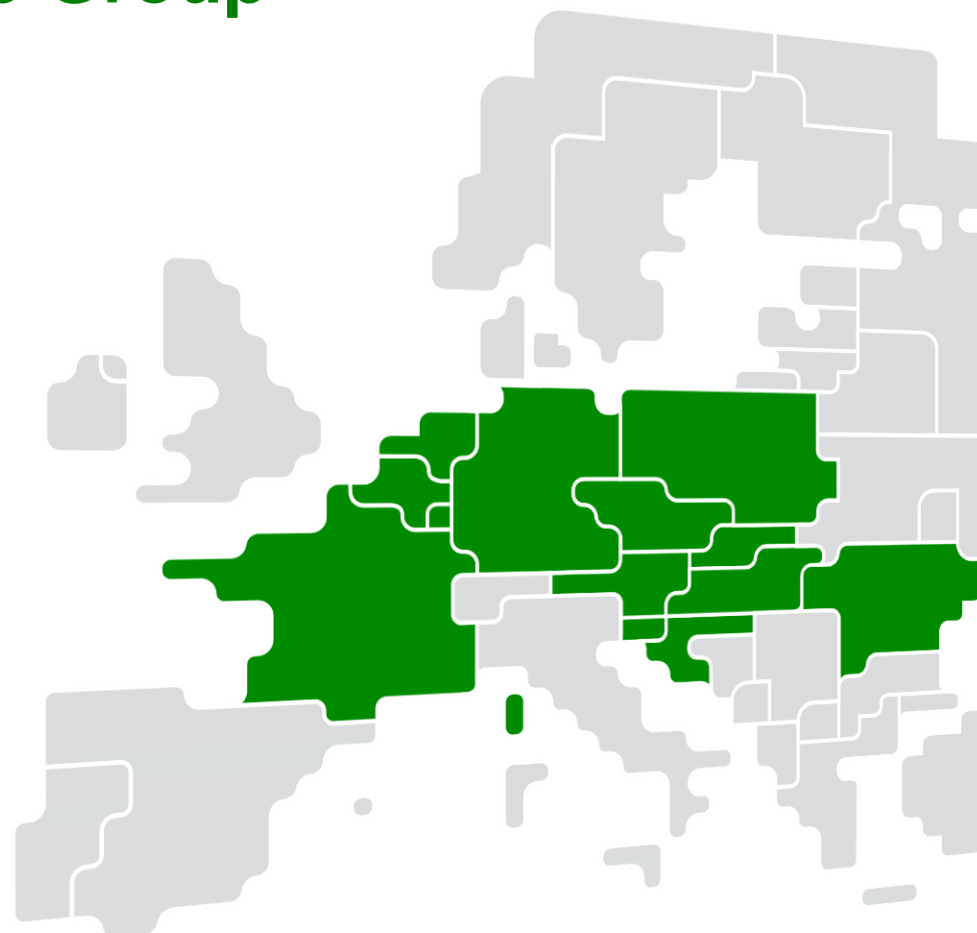


Core Consultative Group

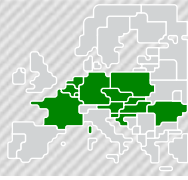
23/11/2023

10:00 – 15:00h (CEST)
Microsoft Teams meeting



1. Welcome and Introduction

Practicalities, announcements and reminders



Co-chairs



Hélène ROBAYE
Market Participants, Engie



Ruud OTTER
Core TSOs, Tennet BV



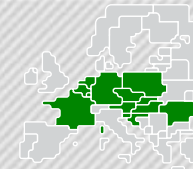
Steve Van Campenhout
Core TSOs, ELIA

Practicalities

- During meeting
 - Please use the **Q&A functionality** in Teams to address questions (not the chat). 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

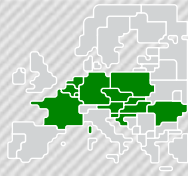
1. Welcome and introduction

H. ROBAYE



Agenda

	SUBJECT	WHO	TIMING
1	Welcome and introduction <ul style="list-style-type: none">• Announcements• Agenda for today	H. ROBAYE	10:00 – 10:10
2	Intraday Capacity Calculation <ul style="list-style-type: none">• Update on 2nd and 3rd amendment referral• IDCC(a) Update	Z.VUJASINOVIC F.BASSET	10:10 – 11:10
3	Day-Ahead Capacity Calculation <ul style="list-style-type: none">• 2nd amendment: AHC implementation• DA CCM 3rd RfA status update• SPAICC status update• Debrief on annual survey	P.BAUMANN, C.ZIMMER, N.FARROKHSERESHT J.BOYER	11:10 – 13:00
			LUNCH: 13:00 – 14:00
4	Core Website <ul style="list-style-type: none">• Feedback provided	K.KNAUS	14:00 - 14:20
5	Core CCR Program Management <ul style="list-style-type: none">• Update on Core CCR Roadmap• Geographical Extensions	STK managers; Core Sponsors	14:20 – 14:50
6	AOB & closure <ul style="list-style-type: none">• Next Core CG meeting	STK managers	14:50 – 15:00
	APPENDIX <ul style="list-style-type: none">• Glossary of common abbreviations		



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	<ul style="list-style-type: none">• Capacity calculation	<ul style="list-style-type: none">• Capacity allocation
Intraday Auctions (IDA)	<ul style="list-style-type: none">• Capacity calculation (IDCC)	<ul style="list-style-type: none">• Timings• Products & user interfaces• Central testing
Advanced Hybrid Coupling	<ul style="list-style-type: none">• Design & Implementation into DACC• Impact assessment	<ul style="list-style-type: none">• Testing allocation algorithm• Central testing
15 min MTU	<ul style="list-style-type: none">• Regional testing	<ul style="list-style-type: none">• Timings• Products & user interfaces• Central testing



European Union Agency for the Cooperation
of Energy Regulators

Core Intraday Capacity Calculation methodology 2nd and 3rd amendment

ACER-ELE-2023-010

Core Consultative Group meeting
23 November 2023

Generally accepted topics

- **Additional intraday capacity calculation round at 04:00**
 - in order to provide the capacities on the basis of up-to-date CROSA output

- **Removal of optimisation of non-costly remedial actions (nRAO)**
 - as there is no time to perform nRAO in the intraday capacity calculation window

- **Lowering Flow reliability margin (FRM)**
 - to be \leq than the FRM at day-ahead level
 - if 10% universally applied at day-ahead \Rightarrow 5% at intraday

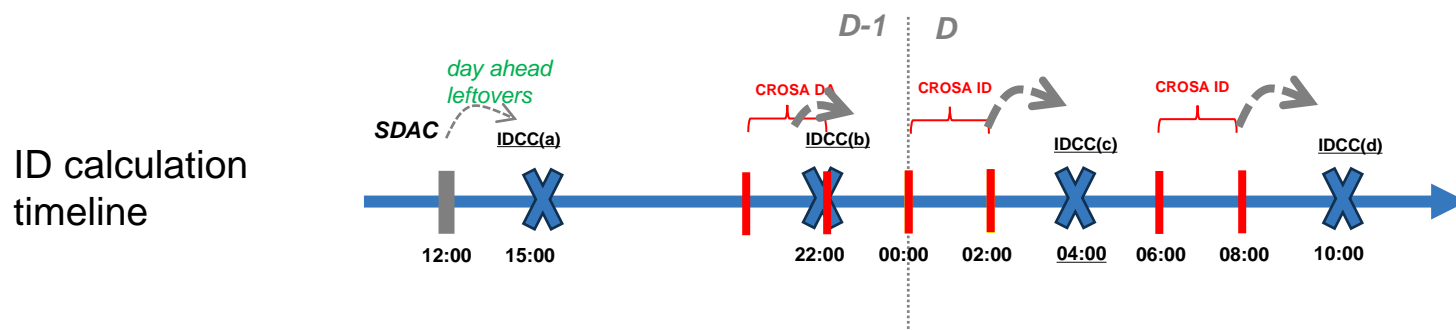
- **ATC-based validation**
 - Agreed to be implemented as temporary procedure

Introduction

- 2nd & 3rd amendment of Core Intraday Capacity Calculation methodology: referred to ACER in April
- Certain improvements of ID capacity calculation agreed among Core TSOs, NRAs and ACER
- Two topics raised lots of discussion:
 - Possibility for TSOs to extend the list of critical elements
 - ACER opened to temporary allow such possibility, for TSOs to gain experiences and adjust the methodology
 - Application of the 70% requirement at ID timeframe
 - ACER has included the 70% requirement in the proposal, as minRAM
 - Topic still controversial: no consensus do far
 - Dedicated workshop The Commission - all NRAs – ACER held on 10 November
- The decision on the Core ID CCM is further postponed, to provide more time for consultations & finding compromise

Calculation timeline | Implementation phases

ROSC/CROSA outputs, as inputs to Intraday Capacity Calculation (IDCC)



- Agreed:
 - additional intraday capacity calculation round at 04:00 (in order to provide the capacities on the basis of up-to-date CROSA output)
- Still under discussion:
 - timing of implementing different IDCC phases
 - timing of inclusion of the 70% requirement

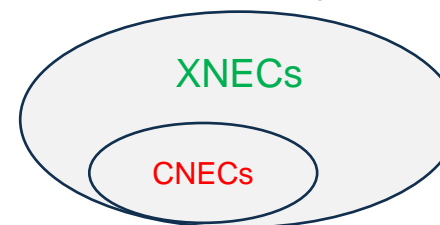
- IDCC: Intraday capacity calculation
- ROSC: Regional Operational Security Coordination
- CROSA: Coordinated Regional Operational Security Assessment

- IDCC(a) (DA leftovers): capacities provided at 15:00 D-1, with IDA1, for MTUs 0-24
- IDCC(b): start 20:30, end 21:45, capacities provided at 22:00 D-1, with IDA2, for MTUs 0-24
- IDCC(c): start 02:00, end 03:45, capacities provided at 04:00, without IDA, for MTUs 6-24
- IDCC(d): start 08:00, end 09:45, capacities provided at 10:00, with IDA3, for MTUs 12-24

XNEC-CNEC conversion

The network elements to be considered in the ID capacity calculation

- ROSC process “sees” majority of the network, and resolves congestions on both CNECs and “deeper” internal network elements
- When ROSC outcome is provided to the ID capacity calculation, the IDCC “sees” only CNECs



XNECs are network elements considered in ROSC;
≈ all elements $\geq 220\text{kV}$

CNECs are network elements considered in capacity calculation;
XNECs with PTDF $\geq 5\%$

- Core TSOs want to be able to convert all XNECs to CNECs, in order to prevent congestion to re-appear
- ACER is concerned on how to prevent undue discrimination of cross-zonal flows
 - CACM Article 29(3)(b) requires capacity calculation to ignore the elements with low sensitivity to cross-zonal exchanges (hence the PTDF threshold of 5% to select CNECs)

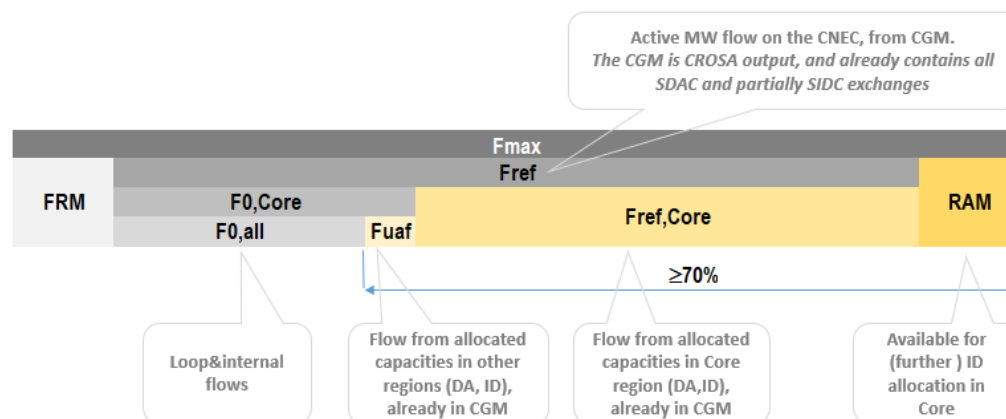
Potential compromise: transitional period for TSOs to set up a valid threshold & ensure equal treatment of cross zonal and internal exchanges

- ID CCM: Intraday capacity calculation methodology
- ROSC: Regional Operational Security Coordination

- XNEC: cross-border-relevant Network Element (with Contingency)
- CNEC: Critical Network Element (with Contingency)
- PTDF: Power Transfer Distribution Factors

70% requirement at ID

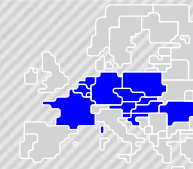
- Adjustment for minRAM as a mean to comply with 70% requirement, included in ACER's proposal
- Concerns (NRAs, TSOs) on the applicability, as no more time to engage Redispatching at Intraday
- Besides RD (where available/efficient), ACER expects TSOs to consider longer term measures (investments, BZ reconfiguration)
 - until they are available, NRAs can provide derogations
 - besides that, ACER considers certain implementation period for introducing 70%



- CGM: Common Grid Model
- UAF: Unscheduled Allocated Flow
- RAM: Remaining Available Margin

2. Intraday Capacity Calculation

F. BASSET



Update on IDCC(a) EXT//run

Reminder

- The following processes for IDCC are foreseen:

Time	Source	CC process (old naming)	CC process (new naming, introduced by ACER)	Allocation process
D-1 15:00	D2CF	DA leftover	IDCC(a)	IDA1 + Continuous trade (IDA1 leftovers)
D-1 22:00	DACF	IDCC1	IDCC(b)	IDA2 + Continuous trade (IDA2 leftovers)
D 04:00	IDCF	IDCC3	IDCC(c)	Continuous trade
D 10:00	IDCF	IDCC2	IDCC(d)	IDA3 + Continuous trade (IDA3 leftovers)
D 16:00?	IDCF	IDCC4?	IDCC(e)?	Continuous trade

- Core TSOs await ACER's decision to assess the way forward and create a roadmap with go-live dates
- Meanwhile, Core TSOs continue with the EXT//run for IDCC(b) and are starting up the EXT//run for IDCC(a)

Core TSOs inform Core CG that the IDCC(a) EXT//run is expected to start on 04/12/2023 for BD20231205. The results will be published [\[link\]](#)

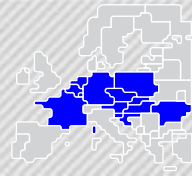
Core TSOs perform this EXT // run using the current ID CCM as reference. This involves setting parameters on the amount of virtual capacity from the DA domain that is used as starting point to calculate the left-overs

- The following parameters are used for the start of the EXT//run:

Parameters start of EXT//run	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	0,2	0,2	0,2	0,2	0,5	0,2	0,2	0,2	0,2

Core TSOs inform Core CG on the dedicated section for intraday on the Q&A market party forum.

- URL to forum: https://coreforum.my-ems.net/yaf_topics12_Core-FB-IDCC-project.aspx



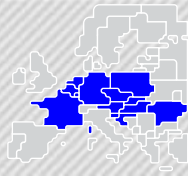
2nd amendment: AHC implementation - Overview

Background and reminder

- Hybrid coupling ...
 - ... refers to the combined use of FB and ATC constraints in one allocation mechanism (in this case, SDAC/EUPHEMIA)
 - ... can be designed as “Standard” (SHC) and “Advanced” (AHC) (see Annex)
 - SHC: Based on best forecasts of exchanges
 - AHC: Based on PTDFs and RAMs (like Evolved Flow-Based, e.g., ALEGrO)
- Advanced hybrid coupling ...
 - ... is used at borders between two bidding zones (BZ) where one is outside of the Capacity Calculation Region (CCR) under consideration and both BZs are in the same implicit market coupling (i.e., SDAC). Note: AHC is not an option for bidding zones outside SDAC (e.g., Switzerland, UK)
 - ... can be applied for DC and/or AC borders or mixed borders
 - ... can be introduced without formal alignment with neighboring CCR (but neighboring CCR can introduce AHC vice versa)
 - ... ensures non-discriminatory competition for scarce CNEC capacity on grid elements influenced by multiple CCRs
 - ... is meant to treat AHC borders as similar as possible to Core-internal borders
 - ... is expected to increase socio-economic welfare as the market arbitrates how to allocate scarce capacity instead of the ex-ante split
 -and is expected to improve operational grid security as forecast errors on these exchanges are no longer present

AHC in Core CCR

- Only SHC in use in Core CCR today
- Core TSOs obliged to introduce AHC
- Respective methodology drafted and publicly consulted in late 2022
- Current planning: AHC will replace SHC for 9 bidding zone borders ~mid 2025, thus after the introduction of 15' MTU in SDAC



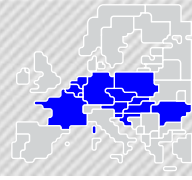
2nd amendment: AHC implementation – Switch from SHC to AHC

Make the switch from SHC to AHC in a technical nutshell

- A Virtual Hub is introduced for each border where AHC is applied
 - The net position of the Virtual Hub represents imports/exports from one single bidding zone outside of the Core
 - The net position of the Virtual Hub is linked to the exchange of a border in SDAC (resp. the “usage” of the ATC form other CCR)
 - Core CCR computes PTDFs with their own tooling that “map” the influence on the changes of flows on its CNECs
 - Market Coupling “considers” impact of change of cross-CCR imports/exports on the utilization of CNECs in the CCR
- Hence, Market Coupling implicitly derives imports/exports optimizing the overall social-welfare

Testing and stakeholder involvement concept

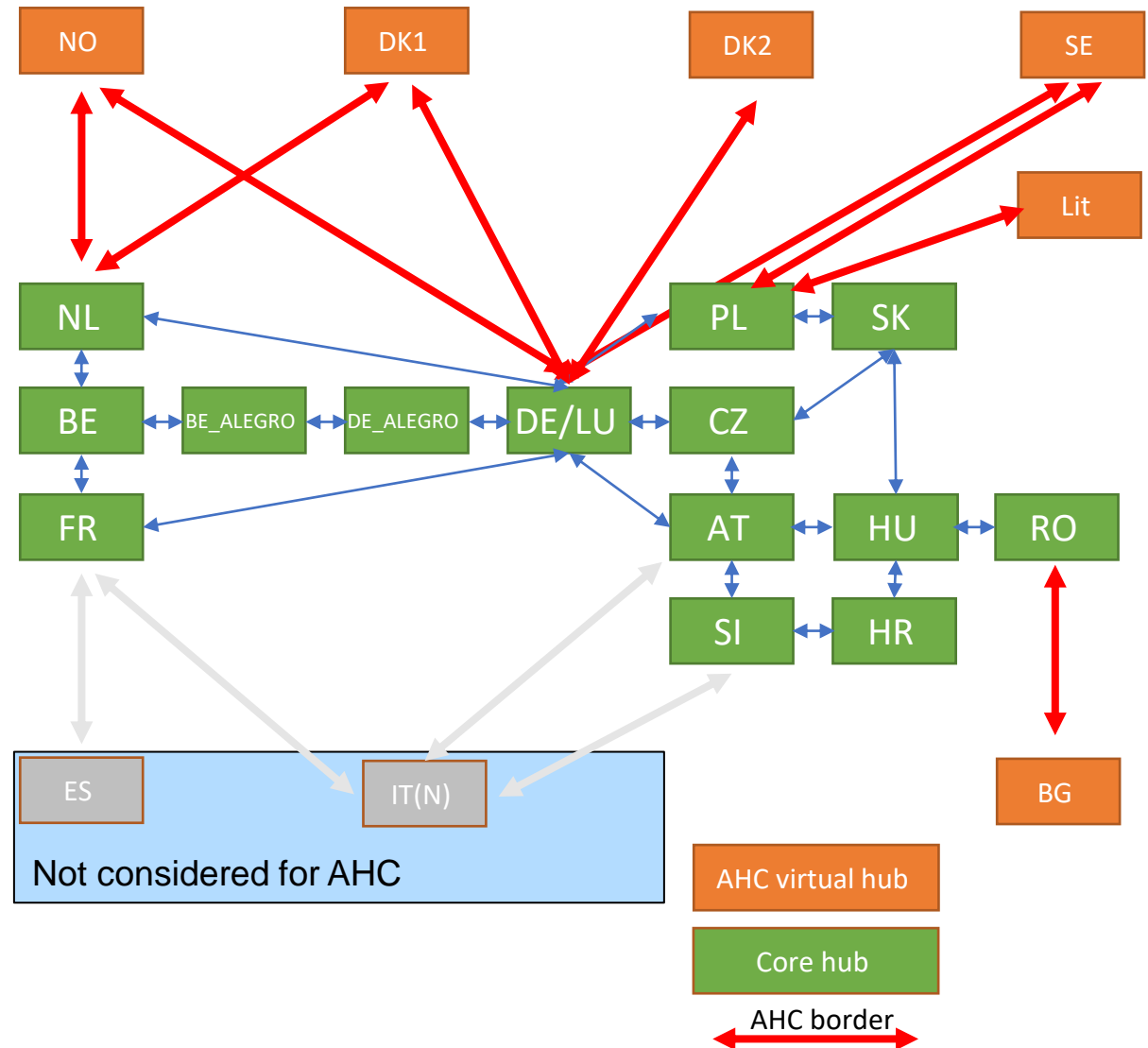
- Testing and implementation for 15 min MTU and AHC implementation interfere
- Extensive testing required due to significant changes in Core TSO IT landscape
- Testing and implementation timeline
 - Core TSOs shall have developed AHC by 31 March 2025
 - Core TSOs shall implement AHC by 30 June 2025, subject to the readiness of the SDAC
 - Before implementation of AHC, Core TSOs involve
 - Core NEMOs to test the implementation of AHC within the SDAC
 - Market participants to adapt to the effects of applying AHC



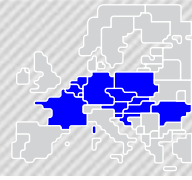
2nd amendment: AHC implementation – relevant borders

Go-Live configuration

- AHC can in principle be introduced for any border where BZ of “other side” is also in SDAC (“coupling”)
 - In agreement with ACER and the NRAs
 - Borders to ITN currently out of scope for AHC
 - High degree of interconnection and “meshedness”
 - Merger of CCRs Core and ITN is preferred solution
 - AHC only a fallback option
 - FR-ES border (CCR SWE) not part AHC
 - Only minor benefits expected
 - Core CNECs only hardly affected by FR-ES exchanges
- 9 relevant AHC borders in planned go-live configuration

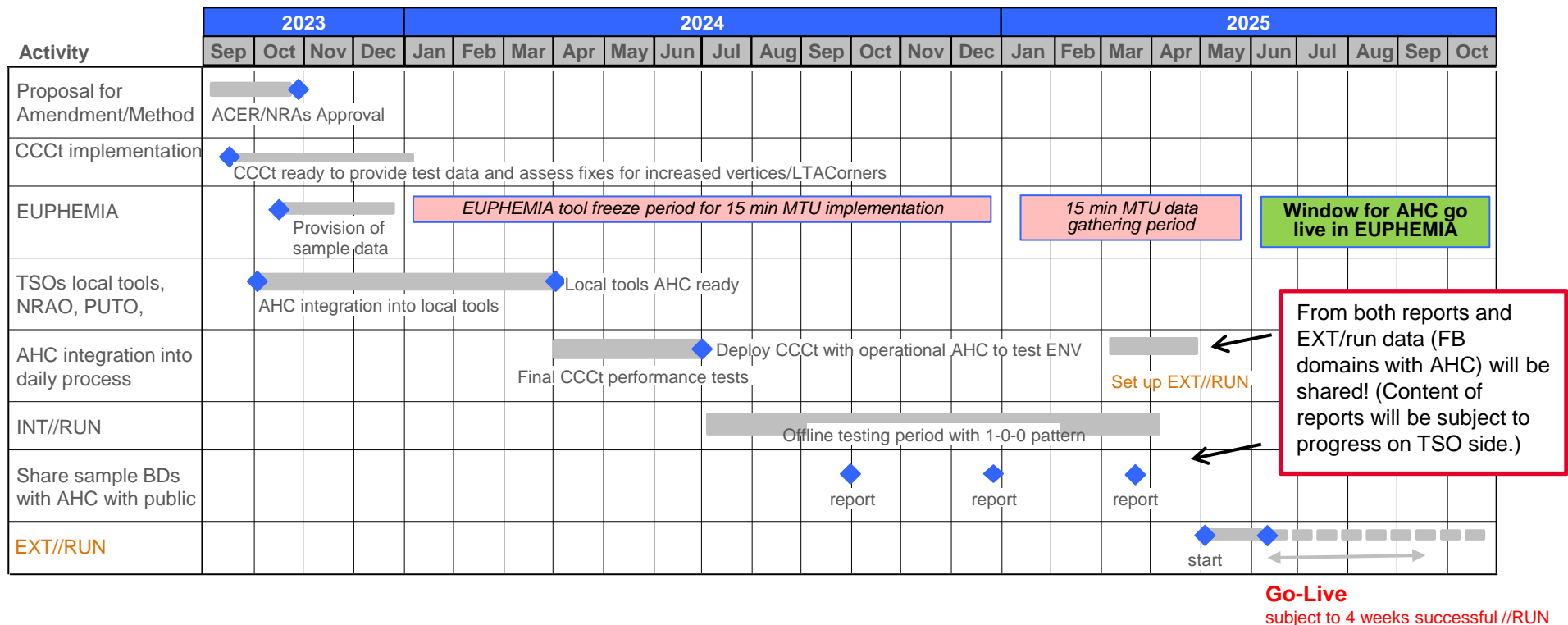


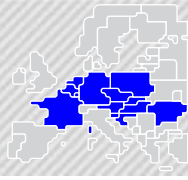
3. Day-Ahead CC



2nd amendment: AHC implementation – Detailed timeline

- AHC implementation in Core is contingent to 15 min MTU implementation in SDAC
 - SDAC prioritises 15-min MTU go-live over AHC
 - EUPHEMIA expected to be bottleneck in terms of AHC go-live
- Before AHC go-live, entire process chain on TSO and SDAC side needs to be prepared and tested
- Challenge: When AHC is introduced, 15 min MTU will be live but testing before 2025 conducted with 60 min MTU data
- Go-Live subject to readiness of SDAC // EUPHEMIA, Core TSOs ready 2025





DA CCM 3rd RfA status update

Background

- The DA CCM 3rd RfA was put for Public Consultation on the ENTSO-E website between 22/09 and 25/10 - [LINK](#)
- A total of 6 responses from MP have been received
- Core NRAs have provided their Shadow Opinion on 07/11

Core TSOs would like to express their gratitude for the feedback provided

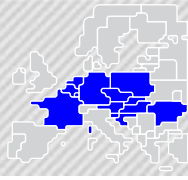
Feedback summary

- MPs ask for further clarifications regarding the:
 - Delayed due dates for studies
 - Reason for 10% FRM
 - Coordinated validation process
 - Proposal for circular flows around ALEGrO
 - Reasoning for extension of Polish allocation constraint
- Requests for increased transparency and reporting

Based on the feedback received Core TSOs are updating the DA CCM 3rd RfA and preparing a Consultation Report

Next step

- 08/12 - Submission of DA CCM 3rd RfA to Core NRAs

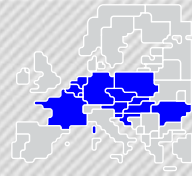


Disclaimer

- Formal feedback will be provided via the Public Consultation Report (to be issued in conjunction with the submission of the 3rd RfA to Core NRAs)
- The below is a first, preliminary feedback and might still be subject to change

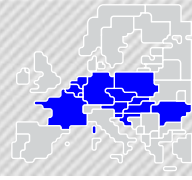
Preliminary feedback

- Coordinated validation
 - A methodology for Coordinated Validation is required to be designed as per Core DA CCM and not optional. The role of Coordinated Validation within the DA CC process chain is set by the DA CCM.
 - Coordinated validation tries to mimic congestion management planning processes including ROSC/CROSA but is entirely based on forecast of potential SDAC results (hence, ROSC/CROSA cannot be fully applied). Coordinated Validation and ROSC/CROSA remain two separate processes.
 - As per DA CCM, remedial actions (incl. redispatch) in the Coordinated Validation are used to alleviate congestion on network elements but are not used to further enlarge cross-zonal capacities
 - Parameters for the Coordinated Validation will be defined during implementation and published with justification/explanation
 - Any reductions, the circumstance under which they are necessary and a justification will be published (as with IVAs today)
 - GSKs are not published and will not be with the introduction of Coordinated Validation
- Delay in CNEC selection study
 - Subject of appeal by BNetzA in 2019
 - ACER Board of Appeal issued its decision on 7/7/2023 (following EU court ruling)
 - BNetzA appealed again and, by that, no concrete timing known



Preliminary feedback (continued)

- Delay in GLSK study
 - This shift is a response to a re-shuffling of priorities (among others, merge with Italy North)
- 10% FRM are to be seen in conjunction with CGM Improvement roadmap presented at last CCG on 18/4/2023
 - Improving CGM is expected to yield higher quality outputs/computations
- Proposal for circular flows around ALEGrO (N.B.: This is a preliminary status until further assessment has been completed. It is being investigated whether the problem can be solved by appropriate parameterization within the market coupling algorithm. If this is the case, the PTDF threshold for virtual hubs will be removed from Article 12 before submitting the RfA)
 - A parameter study with the aim of finding the best trade-off between maximizing operational security and maximizing economical social welfare would be performed to determine an adequate PTDF threshold. The outcome of the study would be shared with stakeholders before implementation.
 - The PTDF threshold for the ALEGrO virtual hubs would be applied after the NRAO optimization described in Article 16 and before the validation steps described in Article 20.
 - By computing the ALEGrO z2z-PTDFs in a separate step and applying a threshold, low sensitive CNEs on exchanges via ALEGrO would be identified. For these the ALEGrO z2h-PTDFs would be nullified.



Circular flow challenge caused by day-ahead schedules on ALEGrO: Problem description

Reminder

- ALEGrO is the first and only Core-internal cross-border HVDC link
- ALEGrO has been commissioned 2019 and was directly included in the CWE Flow-Based Market Coupling via the new “Evolved FB Method”
- HVDC link will be optimized in EUPHEMIA to maximize social welfare
- Calculated DA-schedule is used as basis for real-time operation

Elia & Amprion observed undesired behaviour in DA Market Coupling

- Circular Flows via ALEGrO
- ➡ Leading to highest loading of close by AC tie-lines whilst social welfare gain is very limited.

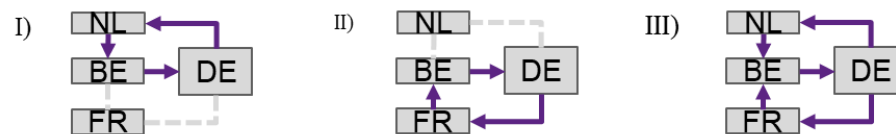


Fig. 1: Analysed types of circular flows with ALEGrO

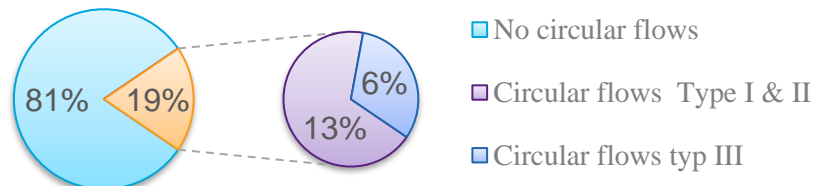
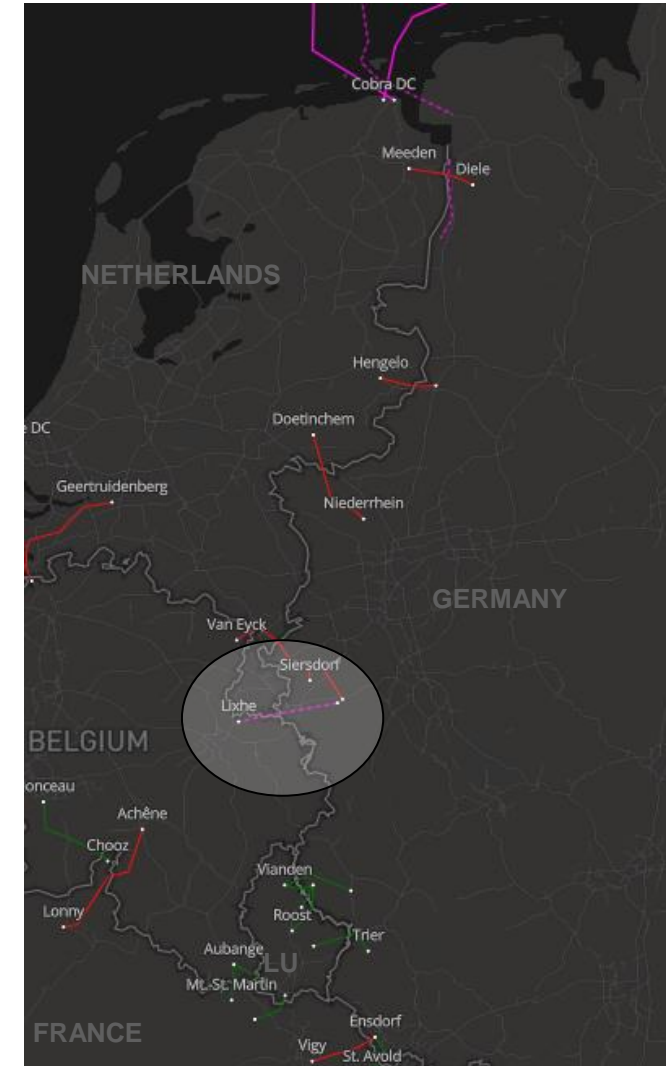
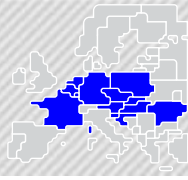


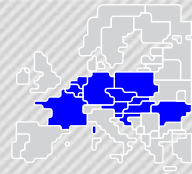
Fig. 2: Occurrence of circular flows in March 2023





Preliminary feedback (continued)

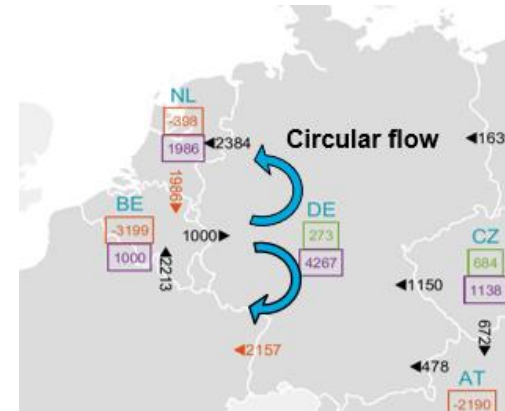
- Reasoning for extension of Polish allocation constraint
 - PSE highlights that allocation constraints are currently the only effective means to ensure secure operation of the Polish power system
 - Poland runs a Central Dispatching System
 - PSE is responsible for generation commitment and determining dispatch schedules (TSO acts similarly to a BRP)
 - The above concerns all „dispatchable generation”, meaning all large generation units connected to 110 kV and above
 - There is no explicit reserves procurement in Poland
 - No reserves are „put aside” by PSE for the sole balancing purpose (no generation capacity is withdrawn from the market)
 - Hence, there is a risk that market coupling will result in exchange schedules that threaten secure operation of the Polish power system (insufficient generation reserves)
 - This risk has been empirically proven by binding allocation constraints at times of very low upward of downward reserves
 - Balancing market is currently one of the market segments and does not have a sufficiently penalizing character



Circular flow challenge caused by day-ahead schedules on ALEGrO: DC-loss param. in EUPHEMIA

CAUSE of undesired Behaviour

- The undesired behaviour is attributed to very distant network elements with a low sensitivity to ALEGrO exchanges in the context of the social welfare maximization in Market Coupling.
- A slight relief of a very distant limiting CNEC is achieved by scheduling ALEGrO against the market direction at the cost of circular flows and full loading of nearby CNECs leading to n-1 violations and application of costly remedial actions in real-time system operation. This comes along with a small social welfare gain.
- The circular flows have been observed mainly between the hubs BE, DE, NL and FR, counteracting operational security and reducing Intraday Capacities whilst only leading to a small social welfare increase in Day Ahead Market Coupling.



Transit & Loop Flow Non-Intuitive Flow

Saldo > 0: Export
Saldo < 0: Import

Fig: Core NP on Business Day:
19/03/2023 H11

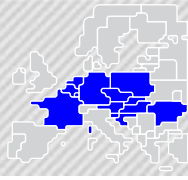
Possible Solution

- Introduce an ALEGrO z2z PTFD threshold (e.g., 0.5%)
 - Solution was tested and proved to be of help ¹
 - Impact on social welfare proved to be small
- Other solutions are still being investigated that might make the ALEGrO z2z PTFD threshold obsolete
- Introduction of ROSC will allow for modifying ALEGrO set point and thus make either of the options above obsolete

TS	CNE	CO	Loading @MCP RefCase	z2z PTFD AL DE-BE in % RefCase	Active Constraint	Presolved CNEC
11	[D8-D8] Pasewalk - Vierraden 306 [OPP]	N-1 TR Vierraden 220/400 402	90%	0.04%	True	True

Tab: Limiting CNECs with ALEGrO z2z-PTDF<0,5% for BD 19/03/2023, H11

¹ tested for March 2023



SPAICC status update

Reminder on the Approach:

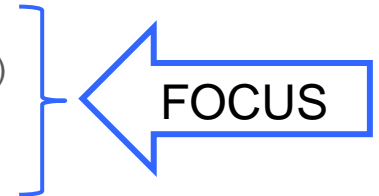
- Half-yearly SPAICC publication linked to the SGM for the targeted period → 2 SPAICC publication/year
- 5 reference days + 2 extra variants to cope for long duration outages (all outages >3 months are grouped together for 1st half and 2nd half of the targeted period)

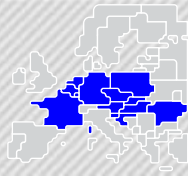
Actual status

- SPAICC HLBP is ready and validated by Core TSOs

Next steps

- 1st hurdle: creation of updated CGM
 - Development of tools to allow for grid model adaptations of the reference days (not before 2024)
 - Adapt the SPAICC process description document accordingly
 - Test merging approach and re-adapt grid model tools (Q1 2024)
- 2nd hurdle: initial FB calculation on the new input in the common capacity calculation tool (TBD)
- 3rd hurdle: check whether local processes can keep working (TBD)
- 4th hurdle: check whether final CC results make sense (TBD)
- All those test will be done for 1 BD, once validated FBE PT can set up a plan for the first try out on the half-yearly SPAICC execution (target mid 2024)





Debrief on annual survey: Quality of data published – Background

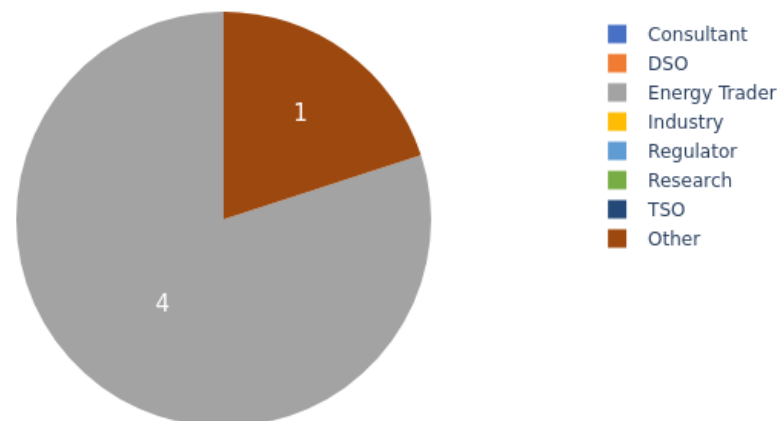
Background

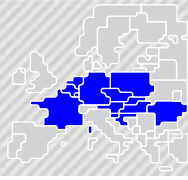
- In accordance with the Core DA CCM, a satisfaction survey needs to be run every year and the results to be included in the annual report (which is planned to be published by Q1 2024) about the quality of data published and the ease-of-use of data retrieval from the JAO platform
- The survey is a part of the annual report and is related to JAO Core FB MC page & JAO Publication Tool
- The survey is the official channel for Market Participant to provide their feedback
- The survey was set up on the ENTSO-E website ([LINK](#)) and the feedback received was processed by the Reporting TF

Although the survey ran for >1 month and was announced in a prior Core CG, there were only 5 survey responses

- 2/5 responses were confidential
- 4/5 responses were from “Energy Trader” stakeholder category

BREAKDOWN OF SURVEY RESPONSES, PER STAKEHOLDER CATEGORY





Observations on all functionalities covered by the survey – excluding the JAO Publication Tool pages

Frequency of use – functionality with highest rating	Frequency of use – functionality with lowest rating
API (4.7/5)	Monitoring Tool (3.0/5)

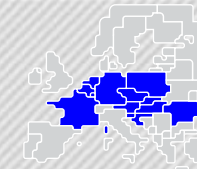
Clarity and completeness of information – functionality with highest rating	Clarity and completeness of information – functionality with lowest rating
Navigation, downloading the data (via GUI) (4.3/5)	Monitoring tool and all the regular publications/reports (3.0/5) <i>*Most polarized views seem to be on the Static Grid Model</i>

Observations on pages from the JAO Publication Tool (see also next slide)

- The most frequently used pages have an overall good average rating (>4.0/5) – marked in green on the next slide
- The lowest average rating for clarity and completeness was 3.0/5 for 3 pages:
 - The pages “Intraday ATC” and “Intraday NTC” are among the least frequently used
 - The page “Validation Reductions” would be more important, and an improvement was already introduced for the page in the form of more structured reporting information

3. Day-Ahead CC

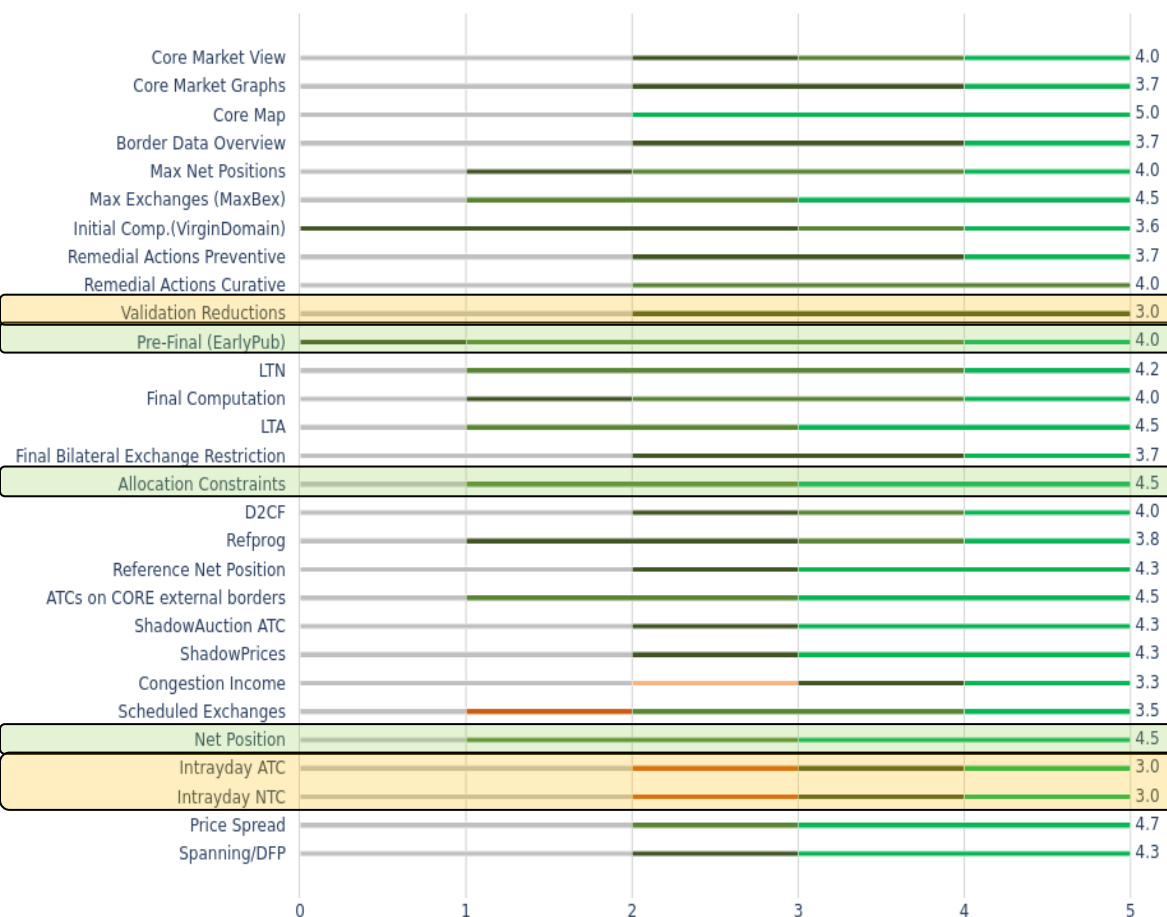
J.BOYER / C.DE VILLENFAGNE



Debrief on annual survey: Quality of data published – survey statistics

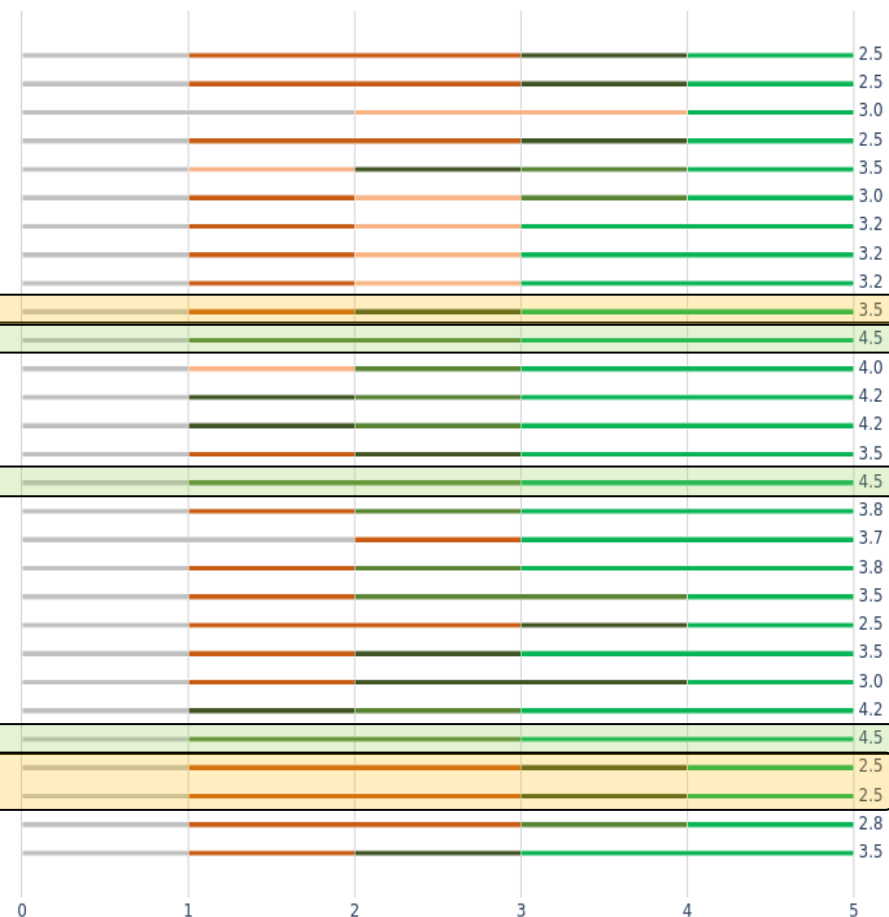
2/2

JAO Publication Tool Pages - clarity and completeness of information

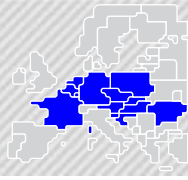


not answered 1 2 3 4 5

JAO Publication Tool Pages - frequency of page use



not answered 1 2 3 4 5



Debrief on annual survey: Quality of data published – Change requests to Publication Tool

Some improvements were flagged to increase the readability and definition of the data. These improvements will be implemented:

- Replace the term “Parameters” in the right-hand side section by a more adequate term :For PSTs, this should be "PST tap before NRAO" and "PST tap after NRAO"
- Rename the "baseline" and "after NRAO" - "PST tap before NRAO" and "PST tap after NRAO" for PSTs. Nothing expected for topo RAs
- Better naming of the labeling “R_amr” and “minRAM for Core target”

In the FB domain pages the MNECs will be filtered out

- This is in line with the CCM requesting to publish only the CNECs

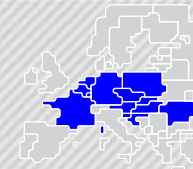
Clarification how to access the API:

- Add /API in the URL

Requests to add more features to the PuTo are not pursued:

- Changing download functionality compromises performance
- Adding graphs/visualization is considered a nice to have and not a key priority for Core TSOs

3. Day-Ahead CC



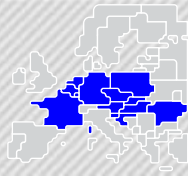
Debrief on annual survey: Quality of data published –Handbook enhancement

Core TSOs will update the Publication Tool Handbook, this is planned by end of this year.

Description of the problem	JAO page or data retrieval	Action type	Action to take	Responsible party	priority
Improve the explanation of how Max Net Positions is obtained in the handbook	Min/Max net position	Handbook update	Reporting TF will prepare wording proposal for Handbook additional explanation and contact JAO when all changes are worked out.	Reporting TF	Medium
Improve the explanation of how MaxBex are obtained in the handbook	MaxBEX	Handbook update	Reporting TF will prepare wording proposal for Handbook additional explanation and contact JAO when all changes are worked out.	Reporting TF	Medium
Improve the explanation of LTN in the handbook Detail further the fact that only borders with PTRs are shown	LTN	Handbook update	Reporting TF will draft reply and refer to handbook	Reporting TF	Medium
Give a description of the precise formula used to compute the maxZ2Zptdf in the handbook	ShadowPrices	Handbook update	Reporting TF will check if adding a formula in the Handbook is ongoing/already planned and contact JAO when all changes are worked out.	Reporting TF	Medium
The published data relates only to DA schedules and not compounded long term nomination + DA schedule	Scheduled exchanges	Handbook update	Reporting TF will check that the handbook is updated to clarify this point and contact JAO when all changes are worked out.	Reporting TF	Medium
Improve the explanation in the handbook by including additional information in the publication handbook about what the Default FB Parameters	Spanning DFP	Handbook update	Reporting TF will ensure that the handbook is updated to refer to Art 22 of the CC Mand and contact JAO when all changes are worked out.	Reporting TF	Medium

4. Core Website

K.KNAUS/L.ZWIEB



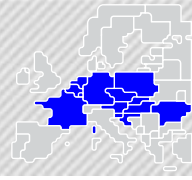
Initial Feedback from the Austrian Energy Agency

Reminder

- In June '23 the dedicated Core section on the ENTSO-E website was launched. Market parties that provided input for the website were asked for feedback.
- The Austrian Energy Agency provided extensive feedback, which will be presented today and considered further.

Feedback as provided by the Austrian Energy Agency

- See next slides



Core dedicated section

Initial Feedback



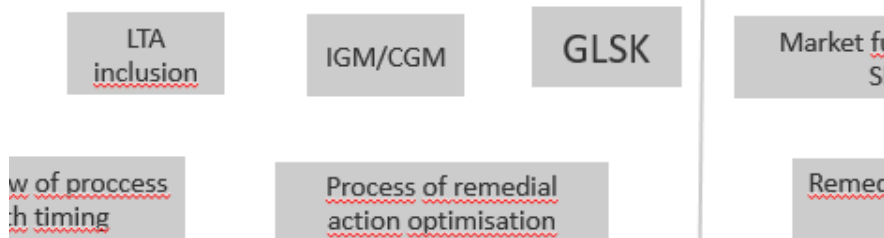
Austrian Energy Agency (AEA) | CORE CCG
Karina Knaus, Lukas Zwieb | 23rd of November 2023

Launch of Core Dedicated Section

Scope of Feedback

t group: e.g. employees of market participants / Guideline for ne

Scope of the flow chart



Prio

Include different levels
(top-down approach)

Expla
abbre

The flow chart will give an overview of the overall Day-Ahead capacity calculation process and allocation. There is a basic version that will give a first overview of the steps involved and an expert version that provides a more detailed view. The resulting flow chart should help market participants, TSOs, regulators and experts to see the „big picture“ and the **interactions** between all the steps involved in the processes. It should provide access to the underlying information (published data, relevant documents) but also provide an overview.

(1) Overview of the process (2) access to information
It focuses on items that are related to the daily process.

Definition ►►

◀◀ Initial thoughts prior to launch

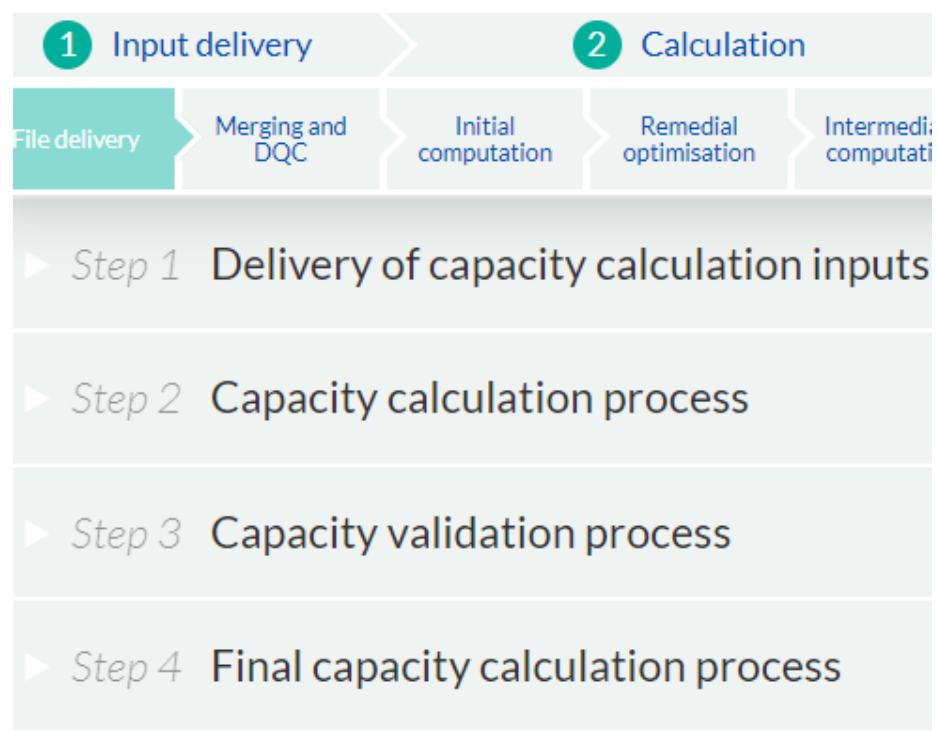
- On target groups
- Scope, format etc.

► Online now:

<https://www.entsoe.eu/bites/ccr-core/about/>

► Collection of feedback from Austrian market participants (also new employees) and AEA analysis of website

Key recommendations have already been implemented in the current version



- ▶ First attempt to compile relevant information in such a fashion
- ▶ Includes many recommendations from initial report such as
 - Interactive flow chart
 - List of abbreviations
 - Explanatory video
- ▶ Positive feedback also from new employees of market participants:
 - “really helps to understand what is going on”

Some necessary and **key improvements** would still be needed to enhance user experience further

(1) Legal section

- ▶ Big challenge for users not in daily information loop between TSOs and regulators
- ▶ Unclear which documents/deliverables are in force
- ▶ No consolidated versions

(2) Search Engine Optimisation

- ▶ Important way for users to obtain information quickly
- ▶ Enables users to re-find documents by googling them

(3) Mouseovers

- ▶ Enables users to understand abbreviations / important concepts quickly
- ▶ Particularly helpful for flow chart

(4) Glossary

- ▶ Glossary would take abbreviations one step further
- ▶ Provides context

(5) Data items

- ▶ Link or integration with publication tool would improve usability of flow chart even further

Contacts

Karina Knaus^{PhD}

Head of Economy, Consumers and Prices

karina.knaus@energyagency.at

T. +43 (0)1 586 15 24 - 115

Lukas Zwieb^{DI}

Expert

lukas.zwieb@energyagency.at

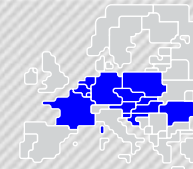
T. +43 (0)1 586 15 24 - 157

Österreichische Energieagentur – Austrian Energy Agency

Mariahilfer Straße 136 | 1150 Wien | Österreich

www.energyagency.at

Wir liefern Antworten für die **Energiezukunft**.



Introduction Roadmap

Reminder

- During the Core CG of April 2023, Core TSOs presented the Core Roadmap and the interdependencies between the Core implementation projects. This presentation is available [\[here\]](#).
- Core TSOs have in the past moments further updated the roadmap, incl. alignments on the prioritisation with NRAs and ACER.

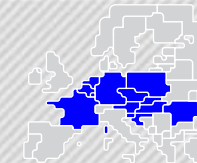
Please find on the next slide the Updated Core Roadmap (status as of August). The changes since the presentation in the CG of April 2023 include the following:

- DA timeframe
 - Switzerland consideration go-live moved from Q1 2024 to Q4 2025.
 - Date was TBC at the time of presenting in April 2023.
- ID timeframe - Go-live date(s) remain under assessment, to be performed upon
 - IDCC1 changed from go-live date mid-2023, to a go-live window from Q3'23 – Q1 '24
 - Go-live sending DA leftovers at 15:00 to XBID moved from Q4 2023 to Q2 2024
 - Go-live IDCC2 moved from mid-2024 to Q4 2024
- LT timeframe
 - LTCC CGMES go-live date moved forward from Q4 2028 to Q4 2027.

5. Core CCR Program Management

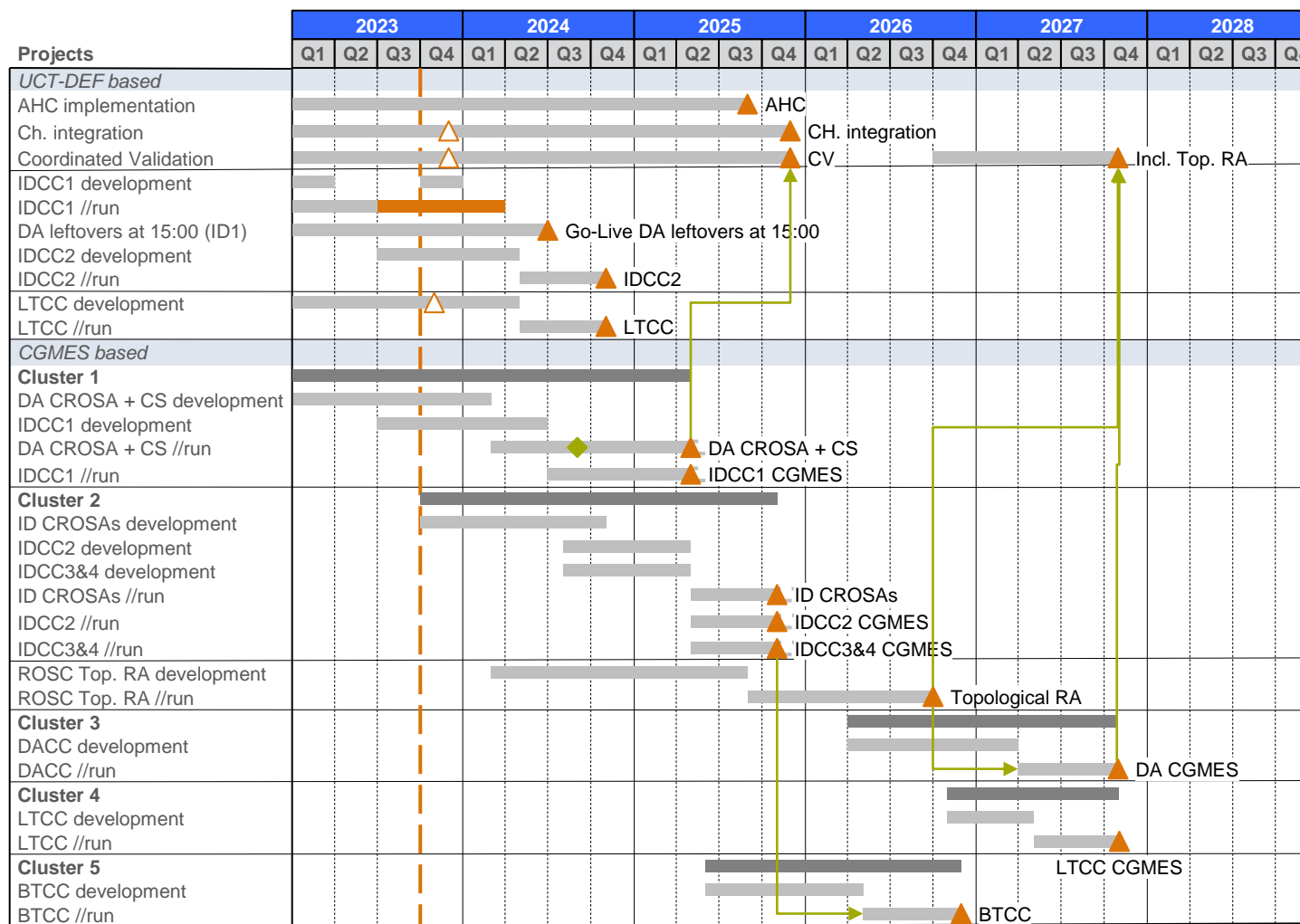
Core CCR integrated roadmap

R.OTTER



Roadmap status as of Sept '23

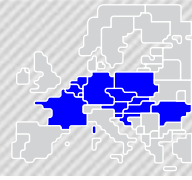
Disclaimer:
IDCC implementation subject to
ACER Amendment Approval.
Terminology will be updated in
next version of the roadmap



▲ Go-live milestone △ Submission of amendment

5. Core CCR Program Management

J.SCHWACHHEIM



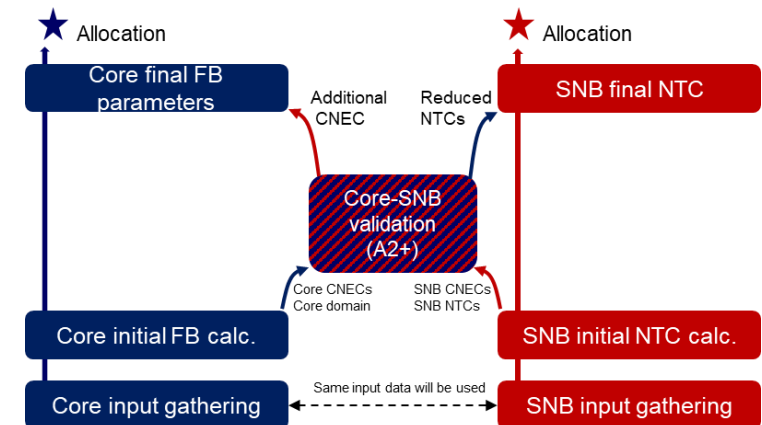
Geographical Extensions - Consideration of Switzerland

Background

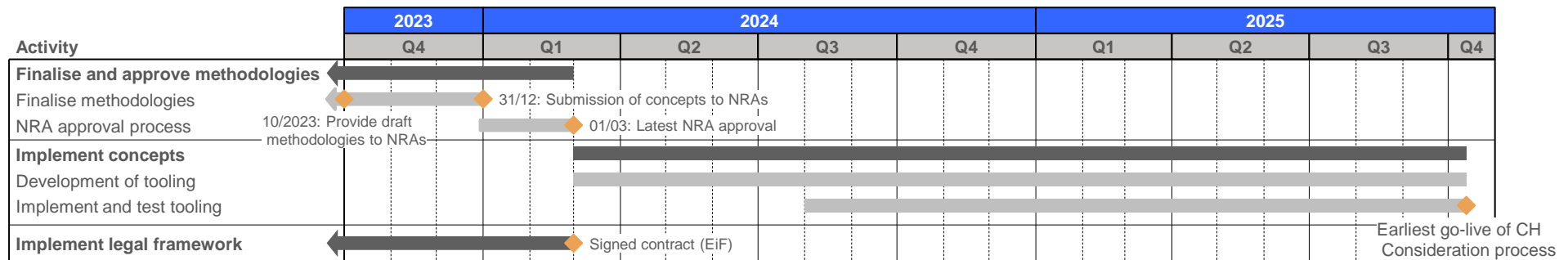
- Within a meshed grid, the flows from non-EU countries ('third countries') need to be accounted to secure grid operation for Core TSOs. For this reason, Core and Swiss TSOs are developing a methodology to consider Swiss network elements in the Core day-ahead capacity calculation (DACC) process.
- In May 2021, an amendment to the Core DACC methodology opened the possibility and set regulatory framework for enhanced coordination between Core TSOs and a technical counterparty (in this case Swissgrid). The operationalization of such enhanced coordination is subject to unanimous validation by all relevant NRAs.

Explanation of the Swiss consideration

- The Swiss consideration methodology package consists of:
 - a new process for Swiss Northern Borders Net Transfer Capacity calculation (**SNB NTC calculation**), shown in the red boxes, and
 - a new capacity validation schema (**Core-SNB cross-regional validation**), in which the capacities from the Core and SNB region are cross-validated, shown in the blue/red box.
- The new process interacts with the Core DACC, shown in the blue boxes.

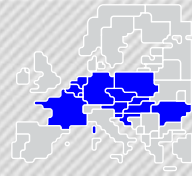


Timeline



5. Core CCR Program Management

R.OTTER

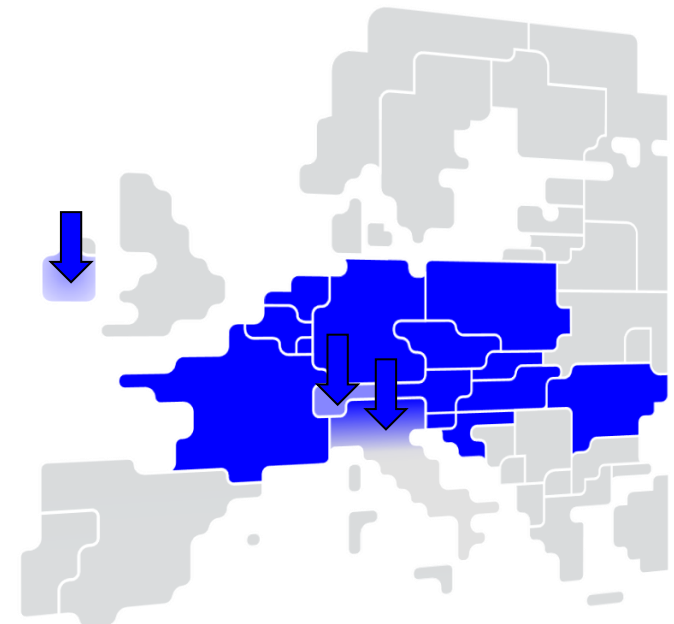


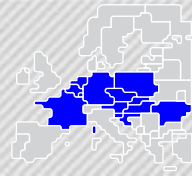
Geographical Extensions - Introduction

Background

- Currently Core CCR is treating the following geographical extensions:
 - Consideration of Switzerland
 - Integration of/merger with Italy North
 - Accession related to the Celtic interconnector Ireland-France
- For the sake of the integration of the Energy Community Countries Core TSOs considered the inclusion of the borders of Ukraine and Moldova into the Core CCR. It is more efficient to work focused on the implementation of the coordinated capacity calculation and allocation for Ukraine and Moldova in a dedicated cooperation (East CCR) with their neighbors. The Core integration of those countries is a long-term target.

On the following slides the background and status of the extensions currently treated is detailed





Background

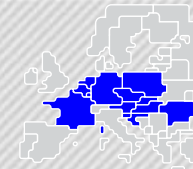
- The scope of the CCR determination concerns the bidding zone border FR-SEM, and the TSOs EirGrid and SONI

Eirgrid & Core TSOs are preparing for the accession of EirGrid to Core CCR

- EirGrid is being onboarded to the various Core processes by Core PMO team
- EirGrid received observership to Core CCR groups & meetings (no voting rights or cost-sharing obligations)
- Core TSOs will detail an accession approach to outline the necessary steps for accession to Core

Next steps

- The amendment of the CCR determination concerning the inclusion of Eirgrid in Core CCR is expected to be submitted by All TSOs to ACER by end of November.
- ACER decision on CCR determination to formalize accession
- Core TSOs and EirGrid to finalize the accession plan to the different Core processes
- Core TSOs, EirGrid & SONI to clarify the role and involvement of SONI



Geographical Extensions - Central CCR: merger of Core CCR with Italy North CCR

Background

- Two workshops have taken place with several Core & Italy North TSOs, NRAs and ACER on the merger of Italy North CCR with Core CCR for Day-ahead CC.
- ACER shared a letter with All TSOs (17/07) requesting an amendment of CCR determination for the DA timeframe, which is currently being prepared for Public Consultation by ENTSO-E.

Scope and activities of Central CCR

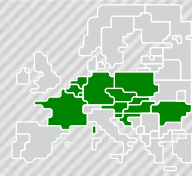
- The merger is about the DA timeframe thus the establishment of a joint DA capacity calculation methodology & process .
- Other activities remain in the Core CCR and IN CCR until decided otherwise

Organisation and governance

- Anticipating ACER's decision on CCR determination, following initiatives have already been taken:
 - Terna was given observership status to Core CCR meetings
 - Terna is having information sessions with Coreso on the Core DA process
 - A small merger TF (consisting of APG, RTE and TERNA and some Core NRAs) is drafting the governance for the Central CCR
- Once the decision is formal, a cooperation agreement (cost sharing, voting rules, etc) for Central CCR will be set-up, initially for the DA timeframe and ready to be extended to other obligations

Next steps

- Finalization and submission of amendment of CCR determination by All TSOs to ACER – expected by end of November
- Decision by ACER on the amendment of CCR determination
- First milestone: 12 months after decision by ACER, Central TSOs to submit a proposal for DA CCM



Next meeting and communication channels

Next Core Consultative Group in 2024

- Proposal: 12/03/2024
- Proposal: 17/10/2024

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

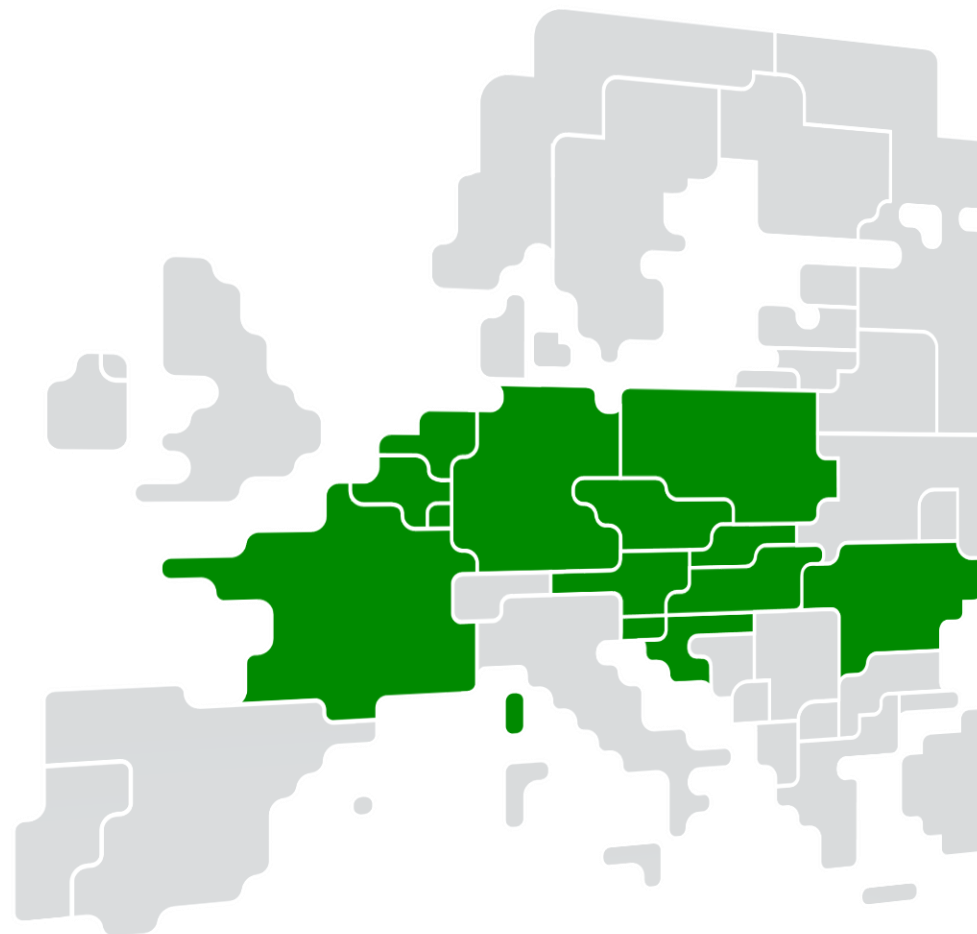
ENTSO-E newsletter

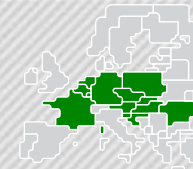
- Regular updates on the different CCRs (e.g., submitted methodologies, launch of public consultations)
- Subscription via <https://www.entsoe.eu/contact/>

Q&A forum on JAO website

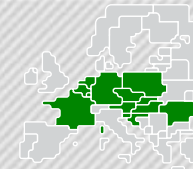
- Provides space to Market Participants to ask questions about the External Parallel Run and other relevant topics:
- Link: <http://coreforum.my-ems.net/>
- **New:** A dedicated section has been added for IDCC.

APPENDIX



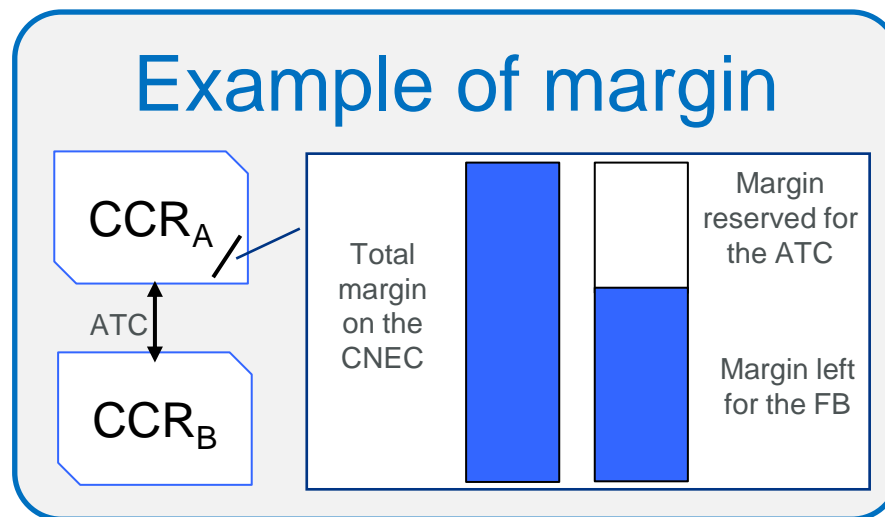
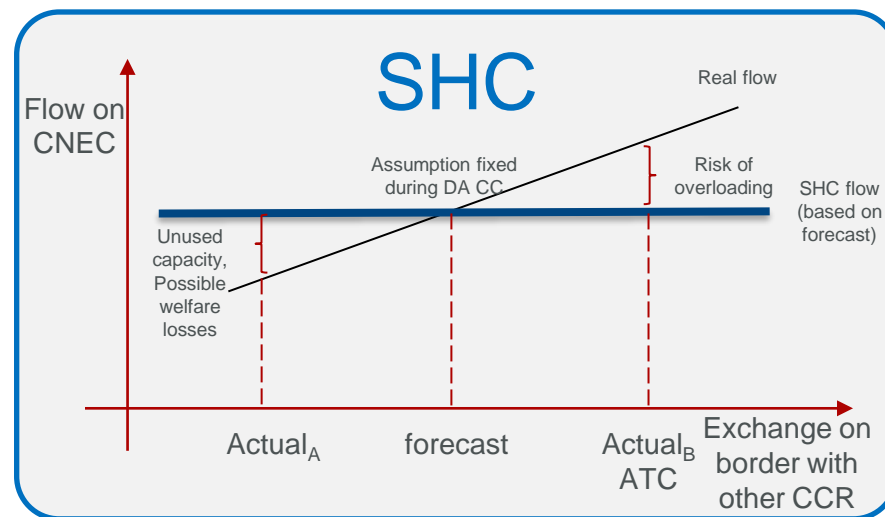


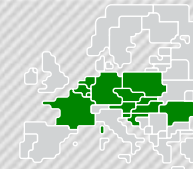
ACER	Agency for the Cooperation of Energy Regulators	IGM	Individual Grid Model
AHC	Advanced Hybrid Coupling	IVA	Individual Validation Adjustment
BZ	Bidding Zone	KPI	Key Performance Indicator
CACM	Capacity Allocation and Congestion Management	LF-SA	Load Flow Security Analysis
CC	Capacity Calculation	NRA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



“Old” approach in Standard Hybrid Coupling (SHC)

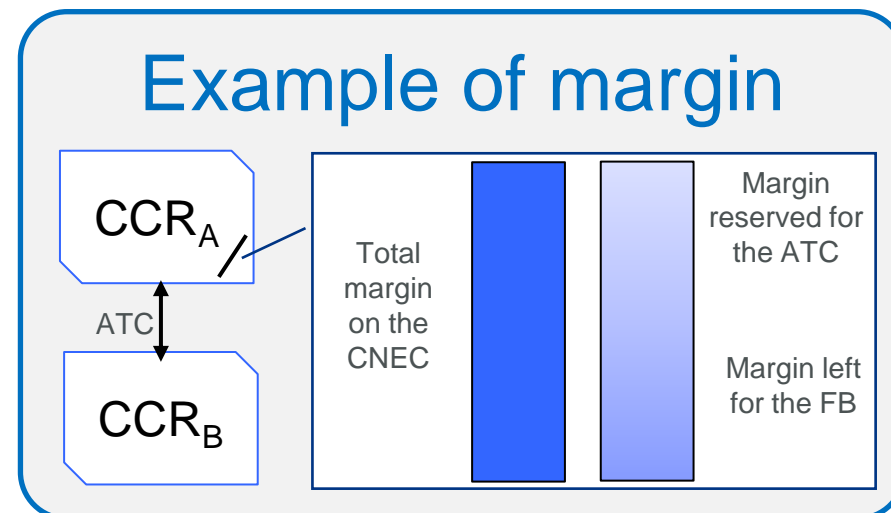
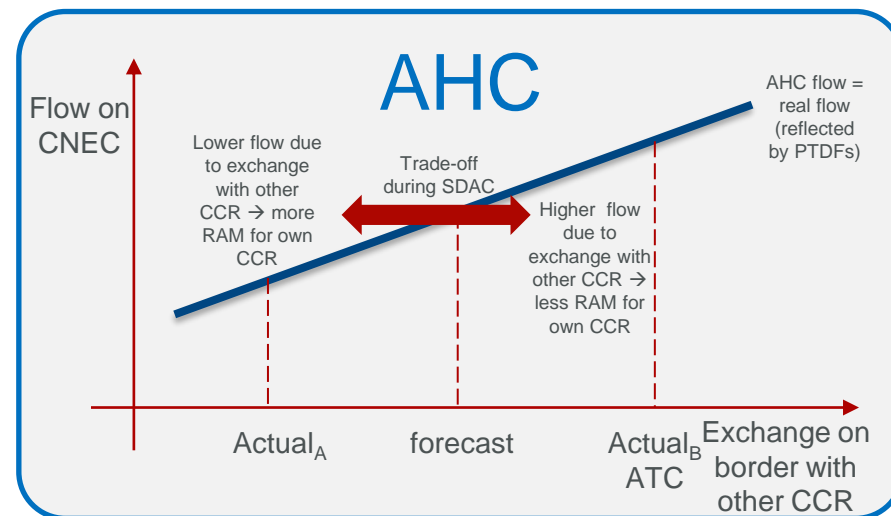
- Exchange on border with a BZ outside of Core CCR is forecasted in advance of market coupling in the SDAC
- Forecast is included in IGM (and thus CGM) as a fixed feed-in/feed-out
- Whilst SDAC exchange on a border between two BZs where one is outside of Core is allowed between 0 and ATC, any further limits caused by the impact on the flow on the CNECs are neglected
- Underestimation of reserved margin based on forecasted cross-CCR exchange:
 - Security margin must be considered (or risk of overloading, e.g., exceeding RAM)
- Overestimation of reserved margin based on forecasted cross-CCR exchange:
 - Unused capacity (causing welfare losses) might remain





Approach in the Advanced Hybrid Coupling (AHC)

- PTDFs map impact of exchanges with neighboring CCRs on the flow on the CNECs during market coupling
 - DC-only with a single HVDC line
 - PTDF based on HVDC terminals*
 - DC-only borders with multiple HVDC lines
 - PTDF based on fixed share (=GSK) for terminals
 - In perspective: Multiple Virtual Hubs
 - AC borders or hybrid AC/DC
 - PTDF based on GSK and IGM for neighboring BZ and HVDC terminals
- Exchange in market coupling limited by both ATC (computed in foreign CCR) and $PTDF * NP < RAM$
- AHC not based on forecasts anymore
- Capacity optimally allocated by the MC considering both CCR-internal and -external flows
- More efficient capacity allocation and flows depicted closer to reality and thus higher socio-economic welfare possible



* In case adjacent CCR is in synchronous area: both terminals (e.g., COBRACable)