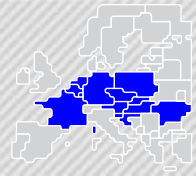


Improve data and process quality and evaluation of RAM adjustment (1/2)

Improving capacities through feasible measures in IDCC. Mitigation measures to alleviate the impact of pre-congestions (BZ isolation) are part of this. Most of these measures that are proven to be effective are expected to have impact on the short term.

Potential mitigations in scope of investigations :

- PST optimisation
  - Additional optimisation of PST setting in the pre-DACF in the expected market direction.
- RAs in CGMs/RA optimisation
  - Improved inclusion of RAs in CGMs based on identified top pre-congested CNEs.
  - Investigation if a simplified RAO to reduce overloads below 100% for relevant CNECs and allow positive margins on additional CNECs.
- Process and IT optimisation
  - Reduced process timings due to improved IT tools i.e. vertices selection allowing for later DACF grid model including more coordinated RAs in the IDCC process.



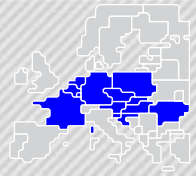
Improve data and process quality and evaluation of RAM adjustment (2/2)

- Investigation if ID FB domain can be increased before the local validation process and final ID FB computation with adapted and/or improved validation processes
  - Following options are currently considered:
    - RAM adjustment per CNEC in ID
    - Pre-defined minimum ATC levels
  - Depending on the option, during local validation the RAM adjustment or the minimum ATC level is subject to evaluation against operational security and the availability of RA for each Business Day.
    - Subsequently, capacity reductions might be required via ATC or IVA validation during the operational process
- Study will investigate how increased RAM levels impact capacities and operational security for pre-selected scenarios.

Expected impact: Currently Core TSOs are assessing the impact (e.g. on validation, and other local processes) and potential consequences (e.g. on operational security) which are relevant for the determination of feasibility.

TSOs want to clarify that virtual capacities in ID have been discussed during the escalation process for the 2nd and 3rd amendment of the ID CCM and are still not accepted by TSOs and majority of Core NRAs from an operational security point of view.

TSOs propose to evaluate the impact on capacities by comparing study results with the KPIs resulting from the current process.



Improvement of ATC extraction and parameter optimization

These study topics are ongoing improvements which mitigate data quality issue and are not necessarily linked to the 70% CEP. Some of these will require ID CCM amendment before for potential implementation, therefore most of these measures will have impact only in the long term.

- Concerning ATC extraction the following elements are going to be investigated in terms of feasibility
  - Use of the latest market data (SDAC result for IDCC(a) and latest AACs for IDCC(b)) for additional borders (non-Core) as input to perform the ATC extraction. It is expected that this increases the accuracy of the process and provided capacities.
- ATC parameter optimisation
  - Optimisation of central and local parameters (PTDF, RAM_ID, LTAincl and AMRid). Capping of ATC values to allow less conservative parameter values. The parameters impact of local and common parameters can only be considered simultaneously. Core TSOs will investigate promising scenarios to run simulations.
- Removal of interconnectors with non-Core bidding zones from CNEC list.
  - Core TSOs will analyse the impact on system security.

Expected impact: Currently Core TSOs are assessing the impact and more concrete effects

TSO propose to evaluate the impact on capacities by comparing study results with the KPIs resulting from the current process.

6. Intraday Capacity calculation

IDCC(c) approach

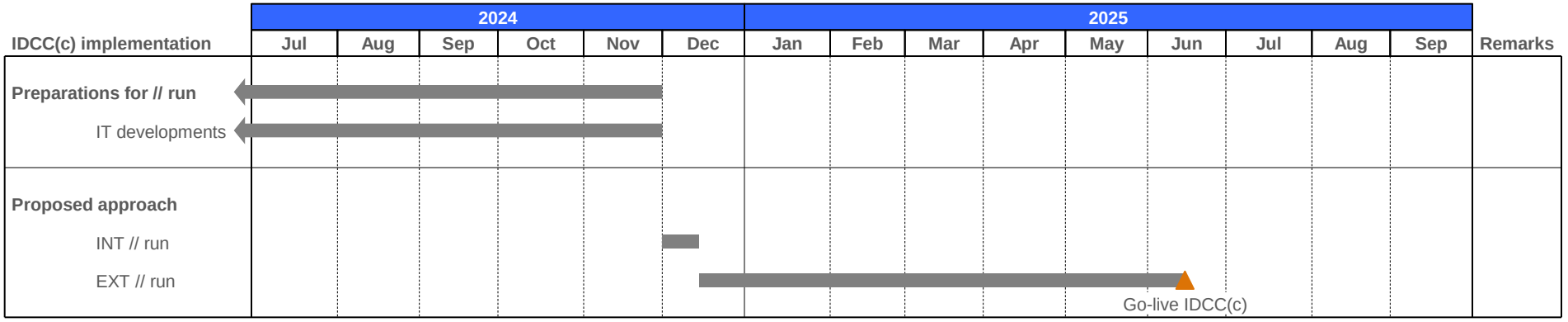
B. MALFLIET

Introduction

- There is an obligation in the ID CCM to implement IDCC(c) by 9 months after the implementation of calculation of IDCC(b). IDCC(b) go-live was on 29/05/2024, therefore the ID CCM obligation for IDCC(c) implementation is 29/02/2025.
- IDCC(c) go-live by end of February '25 is not feasible due to IT developments
  - Previous releases of the central tooling were prioritized for IDCC(a+b) go-live. To start the // run of IDCC(c) a new release of the tooling is needed which is expected in November 2024. Further updates of the tooling are expected before go-live

Core TSOs will shorten the // run activities and inform Core CG on the approach

- TSOs initiate the 6-month EXT// run period as soon as possible when the necessary IT tooling is available by adopting a phased approach
- In a first phase the focus is on stabilizing the process and preparing the publishing of the successful BDs
- In a second phase TSOs intend to publish 7 days out of 7 during the whole external // run but there could be some days that did not turn out to be representative especially in the beginning of the EXT // run. For these days, a disclaimer will be sent out
- Stakeholders will be informed about the progress



AOB & closure

AoBs

R.OTTER /
S. VAN CAMPENHOUT

Next Core Consultative Group

- HY1 2025

Default Flow-Based Parameters on BD 25/06/2024

- A technical report of the default flowbased parameters was presented during the MESC meeting. This is included in the annex.

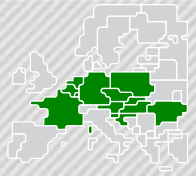
CEP70 action plans & derogations

- Market Participants have requested whether derogation requests and action plans for 2025 can be made available.
  - Such overview can be made with the support of Core NRAs who are consolidating and approving the derogation requests.
  - Unlike for action plans, there is no explicit deadline in Electricity Regulation set on the application of derogations.

AOB & closure

Overview of MP questions

R.OTTER /
S. VAN CAMPENHOUT



Overview of Market Participant questions

- MPs raised several questions ahead of the CG. Below is an overview of the questions and where they are answered.
- Numbering refers to MP document provided.

Questions that will be answered after the Core CG

- Q1a - DA: Could TSOs reconsider publishing again the MNECs?
- Q1a - DA: Could a '5%: yes/no' flag be added to all published CNECs?
- Q1b - DA: Could the Core TSOs give feedbacks on the potential impacts of Nordic FB on Core? (on capacity calculation but also on expected changes in resulting DA flows, if any)
- Q3d – ID: Does this mean that the published RAM values are loaded by an hourly-aggregated AAC value (arithmetic, volume weighted mean, … across 4*15') for the sake of the hourly publication?
- Q3d – ID: Could the TSOs explain how they achieve quarter-hourly ATCs from hourly PTDF? Is there an additional post-processing of the published final PTDF?
- Q4a – General: REMIT transmission outage practice also varies widely from one TSO to another. Market participants have already pointed out this problem at a previous Core CG and have made recommendations. Could the TSOs provide an update on the situation in the light of these recommendations?

Questions to be raised in MCCG instead

- Q4b: Could TSOs provide an update on the implementation of the AHC in the SDAC? ➔ question to be raised in MCCG
- Q4b: Although this is more of a MCCG issue, could the TSOs give their views on the impact of AHC on Euphemia? If tests have been carried out, what are the results? ➔ Update on AHC will be provided during CG 11/10. However, questions on Euphemia performance are indeed to be raised in the MCCG.

AOB & closure

Overview of MP questions

Questions answered during today's meeting (1/2)

CE – Agenda topic 2

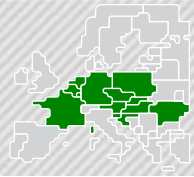
- Already answered under topic 2
  - Q2: Could we have some information on the merger between Italy North and Core?
  - Q2: We would like to re-iterate our need for a parallel run for CE CCR ➔ A // run is foreseen.
- ? To be answered orally today:
  - Q2: Are any mitigation measures planned for the interim period (until merger becomes effective)?

IDCC – Agenda topic 6

- Already answered under topic 6:
  - Q3a: What has been/is being done to improve communication on API updates?
  - Q3a: Is there a plan and/or possibility to still publish the capacities in case of fallback on the regular location of JAO Publication Tool?
  - Q3a: Is there a fundamental reason for capacities not to be published on ENTSO-E Transparency Platform in case of delay in delivering the capacities after the IDCCs?
  - Q3a: Could TSOs be more precise about exact date when ATC validation limits will be available/published?
  - Q3b: Could TSOs provide an update on which measures are being considered to reduce their occurrence in the interim period, before ROSC deployment?
  - Q3c: Could TSOs publish an intermediate domain for IDCC(a) ex post?
  - Q3c: Could MPs get explanation / pedagogical example on how TSOs are computing the rescaled flow-based domain for IDCC(a) incl. LTA inclusion?

ROSC – Agenda topic 3

- Already answered under topic 3: Q5: Could Market participants have an update on the ROSC project ?



Questions answered during today's meeting (2/2)

DACC – Agenda topic 4

- Already answered under topic 4:
  - Q4b – DA: We would like to reiterate the need for parallel run and not just SPAICC. Such changes deserve a full parallel run, as we used to do in the past for this type of change with a considerable impact on the market.
  - Q4c – DA: Could TSOs give an overall update on the SPAICC?
  - Q4c – DA: Could TSOs explain the delay of the SPAIC-like run?
- Answer to be answered orally today:
  - 4a – DA: Could the TSOs explain the methodology for IVAs?
  - 4a – DA: Would it be possible to find some stability over time and harmonisation of the IVA methodology?
  - 4b – DA: Are TSOs confident AHC and 15min MTU in DA can realistically be rolled out together?
  - 4b – DA: Would TSOs continue to consider the 24 scenarios even on a 15' basis?

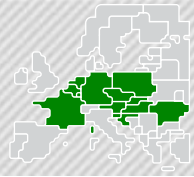
General - AoB

- Answer already provided under AoB:
  - Q4d: Could clarity be provided as to which documents are considered historical, which are the current valid documents and which amendments are in progress?
  - Q6 – CEP70: Could the derogation requests & action plans for '25 be made available? Is there a limit to derogations that can be granted?

AOB & closure

Next meeting and communication channels

R.OTTER /
S. VAN CAMPENHOUT



Existing Core communication channels

Core Consultative Group mailing list

- Register for future updates by subscribing to https://magnusenergypmo.hosted.phplist.com/lists/?p=subscribe

Core section on ENTSO-E website

- Upload of methodologies and reports on public consultations, current status of the Core CCR program, CG minutes
- Link: https://www.entsoe.eu/network_codes/ccr-regions/#core
- **[NEW]:** Work is ongoing to update the legal framework section of the ENTSO-E website. This will show the active CCMs (/amendments). A press release will be sent out once this is final.

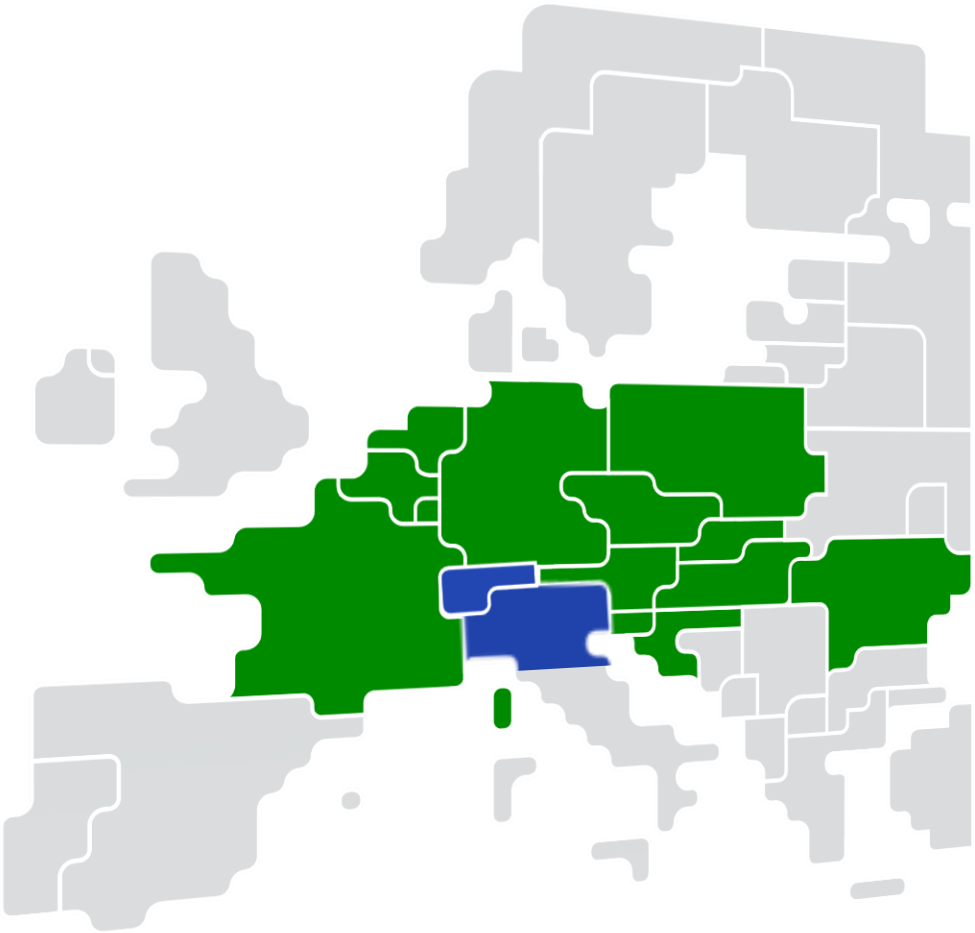
ENTSO-E newsletter

- Regular updates on the different CCRs (e.g., submitted methodologies, launch of public consultations)
- Subscription via https://www.entsoe.eu/contact/

Q&A forum on JAO website

- Provides space to Market Participants to ask questions about the External Parallel Run and other relevant topics:
- Link: http://coreforum.my-ems.net/
- Efforts are ongoing to ensure questions are answered within a month.

APPENDIX



Reminder

Scope of discussions

Scope of discussions Consultative Group/Core CCR vs. MCCG/MCSC

- As to ensure clear alignment, the following table aims to clarify which topics and discussions fall within the scope of CG/Core versus MCCG/MCSC. Only the main/overlying topics currently discussed in the respective projects are listed.
- The stakeholder managers of the respective projects and fora are in direct alignment to ensure any questions outside “their” scope can be redirected accordingly.

	Core CCR	MCSC
General Scope	• Capacity calculation	• Capacity allocation
Intraday Auctions (IDA)	• Capacity calculation (IDCC)	• Timings • Products & user interfaces • Central testing
Advanced Hybrid Coupling	• Design & Implementation into DACC • Impact assessment	• Testing allocation algorithm • Central testing
15 min MTU	• Regional testing	• Timings • Products & user interfaces • Central testing

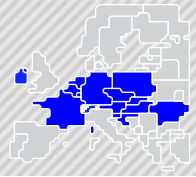
Appendix

Glossary

ACER	Agency for the Cooperation of Energy Regulators
AHC	Advanced Hybrid Coupling
BZ	Bidding Zone
CACM	Capacity Allocation and Congestion Management
CC	Capacity Calculation
CCR	Capacity Calculation Region
CGM	Common Grid Model
CGMES	Common Grid Model Exchange Standard
CNEC	Critical Network Element with a Contingency
CS	Cost Sharing
CSA	Coordinated Security Analysis
CSAM	Coordinated Security Analysis Methodology
CROSA	Coordinated Regional Operational Security Assessment
DA	Day-Ahead
ENTSO-E	European Network of Transmission System Operators for Electricity
FAT	Final Acceptance Test
FIT	Functional Integration Test
FB	Flow Based
GSK	Generation Shift Key
GLSK	Generation Load Shift Key
IDCC	Intraday Capacity Calculation
IGM	Individual Grid Model
IVA	Individual Validation Adjustment
KPI	Key Performance Indicator
LF-SA	Load Flow Security Analysis
NRA	National Regulatory Authority
NRAO	Non-costly Remedial Action Optimization
RA	Remedial Action
RAO	Remedial Action Optimizer
RFI	Request for Information
RFP	Request for Proposal
ROSC	Regional Operational Security Coordination
RD&CT	Redispatching and Countertrading
RSC	Regional System Operator
TSO	Transmission System Operator
SHC	Simple Hybrid Coupling
SO GL	System Operation Guideline
SAT	Site Acceptance Testing
SIT	System Integration Testing
V1/V2	Version 1/ Version 2
XNE	Cross-border element

Core DA CC Operational issues

Default Flow-Based Parameters for all MTUs on BD 25/06/2024 1/2



Reminder

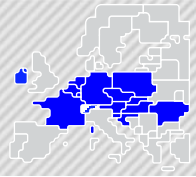
- Operational issue in Core day-ahead capacity calculation process led to 24 MTUs with Default Flow-Based Parameters (DFPs) for Business Day 25/06

The identified problem was an IT infrastructure issue at the Merging Entity (Coreso)

- When launching the merging, the operator immediately received a failure message with an empty log
- The escalation path for IT issues was activated, successively reaching out to:
  - Coreso operational duty
  - Coreso IT duty
  - IT support from the provider of Core merging server
  - IT support from Coreso's infrastructure provider
- It was identified that the communication between the merging server GUI and the computation engine was not working correctly (Note: the merging server and computation engine run on different servers)
- No solution to the IT issue was found in time, with the consequence of not being able to produce a Common Grid Model (CGM) and further on leading to DFPs for all 24 MTUs
  - Note: Issuing DFPs when no CGM is available is in accordance with Core Day-Ahead Capacity Calculation Methodology

Core DA CC Operational issues

Default Flow-Based Parameters for all MTUs on BD 25/06/2024 2/2

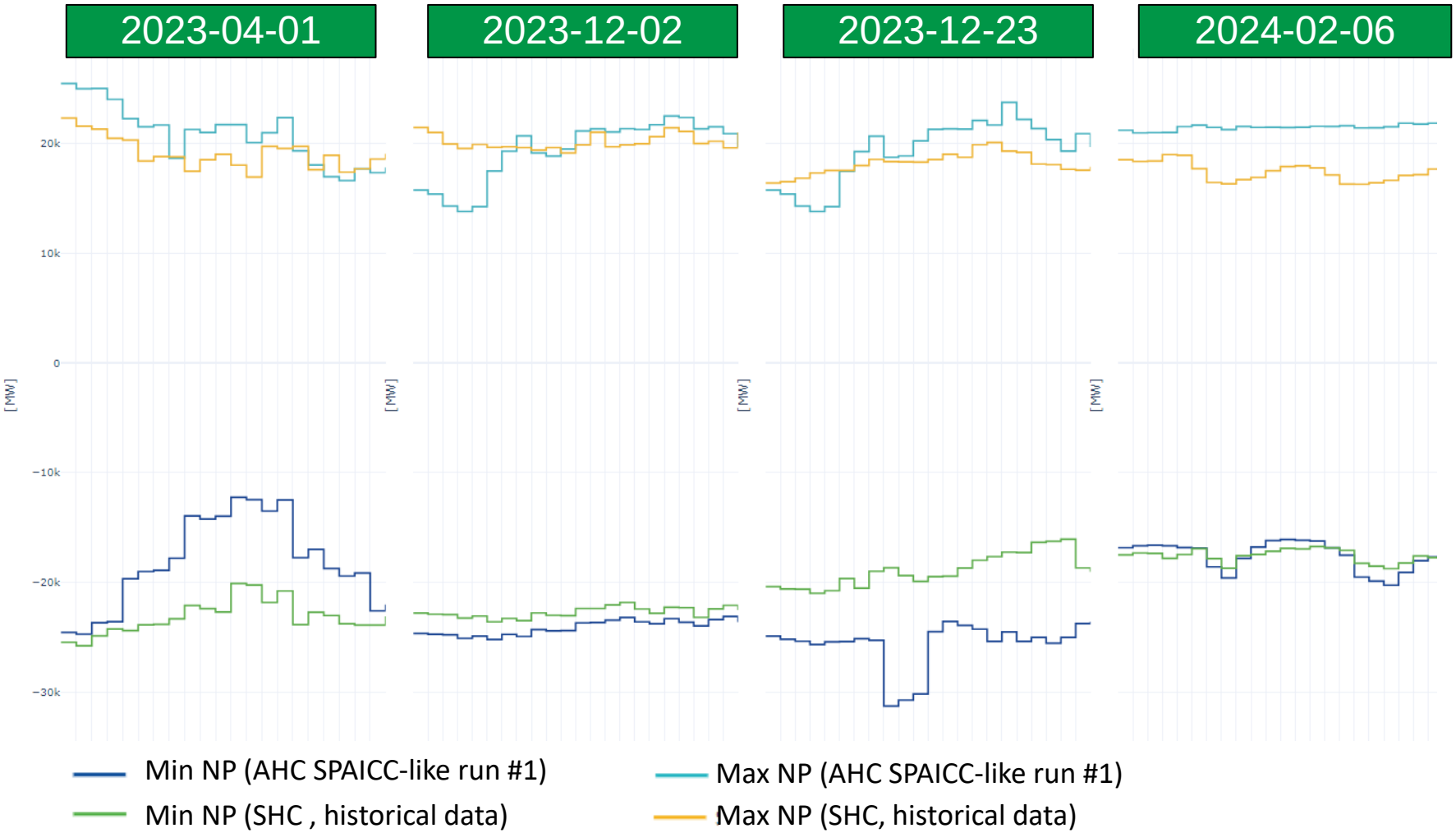


Further investigations by Coreso as Merging Entity (Coreso)

- Investigations showed that the communication with the merging server got blocked by a firewall.
- The firewall settings have been adapted and the permission rights were updated to allow certain traffic.
- Coreso's hosting entity has double checked and confirmed that no changes to this firewall were made prior to the merging issue and highlighted that the firewall has always been configured to block this traffic.
- Coreso has confirmed that this issue was solved for subsequent Business Days.
- The firewall involved in the incident has since been replaced as part of an internal infrastructure project (already scheduled, not triggered by the incident).
- Coreso is working on a proactive application monitoring solution that should allow spotting these issues faster.

In addition to Coreso's investigations, the Core Control Board (CCB) is looking into adapting the Business Process for the Core Day-Ahead Capacity Calculation Process to allow more time for CGM delivery e.g. by opening the gate for CGM delivery after the Critical End Time, running an initial computation, skipping NRAO and then run intermediate computation

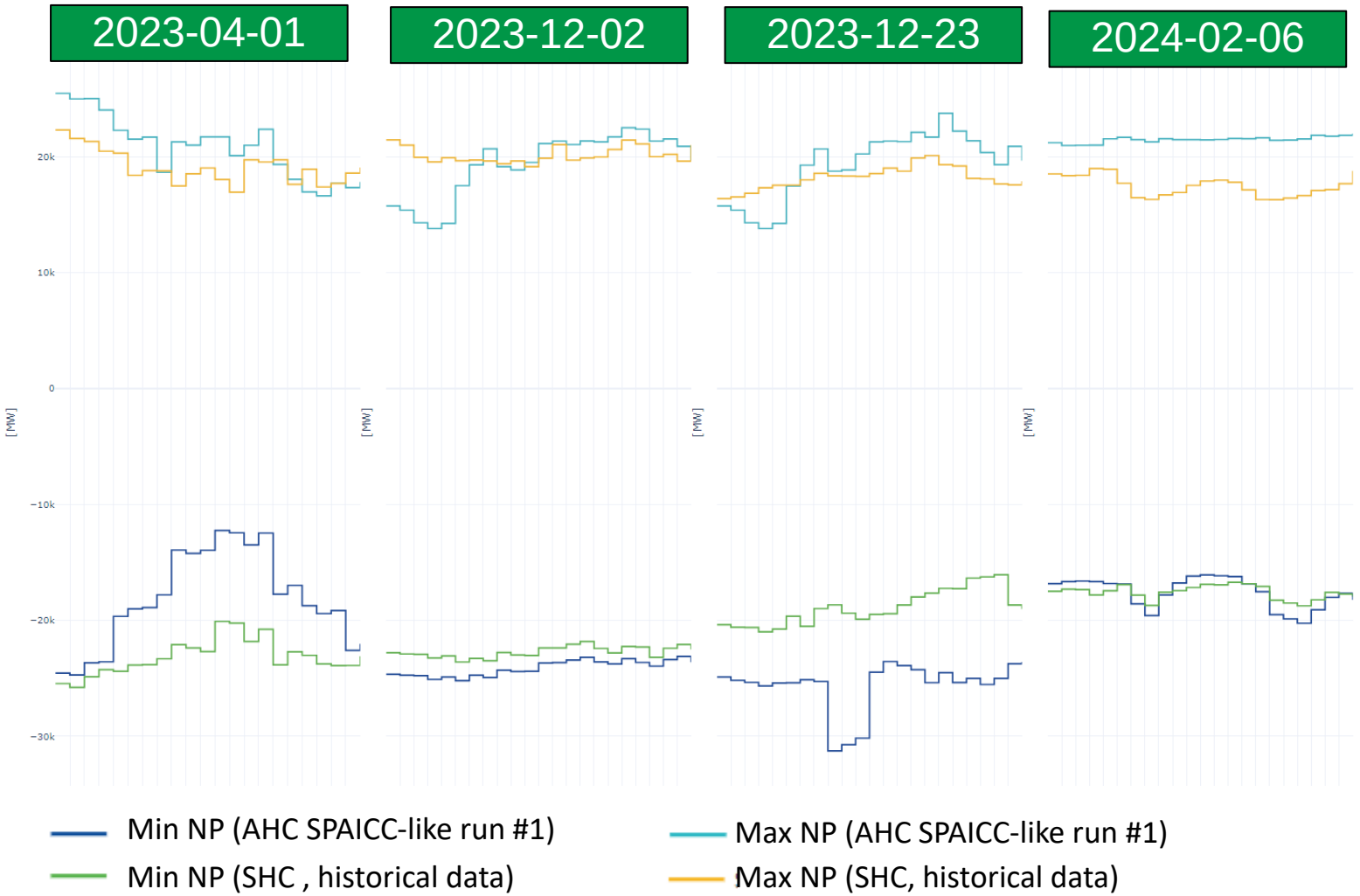
Min and Max Net Position in SPAICC-like run #1 for DELU compared to historical SHC data



* Static assumptions for ATCs at AHC borders in SHC case: DE-LU AHC Borders +/- 2700 MW

For most of the BDs, AHC might allow both higher imports and exports than SHC.

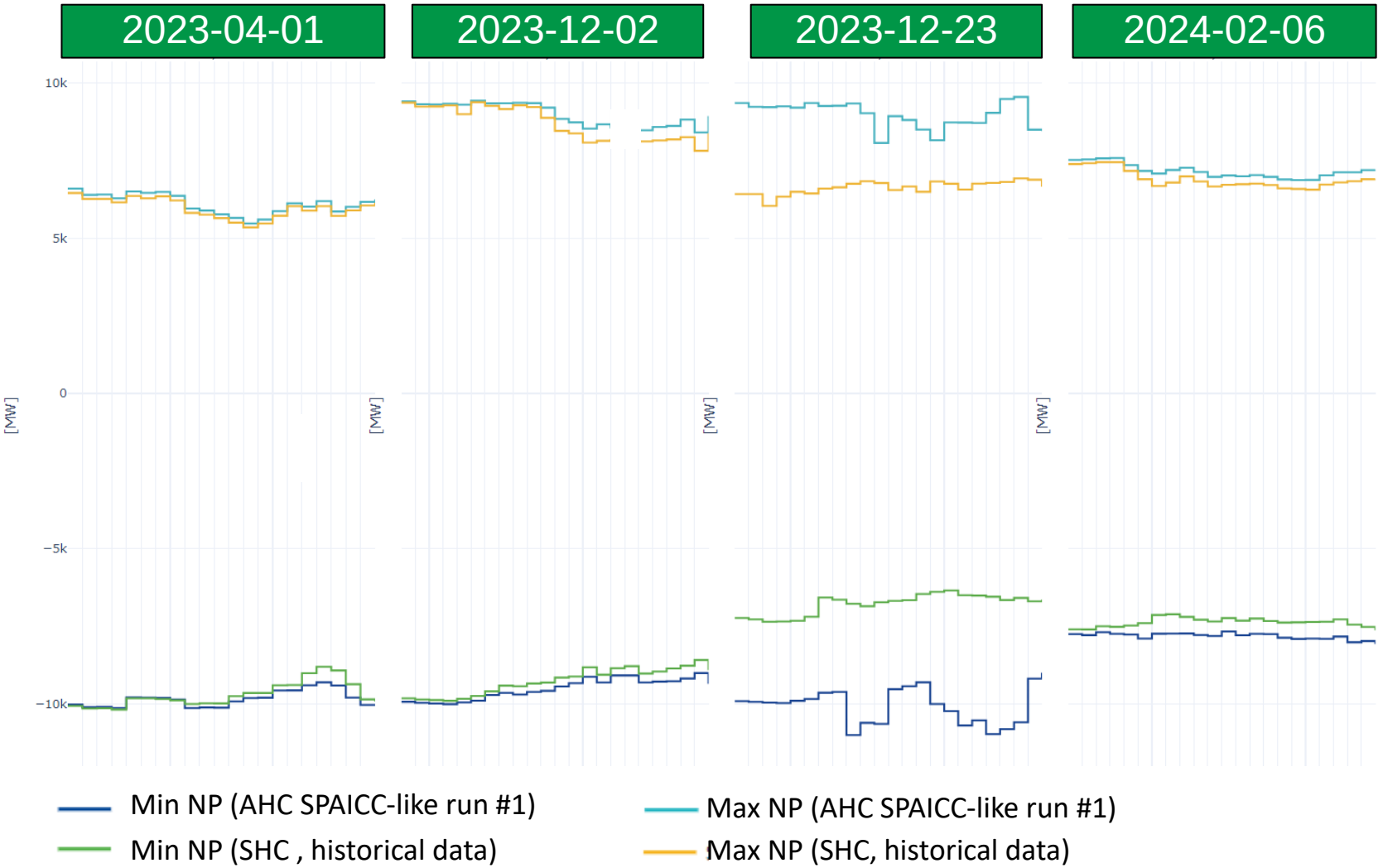
Min and Max Net Position in SPAICC-like run #1 for PL compared to historical SHC data



Assumptions for ATCs at AHC borders in SHC case: PL AHC Borders +/- 1100 MW

For most of the BDs, AHC might allow both higher imports and exports than SHC.

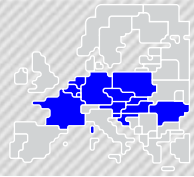
Min and Max Net Position in SPAICC-like run #1 for CZ compared to historical SHC data



→ AHC also impacts BZs that do not have an AHC border.

Day-Ahead Capacity Calculation

HY SPAICC: Reference BDs & long duration outages definition



Reference BDs:

- The final list of reference business days for HY SPAICC run 2024 are as following:

Day 1	Day 2	Day 3	Day 4	Day 5
Sunday in the available period with the lowest wind infeed in Core	Workday in the available period with the highest wind infeed in Core & high load in FR	Any workday in the available period with average wind	Any Workday in the available period with highest PV	Highest exchanges in Core
Sunday, June 23, 2024	Monday, January 22, 2024	Thursday, March 14, 2024	Thursday, June 06, 2024	Thursday, February 22, 2024

- Day 6: Based on **Day 3**: extra variant containing long duration outages in the first ½ of the period of interest
- Day 7: Based on **Day 3**: extra variant containing long duration outages in the last ½ of the period of interest

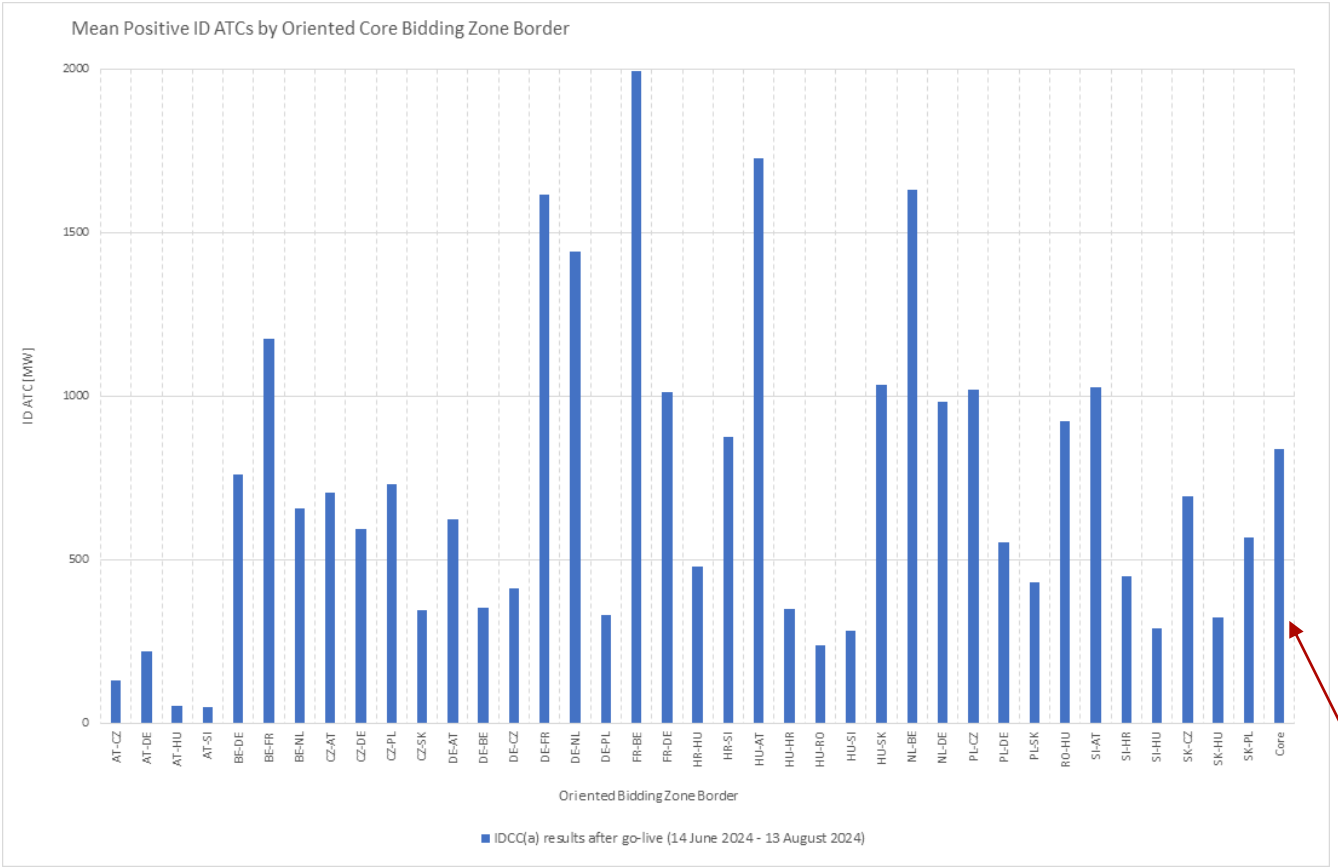
Long duration outages definition:

- The target outage period for our first half-yearly SPAICC is considered from 1st January to 30th June 2025.
- Outages occurring exclusively on weekends even for a long duration of time should not be classified as long-term outages.
- Outages that last more than 45 weekdays between January 1st and March 31st will be classified as DAY6. If they occur between April 1st and June 30th, they will be classified as DAY7.

Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(a) (14/06/2024 – 13/08/2024)

Mean positive ID ATCs

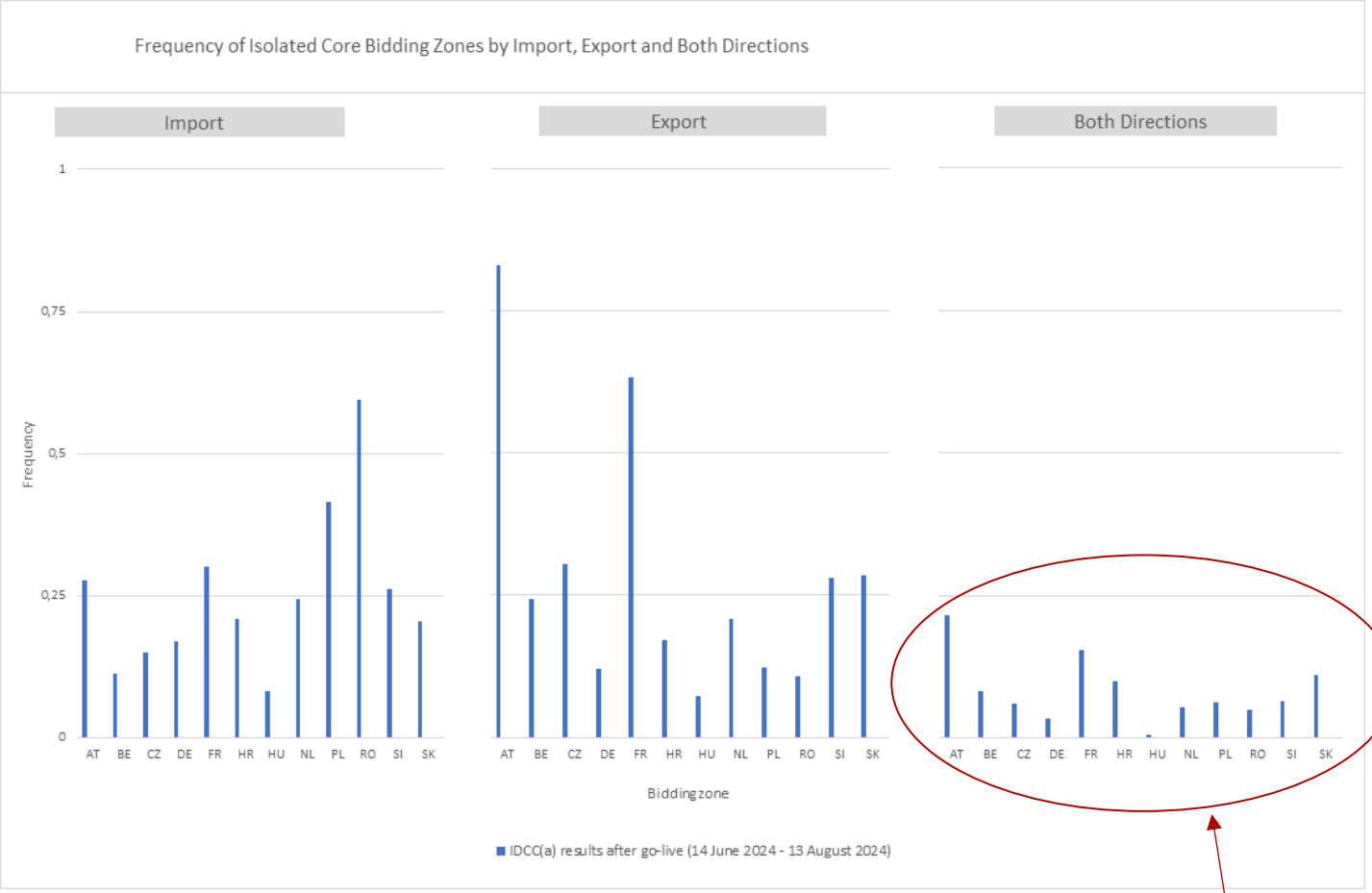


- Overall, mean positive ATCs range from 50 MW up to 2000 MW and on Core level 850 MW for IDCC(a) since go-live.
- The mean positive export capacities on AT borders are a result of the exceptionally high scheduled exchanges in Core DA MC in the monitored time period, leaving almost no secure capacities for the upcoming IDCC markets.
- Note: Focus must be on the most relevant BZ border directions, as some of the decreased positive ATCs are in directions which are not used by the market very often.

Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(a) (14/06/2024 – 13/08/2024)

Frequency of isolated Core BZs

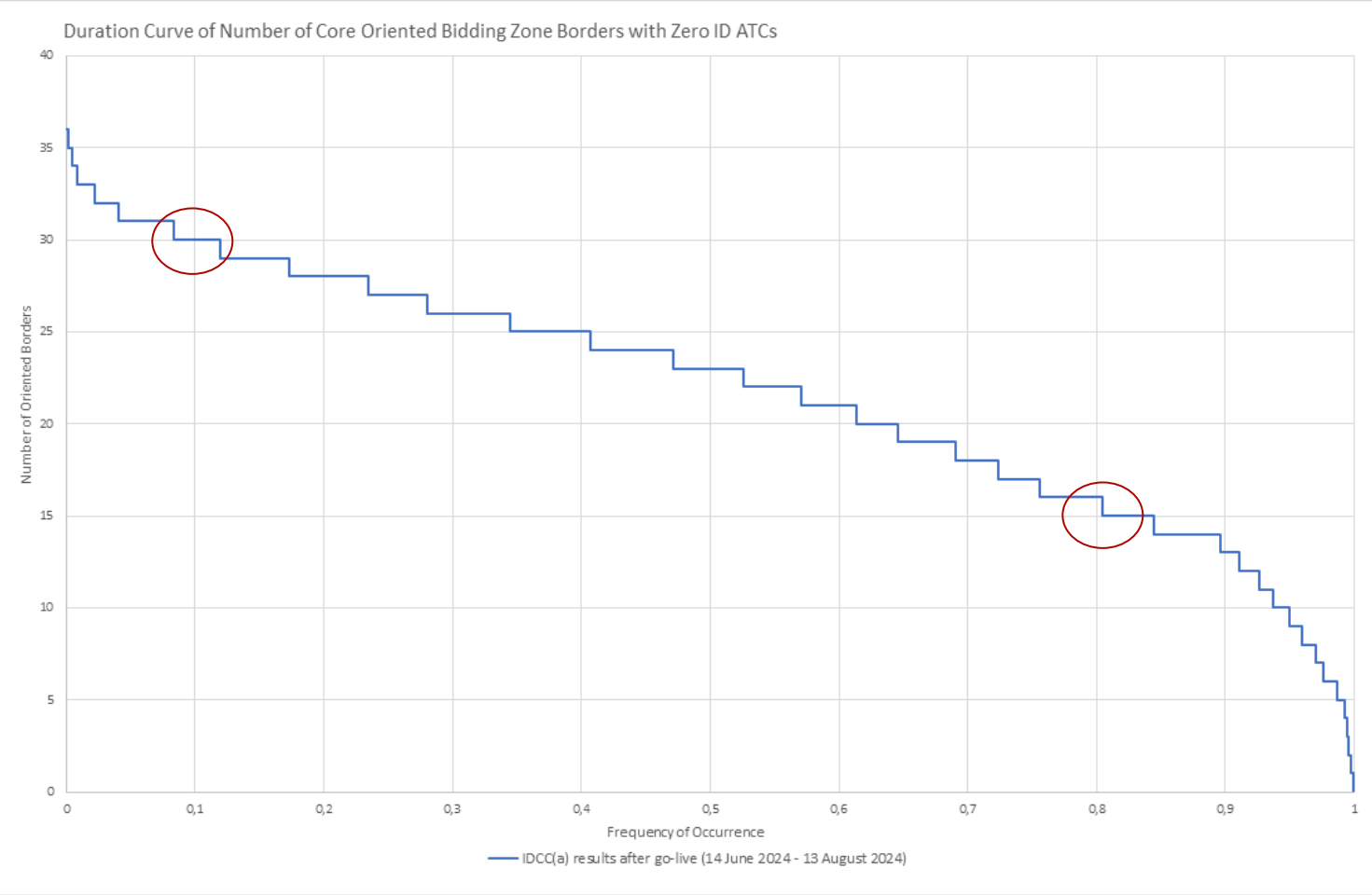


- Highest frequency, above 50%, of isolation in export direction for AT (in line with the explanation on previous slide) and FR bidding zones, and in import direction for RO bidding zone for IDCC(a) since go-live.
- Frequency of isolation in both directions for IDCC(a) since go-live is below 20% for all bidding zones.

Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(a) (14/06/2024 – 13/08/2024)

Zero ATC values

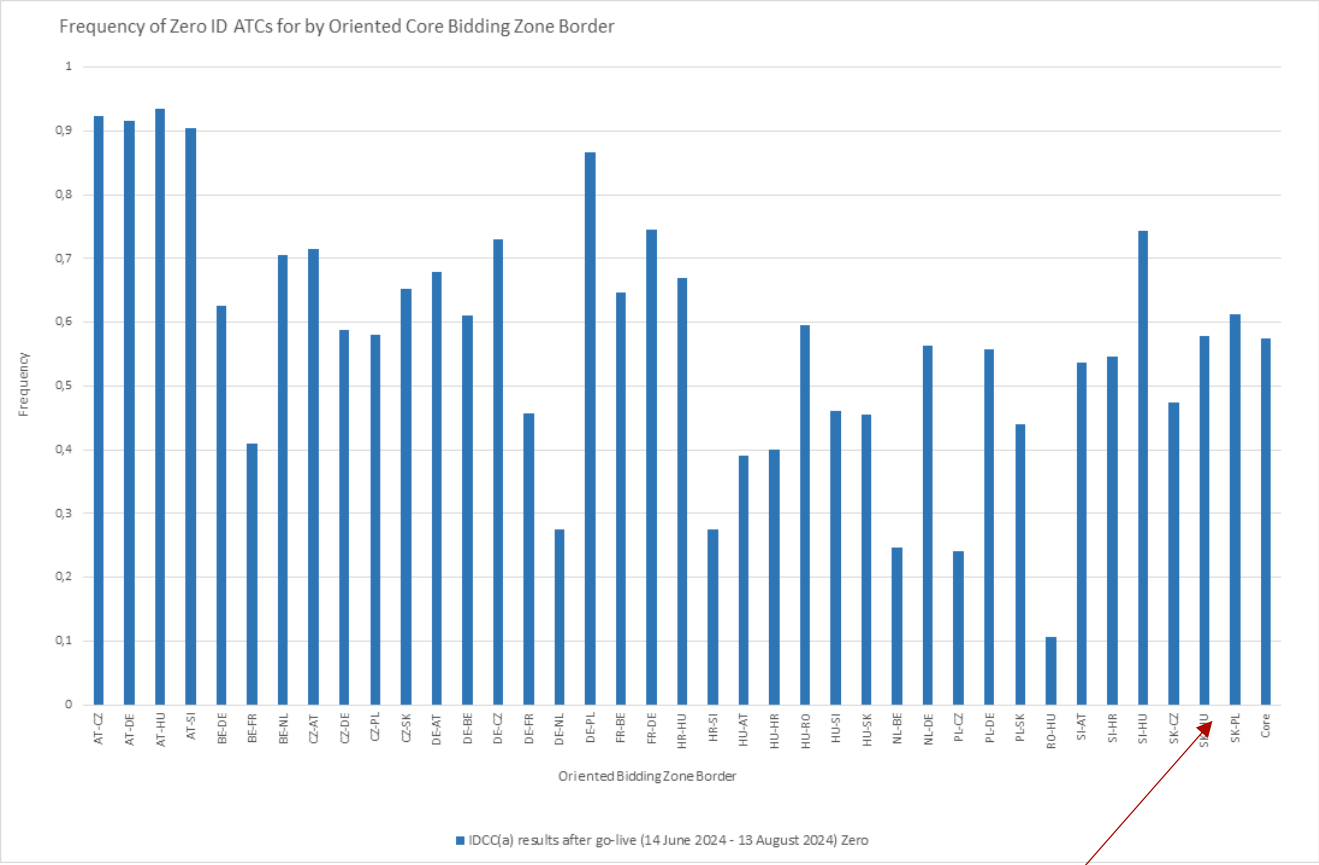


- 80% of the time there are 15 or less borders that have simultaneously zero or negative ATC values for IDCC(a) since go-live.
- 30 or more borders that have simultaneously zero or negative ATC values occur 10% of the time for IDCC(a) since go-live.

Intraday Capacity calculation

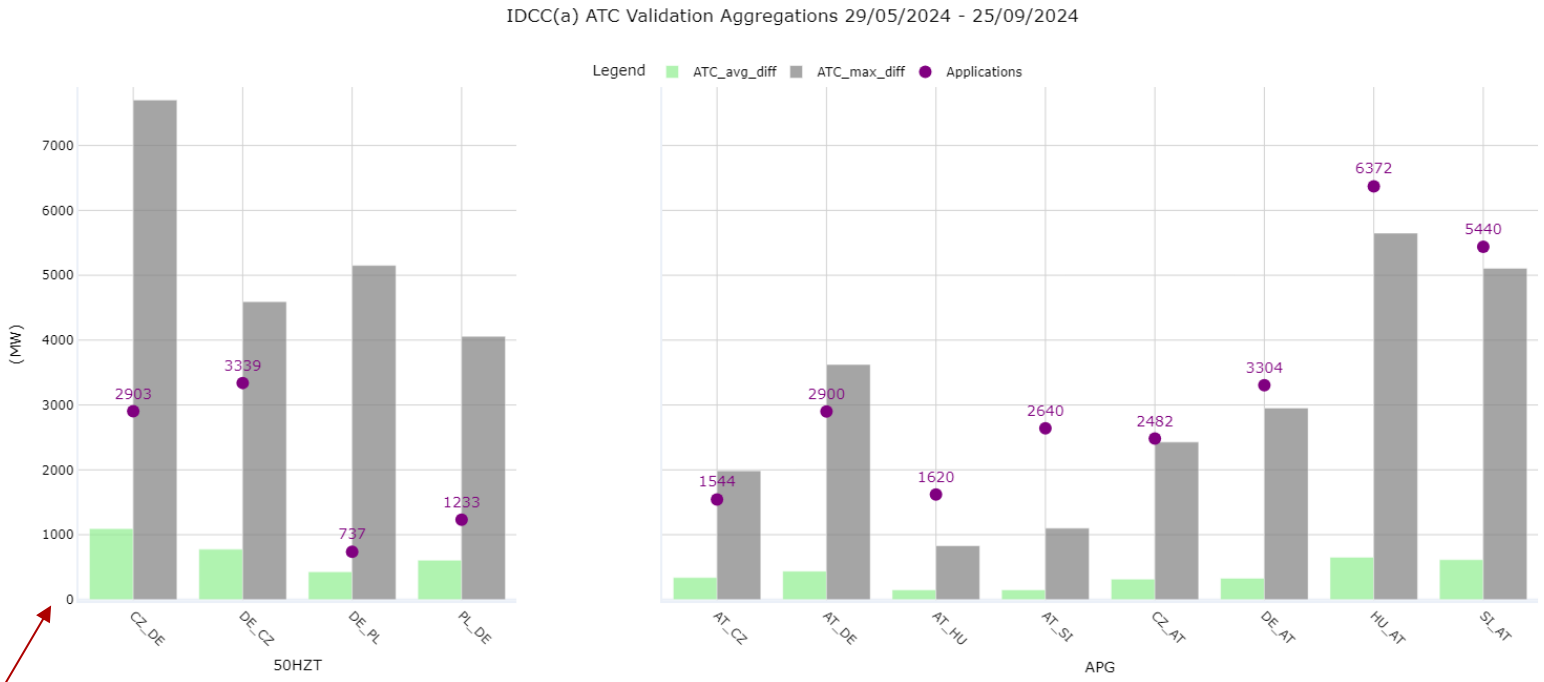
IDCC Post-go-live status KPIs – IDCC(a) (14/06/2024 – 13/08/2024)

Frequency of zero ATCs



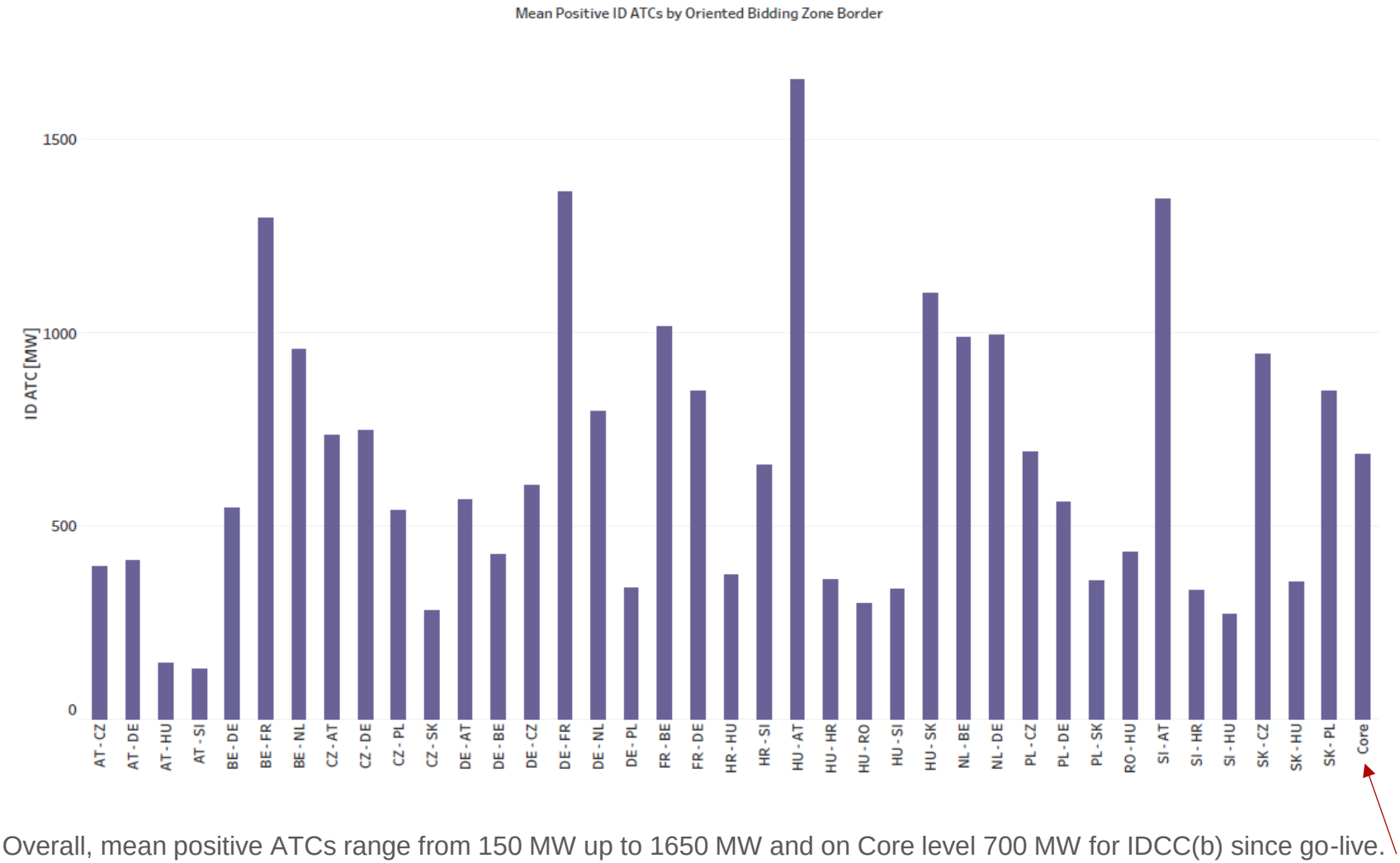
- Overall, the frequency of zero ATCs range from 10% up to 92% and on Core level 58% for IDCC(a) since go-live.
- Frequency of zero ATCs since go-live is below 80%, except for AT export directions and from DE export direction to PL bidding zones.
- The high number of MTUs on AT borders with 0 MW ATC are a result of the exceptionally high scheduled exchanges in Core DA MC in the monitored time period, leaving almost no secure capacities for the upcoming IDCC markets.

IDCC(a) - ATC validation



- The green bar indicates the average ATC reduction for a certain border, e.g. For the CZ-DE border the average reduction due to ATC validation was around 1100 MW.
- ATC Max means the maximum ATC reduction for a single TS (CZ-DE border 7600MW)
- For the CZ-DE border there were 2903 applications of ATC validation.
- One of the main reasons for validations in AT is the lack of SDAC-wide aligned setpoints for IDCC(a) ATC extraction, as well as uncertain RA potentials, as previously stated by APG.
- Disclaimer: In case multiple TSOs are sending the same ATC limit, only one TSO of a border is reported. In future updates, all limiting TSOs will be made transparent.

Mean positive ID ATCs



- Overall, mean positive ATCs range from 150 MW up to 1650 MW and on Core level 700 MW for IDCC(b) since go-live.
- Note: Focus must be on the most relevant BZ border directions, as some of the decreased positive ATCs are in directions which are not used by the market very often

Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(b) (29/05/2024 – 26/09/2024)

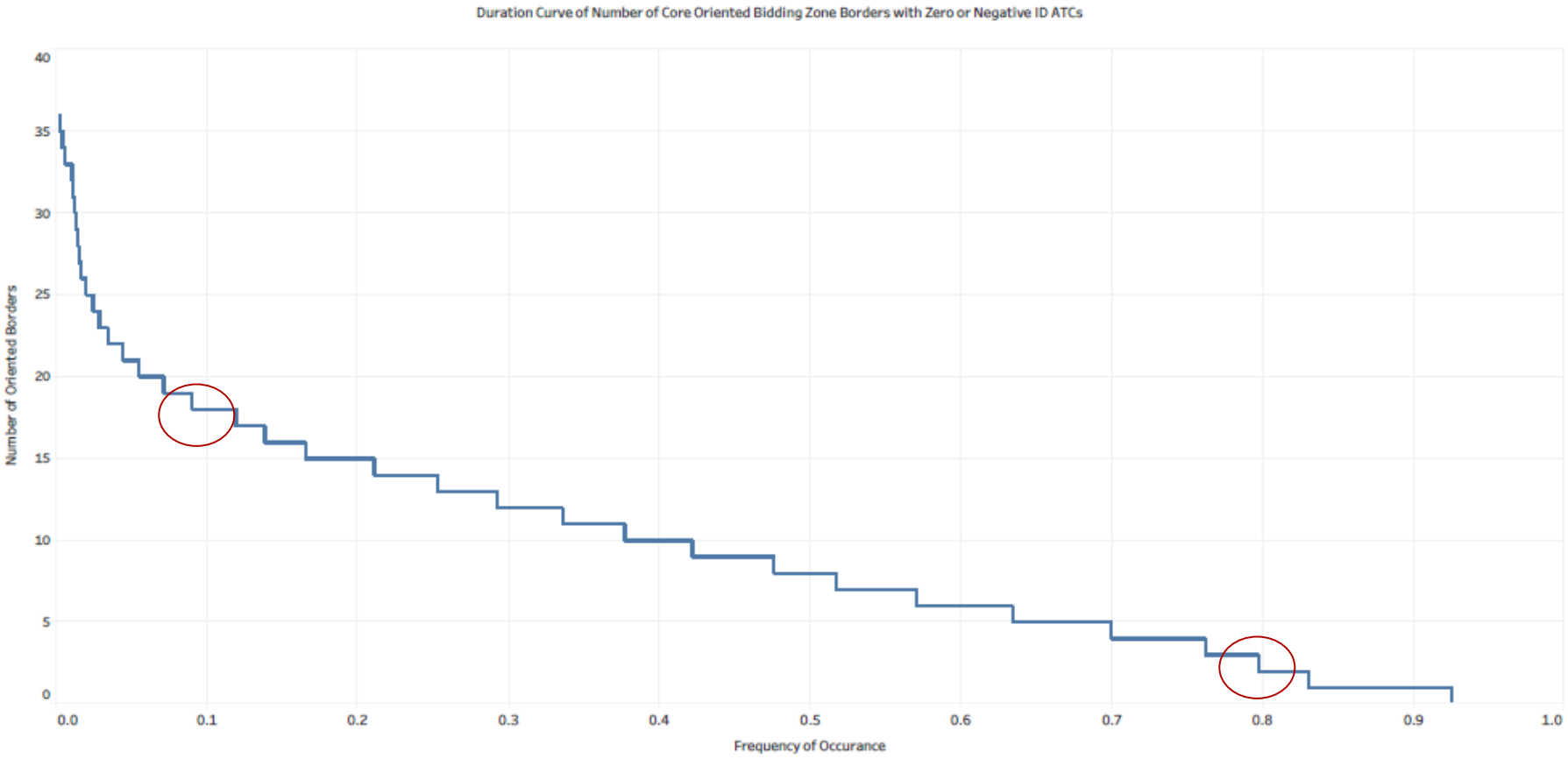
Frequency of isolated Core BZs

- Highest frequency, above 20%, of isolation in export direction for AT and FR bidding zones for IDCC(b) since go-live.
- Frequency of isolation in both directions for IDCC(b) since go-live is below 5% for all bidding zones.

Intraday Capacity calculation

IDCC Post-go-live status KPIs – IDCC(b) (29/05/2024 – 26/09/2024)

Zero ATC values

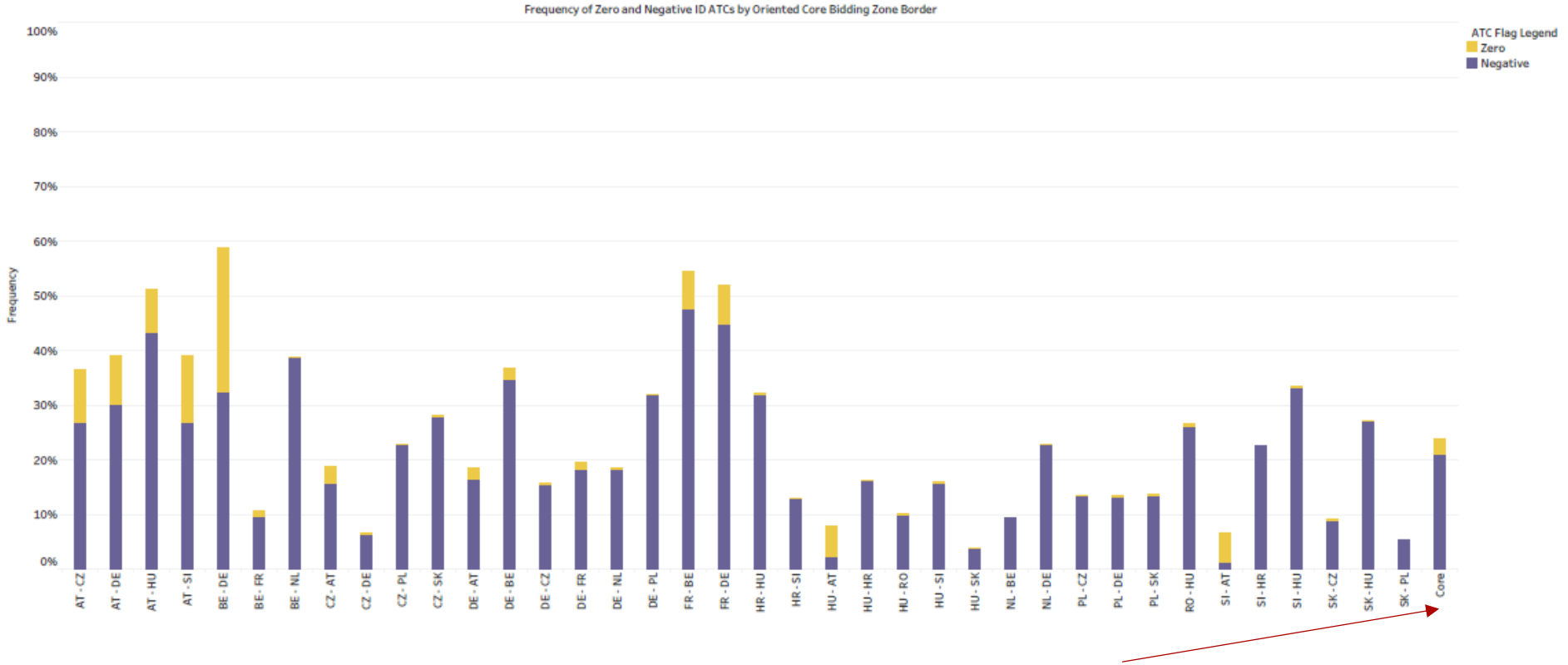


- 80% of the time there are 2 or less borders that have simultaneously zero or negative ATC values for IDCC(b) since go-live.
- 18 or more borders that have simultaneously zero or negative ATC values occur 10% of the time.

Intraday Capacity calculation

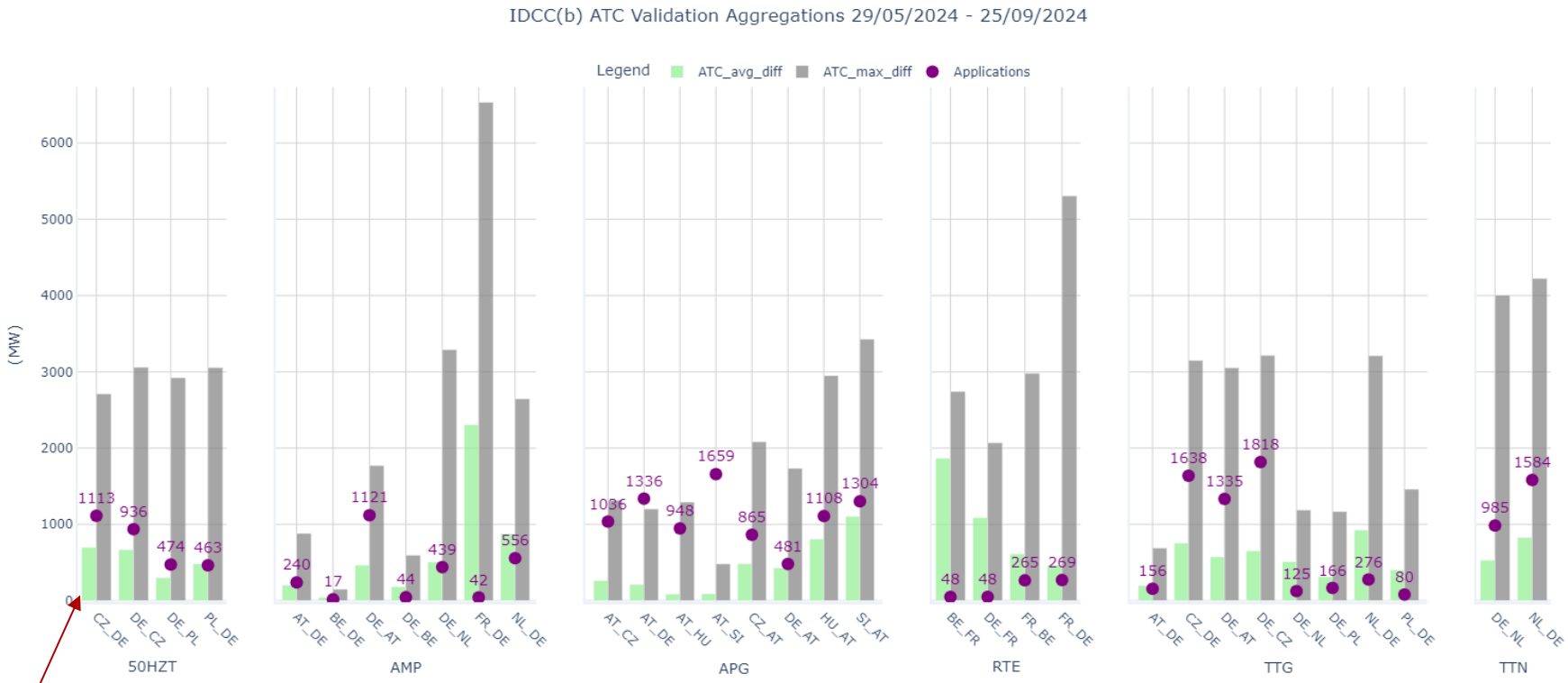
IDCC Post-go-live status KPIs – IDCC(b) (29/05/2024 – 26/09/2024)

Frequency of zero and negative ATCs



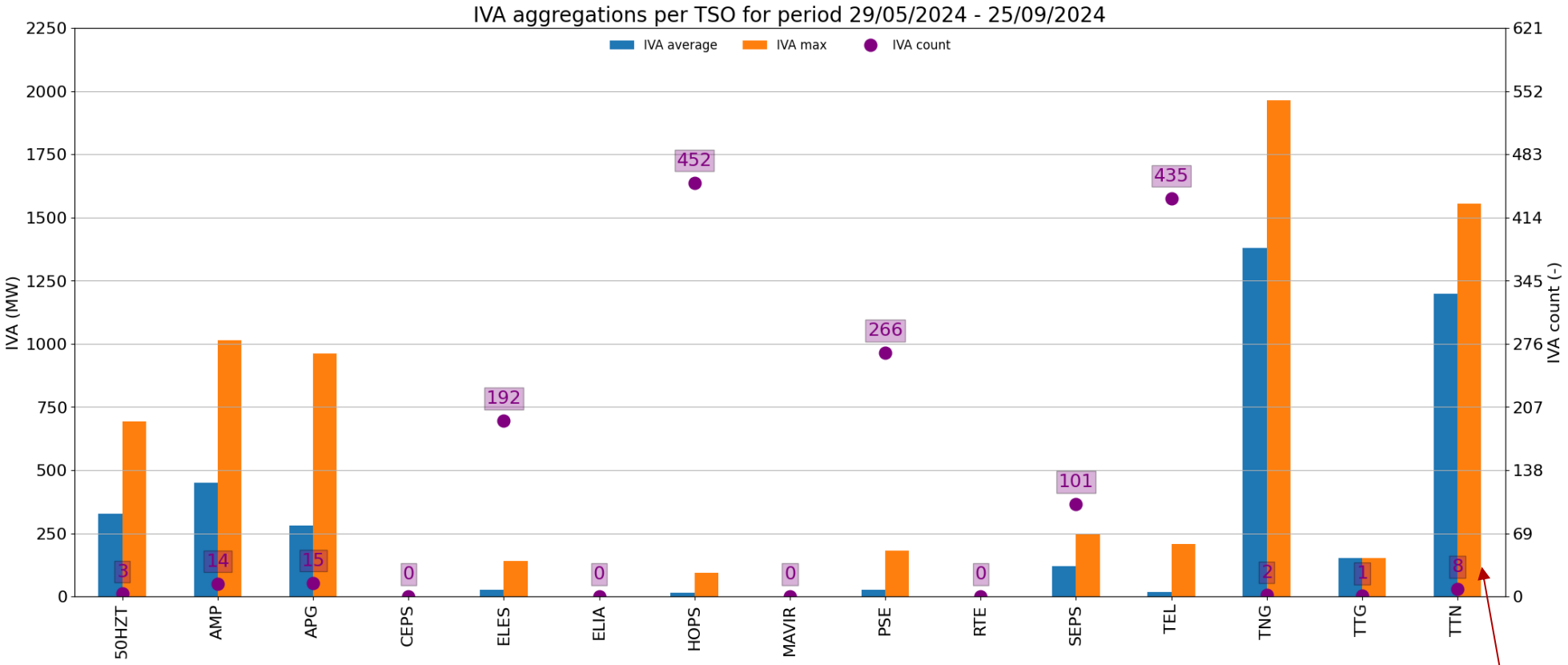
- Overall, the frequency of non-positive ATCs range from 3% up to 59% and on Core level 23% for IDCC(b) since go-live.
- Frequency of negative ATCs for IDCC(b) since go-live is below 40%, except for FR export directions and from AT export direction to HU bidding zones.

IDCC(b) - ATC validation



- The green bar indicates the average ATC reduction for a certain border, e.g. For the CZ-DE border the average reduction due to ATC validation was around 750 MW.
- ATC Max means the maximum ATC reduction for a single TS (CZ-DE border 2600MW)
- For the CZ-DE border there were 1113 applications of ATC validation.
- Disclaimer: In case multiple TSOs are sending the same ATC limit, only one TSO of a border is reported. In future updates, all limiting TSOs will be made transparent.

IDCC(b) - IVA validation



- The blue bar indicates the average IVA reduction for a certain TSO, e.g. For the TTN border the average reduction due to IVA validation was around 340 MW.
- IVA Max means the maximum IVA reduction for a single TS (TTN border 420 MW)
- For the TTN there were 8 applications of IVA validation (around 0,3% of the time).