

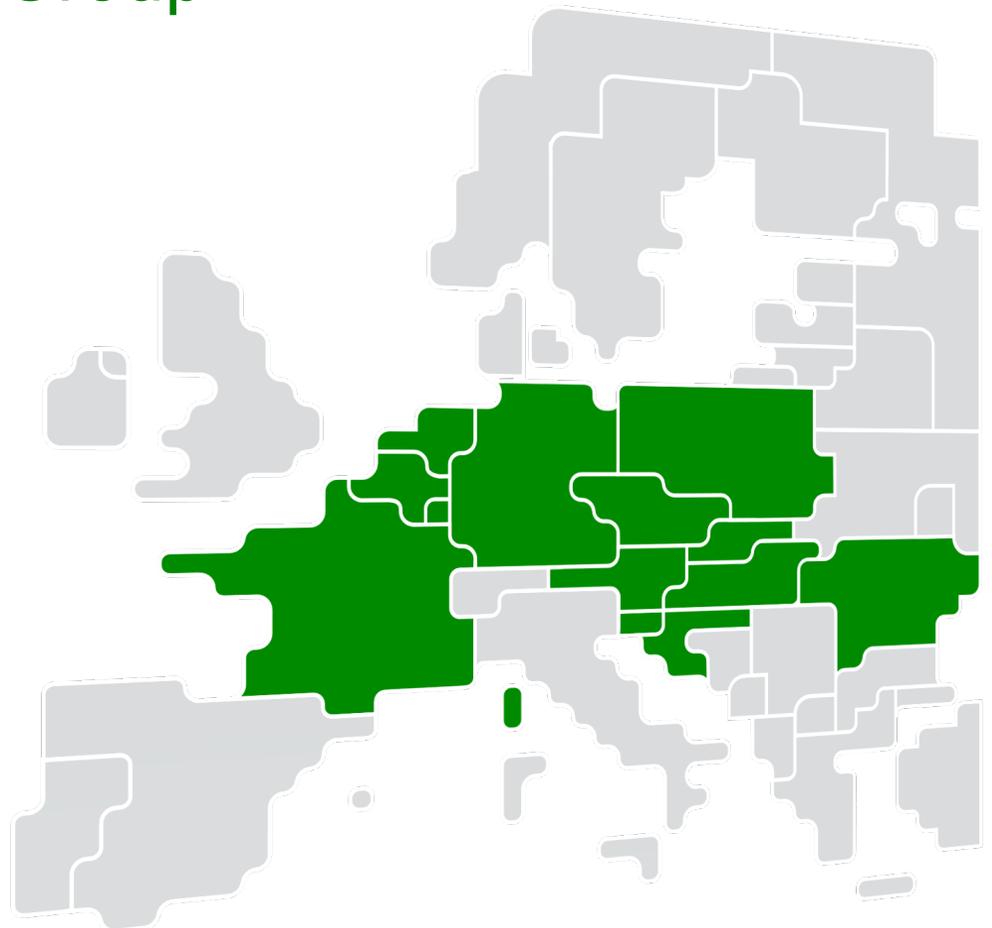


# Core Consultative Group

15-11-2022

10:00 – 15:00 (GMT+1)

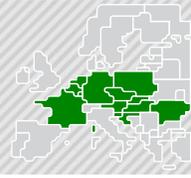
Microsoft Teams meeting



# 1. Welcome and Introduction

Practicalities, announcements and reminders

R.OTTER/  
H.ROBAYE



## Co-chairs



**Hélène ROBAYE**  
Market Participants, Engie



**Ruud OTTER**  
Core TSOs, Tennet BV

## 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



## Agenda

	SUBJECT	WHO	TIMING
1	<b>Welcome and introduction</b> <ul style="list-style-type: none"><li>• Announcements</li><li>• Agenda for today</li></ul>	H. ROBAYE	10:00 – 10:15
2	<b>Day Ahead Capacity Calculation &amp; Market Coupling</b> <ul style="list-style-type: none"><li>• First experiences Core FB DA MC</li><li>• Update on ID ATC leftovers</li><li>• Feedback on Failure of the DAVinCy process for BD 20220816</li><li>• Q&amp;A</li></ul>	M. PILS F. NAGY V. BRAUSSEN	10:15 – 11:15
3	<b>Publication of data</b> <ul style="list-style-type: none"><li>• Updates made to the Publication Tool since last CCG</li><li>• Market Parties' request for additional updates/fixes to the PuTo</li></ul>	R. OTTER Market Parties	11:15 – 11:30
4	<b>Intraday Capacity Calculation</b> <ul style="list-style-type: none"><li>• ID CC implementation update &amp; first results of INT//run</li><li>• Q&amp;A</li></ul>	B. MALFLIET	11:30 – 12:30
5	<b>Balancing Timeframe Capacity Calculation</b> <ul style="list-style-type: none"><li>• Update on BT CCM and Public Consultation outcome</li><li>• Q&amp;A</li></ul>	P. THOMAS	Lunch 12:30 – 13:30 13:30 – 14:00
6	<b>EBGL MBM</b> <ul style="list-style-type: none"><li>• Status update implementation</li></ul>	C. SPINDLER	14:00 – 14:30
7	<b>AOB &amp; closure</b> <ul style="list-style-type: none"><li>• Next CCG meeting</li></ul>	R. OTTER / H. ROBAYE	14:30 – 15:00
	<b>APPENDIX</b> <ul style="list-style-type: none"><li>• Glossary of common abbreviations</li></ul>		

## 2. Day Ahead Capacity Calculation & Market Coupling



### Core FB DA MC Project: learnings from the first months after go-live and next steps

Core Joint project parties published following a successful Core Flow-based day ahead go-live a message to all external stakeholders on 09/06 – [LINK](#)

- Core Flow-based go-live was well prepared and during the go-live there were only minor issues faced
- Issues faced resolved on short-term; proof all involved (supporting) parties were well prepared, experienced & knowledgeable

#### Main reasons for the successful and smooth go-live

- Extensive parallel run performed – for Core TSOs on production like systems
- Extensive testing period between Core Joint project parties
- Core TSOs migrated to production 2 months before Core FB DA go-live
- Experience from all involved parties in similar processes

#### Main challenges faced in the preparation towards the last phases of the go-live

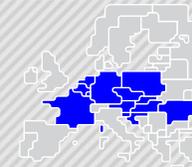
- Contractual agreements
- (Complicated) Design topics
- External parallel run in-depth analysis & interpretation
- Testing (organization & resolving issues faced)

The operations are stable, there was never a need to consider triggering a rollback and results were delivered as expected. In the last months of operations, 4 Core Market Coupling incidents occurred since Core DA MC go-live (08/06/22). None of these issues materialised in issues impacting the overall Market Coupling.

The first report related to Operational results post go-live were presented in MESC on 14/09 and during the CACM reporting seminar on 28/09. The latest operational KPI reports can be found here:

- <https://www.jao.eu/operational-kpi-reports>

## 2. Day Ahead Capacity Calculation & Market Coupling



### ID ATCs: Overview of discussions and improvements

Prior Core FB DA MC go live, Core TSOs implemented additional improvements to reduce frequency of ID ATC = 0 as much as possible to address the concerns on ID ATCs from TSOs, NRAs and MPs.

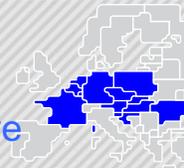
- ACER decided on the Core ID CCM amendment on 19/04 and Core TSOs have in the meantime implemented the changes.
- In the CERRF letter, Core NRAs requested TSOs to monitor ID ATCs and report on implemented and expected improvements.

Core TSOs aim to present and discuss the following updates on ID ATCs with Core NRAs

1. Overview of implemented and expected improvements
2. Analysis and comparison of ID ATCs 2 months prior and two months after Core DA FB MC Go-Live

1 Please find in below table the overview of implemented or expected improvements to the ID ATC process.

	Measures	Implemented	Ongoing activities	Comment
1	<b>Local parameters (rAMRid, rLTAincl)</b> <i>Influencing the size of FB ID ATC domain used as a basis for ID ATC extraction</i>	Parameters agreed before Go-Live <a href="#">[LINK]</a>	<ul style="list-style-type: none"> <li>• 50Hz will re-assess after ATC validation tool implementation</li> <li>• ELES is assessing an increase of rLTAincl</li> </ul>	TSOs can update these parameters individually after informing other Core TSOs.
2	<b>Central parameters (WSUM, PTDF_threshold)</b> <i>Algorithmic settings to make more efficient usage of DA leftover CZC</i>	Parameters agreed before Go-Live	Investigation to increase PTDF threshold to 1%, improving ID ATC capacities on some borders	Increasing PTDF threshold will also increase neglected flows
3	<b>Bilateral increase / decrease processes and validation tools</b> <i>Process to bilaterally increase capacities (max 300 MW) or individually decrease capacities</i>	All TSOs implemented a process or tool to define justifications	Some improvements are expected in Q4 2022 <ul style="list-style-type: none"> <li>• AVinCy TSOs (DE, AT, NL) plan to implement common validation tool in November.</li> <li>• Increase/decrease improvements under development for AT-CZ, AT-SI and AT-HU</li> </ul>	The impact on ID ATC values is to be assessed. ID ATC values might be lowered when there is better visibility on the risks
4	<b>Reporting</b> <i>Reporting and transparency obligations according to ID CCM Annex 5 Art 4</i>	<ul style="list-style-type: none"> <li>• Daily publication of FB &amp; LTA domain in PuTo</li> <li>• ID ATC adjustments justifications are gathered for Q3 report since 19/08</li> </ul>	Regular reporting according to ID CCM. <ul style="list-style-type: none"> <li>• First quarterly report for Q3 2022 in progress.</li> </ul>	



#### 2 Core TSOs compared ID ATCs between two months before and two months after go-live Core DA FBMC

- Such a comparison was requested by Core NRAs and market participants
- Data pre go-live: 9/4/2022 – 08/06/2022 → 61 days; 1464 MTUs
- Data post go-live: 9/6/2022 – 08/08/2022 → 61 days; 1464 MTUs

#### Data source, methodology and caveats

- ID ATCs as submitted to XBID for GOT 22:00 (*after* possible ID ATC adjustments).
- A threshold of 10 MW was applied (i.e. below 10 MW was considered as zero ID ATC)
- Oriented borders HU-SI and SI-HU are not considered in comparison, as data before commencement of commercial operation of HU-SI was not available
- **Disclaimer:**
  - **External effects on electricity market and current energy environment have an impact on ID ATCs because ID ATCs are extracted after SDAC and are therefore subject to the DA market results, on which higher allocated volumes are seen since Go-Live (see last KPI).**
  - **Other grid evolutions such as load, RES, generation, seasonal thermal thresholds, maintenance works could also impact the results**

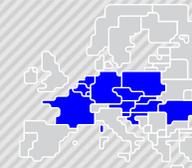
#### On average for the region, ID ATC values are close to operational values Pre Go-Live

- **Pre Go-Live:** 40% frequency of ID ATC = 0 & 974 MW average ID ATC
- **Post Go-Live:** 38% frequency of ID ATC = 0 & 580 MW average ID ATC

Core TSOs notice the regional differences on some borders and are continuing to work on improvements to maximize ID ATCs

## 2. Day Ahead Capacity Calculation & Market Coupling

F. NAGY

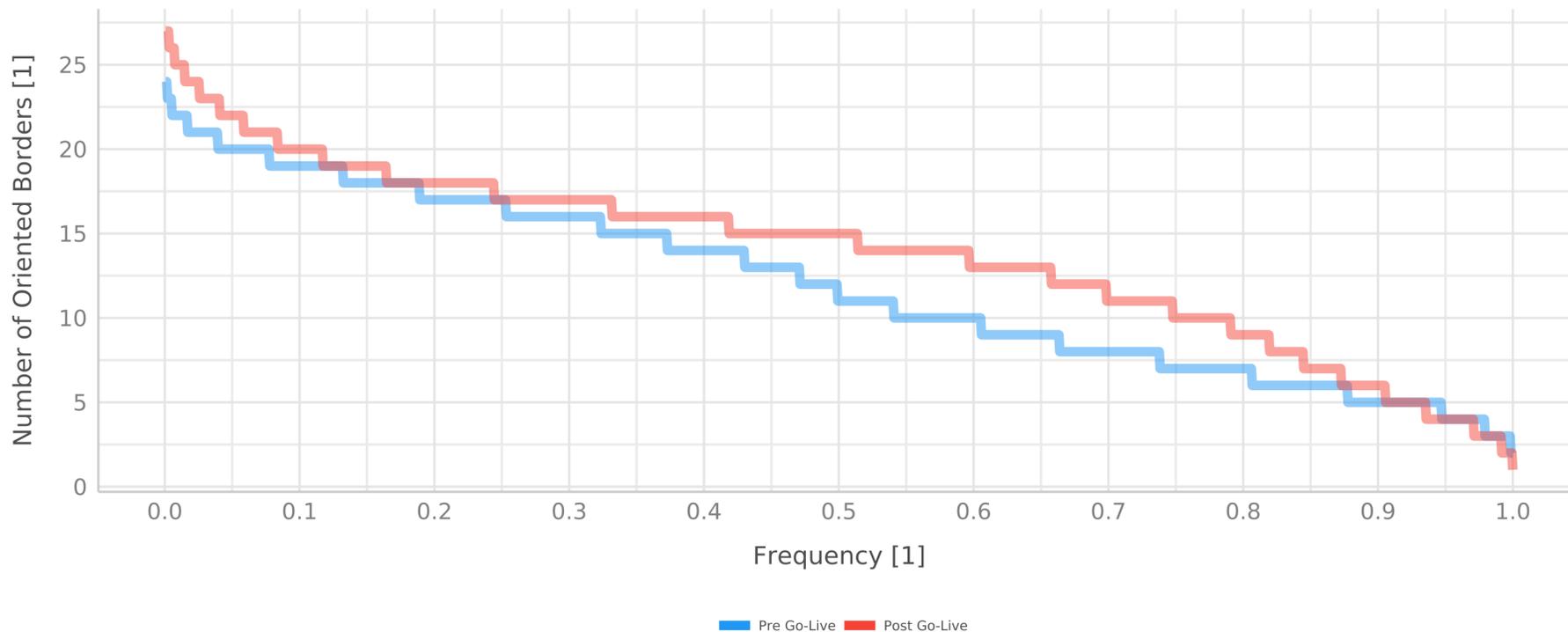


### ID ATCs: Duration Curve of Number of Core Oriented Bidding Zone Borders with Zero ID ATC

#### Duration Curve of Number of Core Oriented Bidding Zone Borders with Zero ID ATCs

Data Pre Go-Live from 2022/04/09 to 2022/06/08 - a total of 1464 MTUs

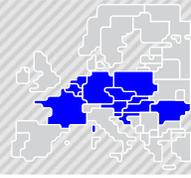
Data Post Go-Live from 2022/06/09 to 2022/08/08 - a total of 1464 MTUs



#### Observations:

- Number of oriented borders with zero ID ATCs after go-live (slightly) higher
- In both periods, ID ATCs were zero on some oriented borders (bottom right corner)

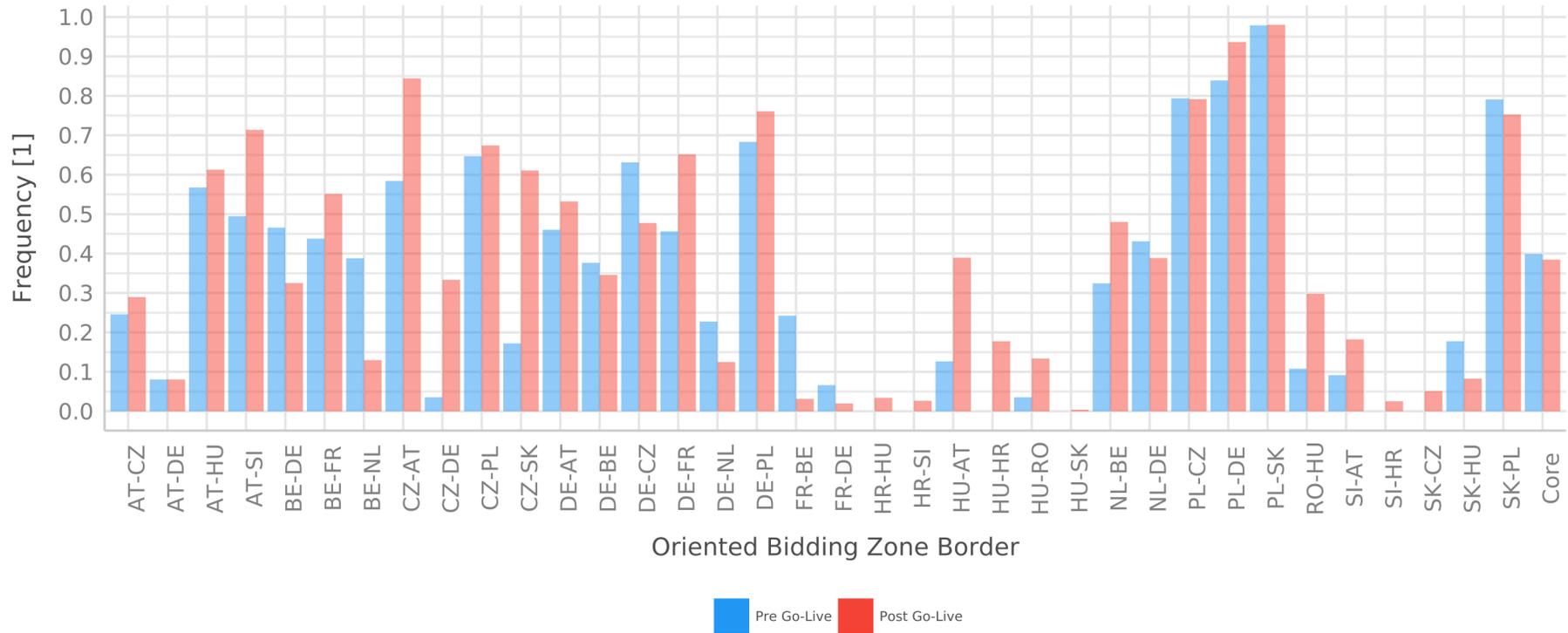
## 2. Day Ahead Capacity Calculation & Market Coupling



### ID ATCs: Frequency of Zero ID ATCs by Core Oriented Bidding Zone Borders

#### Frequency of Zero ID ATCs by Oriented Core Bidding Zone Border

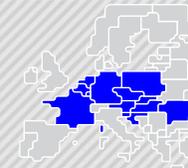
Data Pre Go-Live from 2022/04/09 to 2022/06/08 - a total of 1464 MTUs  
Data Post Go-Live from 2022/06/09 to 2022/08/08 - a total of 1464 MTUs



#### Observations:

- Increased frequency with zero ID ATCs on several oriented borders
- Higher frequency post go-live on AT-SI, BE-FR, CZ-AT, CZ-DE and HU-AT
- Lower frequency post go-live on BE-DE, BE-NL, DE-CZ and FR-BE
- Similar performance for Core as a whole (all the way to the right)

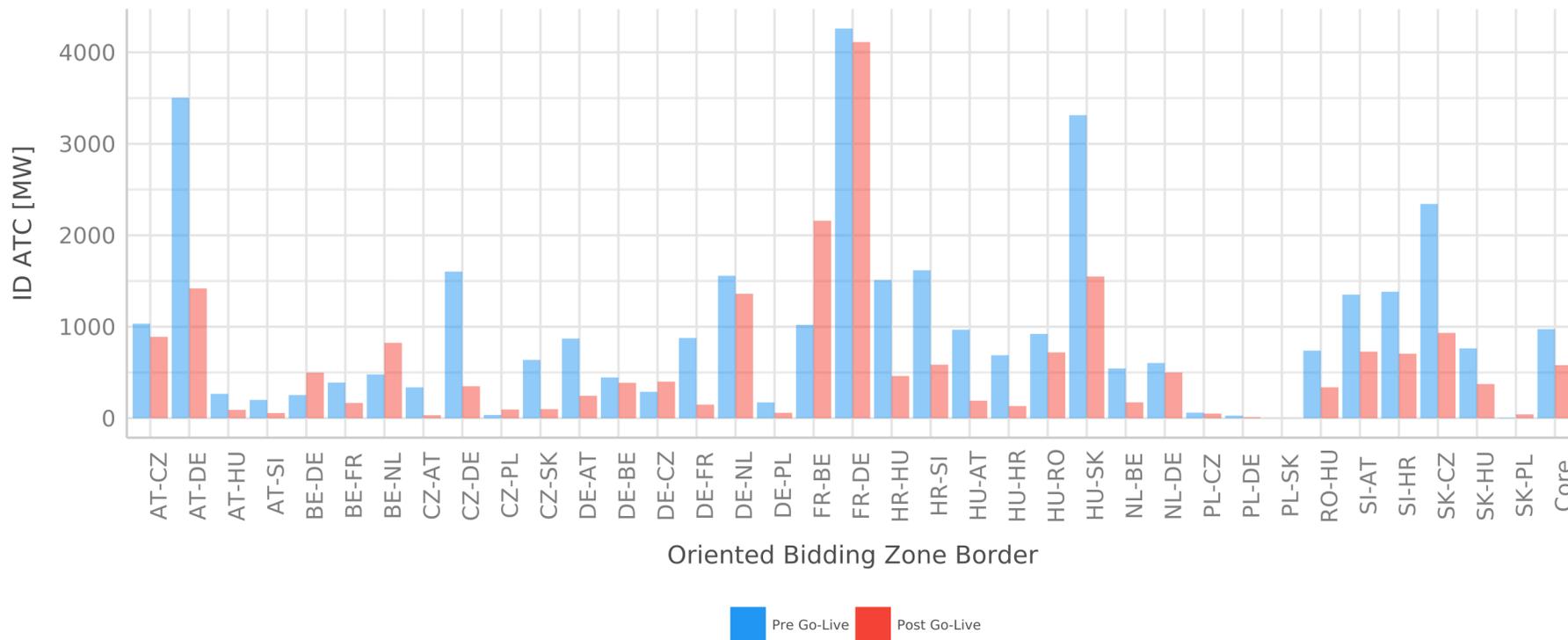
## 2. Day Ahead Capacity Calculation & Market Coupling



### ID ATCs: Mean ID ATCs by Core Oriented Bidding Zone Borders

#### Mean ID ATCs by Oriented Core Bidding Zone Border

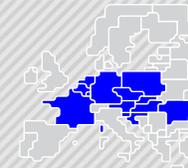
Data Pre Go-Live from 2022/04/09 to 2022/06/08 - a total of 1464 MTUs  
Data Post Go-Live from 2022/06/09 to 2022/08/08 - a total of 1464 MTUs



#### Observations:

- In analogy to changes in frequency with zero ID ATCs (previous slide)
- Higher post go-live mean ID ATC on BE-DE, BE-NL, DE-CZ and FR-BE
- Lower post go-live mean ID ATC on most other oriented borders
- Lower post go-live mean ID ATC for Core as a whole (all the way to the right)

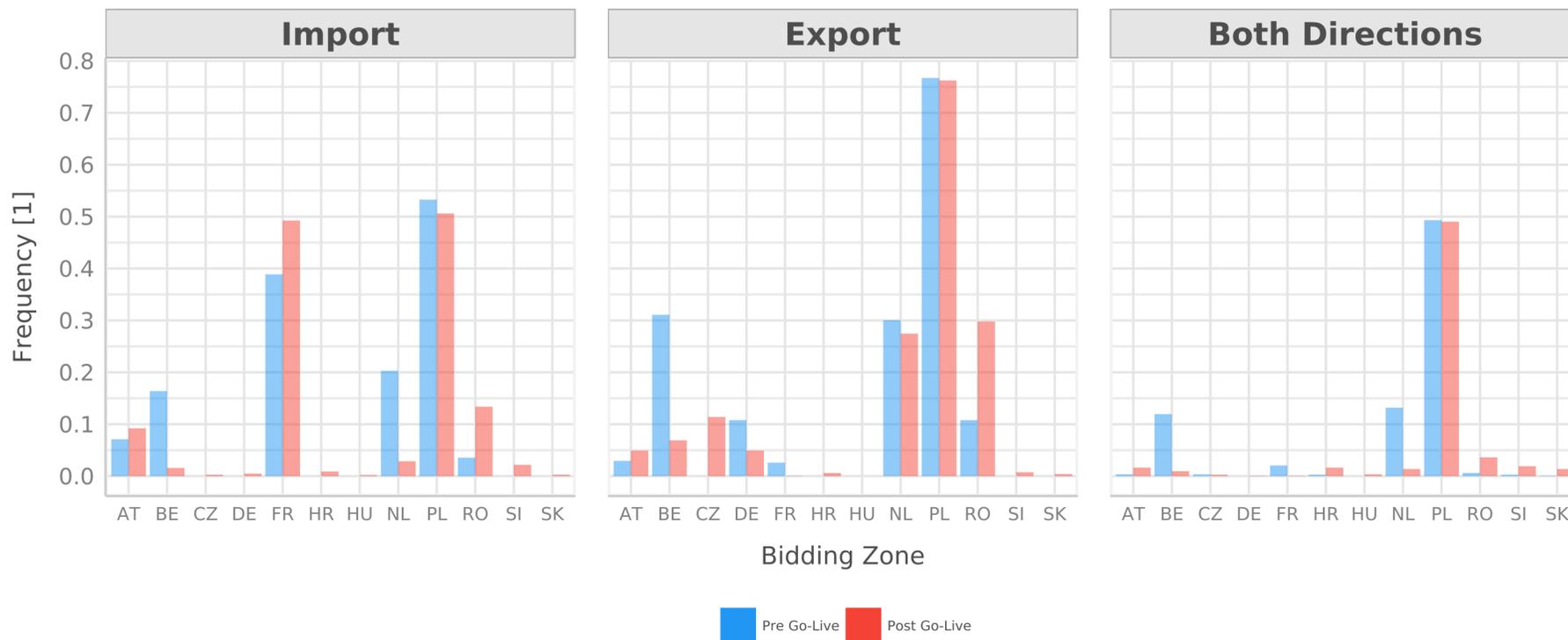
## 2. Day Ahead Capacity Calculation & Market Coupling



### ID ATCs: Frequency of Isolated Core Bidding Zones, per Direction

#### Frequency of Isolated Core Bidding Zones by Import, Export and Both Directions

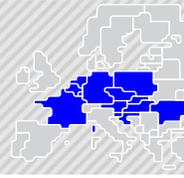
Data Pre Go-Live from 2022/04/09 to 2022/06/08 - a total of 1464 MTUs  
Data Post Go-Live from 2022/06/09 to 2022/08/08 - a total of 1464 MTUs



#### Observations:

- Less frequent isolation post go-live for BE, NL and PL (both import and export, and both directions)
- Less frequent isolation post go-live for FR in export direction, but higher frequency for import direction
- Increased frequency for isolation for former CEE bidding zones
- On the Core regional level the frequency of isolation in both directions decreased

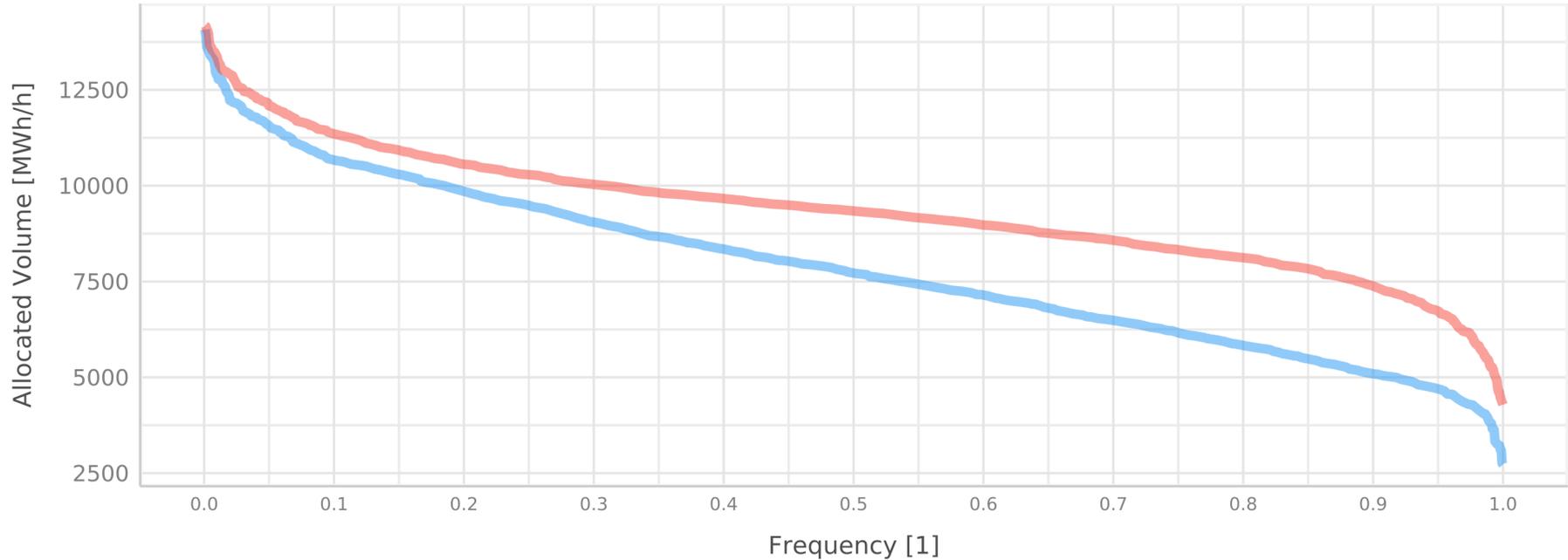
## 2. Day Ahead Capacity Calculation & Market Coupling



### ID ATCs: Duration Curve of Allocated Volume in Core in Day-Ahead Timeframe

#### Duration Curve of Allocated Volume in Core in Day-Ahead Timeframe

Data Pre Go-Live from 2022/04/09 to 2022/06/08 - a total of 1464 MTUs  
Data Post Go-Live from 2022/06/09 to 2022/08/08 - a total of 1464 MTUs

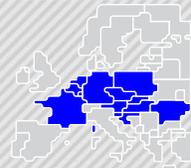


Pre Go-Live Post Go-Live

Period	Mean [MWh/h]	Median [MWh/h]	Sum [MWh/h]
Pre Go-Live	7,851	7,714	11,494,502
Post Go-Live	9,330	9,332	13,659,638

#### Observations:

- Increased levels of allocated volume in day-ahead during post go-live period
- Mean, median and total sum of allocated volume in day-ahead are all higher during post go-live period



#### Event

- Fallback application for the whole BD 20220816

#### Impact

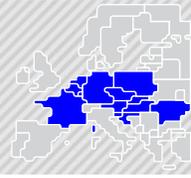
- Min/Max NP of several BZs were limited.
- Moderate price spreads between the BZs.

#### Root cause

- Issue within the Amprion D2CF IGM, where for a newly introduced element (line „Siegerland W“) a thermal limit of 1 Ampere was provided.
- The DAVinCy (Validation Tool) could not interpret the resulting high overload related to the low thermal limit in the load-flow computation and optimization and computation was interrupted.
- The low thermal limit did not impact the capacity calculation because the line is not defined as CNE.

#### Performed actions to avoid similar issues in future

- Wrong thermal limit has been corrected in IGMs of the following day
- Appropriate handling of such issues in the DAVinCy tool were implemented
- Automated quality check and the IGM-creation process were updated on Amprion side



Any questions?

### Question and Answers Session



### 3. Publication of data



#### Updates made to the Publication Tool since last Core CG

Since Core FB DA MC go-live the production version of the Publication Tool (PuTo) is available to the Market Participants on the JAO website:

- It will be the same version that is present on the current external parallel run environment and will also include the feature of the monitoring tool which will help with identifying the missing data.
- The publication tool can be accessed via: <http://www.jao.eu/publication-tool>

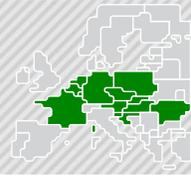
Since the last Core CG (01/06), updates have been made to the publication tool:

- v1.5:
  - Release of the monitoring tool
  - Implementation of EXT LTA inclusion approach in the Core market view
- v1.6:
  - Included URL for Core Publication Tool Go-live and API are included
  - Updated description of Monitoring tool
- V1.7: Adjusted Publication timings

This is covered in the publication tool handbook:

- [https://publicationtool.jao.eu/PublicationHandbook/Core\\_PublicationTool\\_Handbook\\_v1.7e.pdf](https://publicationtool.jao.eu/PublicationHandbook/Core_PublicationTool_Handbook_v1.7e.pdf)

### 3. Publication of data



#### Market Parties' request for additional updates/fixes to the PuTo

## Agenda

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- CBCO Naming convention
- Transmission Outage
  1. Platforms and format
  2. Scope of outage publication – which outages should be published?
  3. Outage Impact on cross border capacities
  4. Transmission outage considered in D2CF
  5. Outage planning
- Static Grid Model
  1. Completeness of SGM
  2. Standard BusBar schema
  3. Voltage level coverage
  4. Transformers features
  5. German Internal tieline
- Varia: JAO website issue, CBCO missing info

### 3. Publication of data



### Market Parties' request for additional updates/fixes to the PuTo

## CBCO Naming convention – Duplicates ID issue

- The following combination of identifiers should be unique but we often observe duplicates for the same hour with different FB parameters – which occurrence to choose ?  
'tso','cneName','cneEic','direction','hubFrom','hubTo','substationFrom','substationTo','elementType','fmaxType','contTso','contName','contingencies'

- Some observed duplicates since go live :

tso	Nb duplicates since go live
APG	2222
AMPRION	953
PSE	508
TENNETBV	246
RTE	184
ELES	36
TRANSNETBW	4



All duplicates found - raw

cneName	contName	tso	contTso	num_duplicated
Ternitz - Wien Suedost 225B	Kainachtal - Y_Mellach 476KT	APG	APG	204
	Kainachtal - Y_Mellach 475KT	APG	APG	204
	Suedburgenland - Y_Mellach 476SU	APG	APG	204
	Suedburgenland - Wien Suedost 478	APG	APG	204
	Oststeiermark - Y_Mellach 475SR	APG	APG	204
	Oststeiermark - Wien Suedost 477	APG	APG	204
Leupolz - Westtirol 412	Buers - Westtirol rt (421) Buers - Westtirol rt (422)	APG	TRANSNETBW	174
Buers - Meiningen gn (406A)	Buers - Walgau or (405A) Buers - Walgau or (405A)	APG	APG	174
Aschach - Hausruck 203B	Simbach 234_230 Y-Altheim (Simbach - St. Peter)	APG	APG	172
Walgau - Werben 405B	ars - Meiningen gn (406A) Buers - Meiningen gn (404)	APG	TRANSNETBW	168
Westtirol 1 - Westtirol 2 WTRHJ41	Buers - Westtirol ws (422) Buers - Westtirol ws (421)	APG	TRANSNETBW	166
Laufenburg - Tiengen ANDLSB	Allegro HVDC	AMPRION	ELIA	126
Beznau - Tiengen AARE W	Allegro HVDC	AMPRION	ELIA	119
Obersiebach - Podlog 247	ainachtal - Maribor 474 400 kV Maribor - Kainachtal	APG	APG	72
	ainachtal - Maribor 473 400 kV Maribor - Kainachtal	APG	APG	72
Krimpen a/d Jissel - Bleiswijk 380 WR	Craystein-Geertruidenberg 380 Z	TENNETBV	TENNETBV	36
Krimpen a/d Jissel - Bleiswijk 380 Zwart	Craystein-Geertruidenberg 380 Z	TENNETBV	TENNETBV	18
Y-Oberzier (-Dahlem - Niederstedem) SELHN W	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Mittelbezbach - Uchtelfangen BLIES N	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
PST Gronau TR 441 E	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Mittelbezbach - Uchtelfangen BLIES S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Endorf - Vigy VIGY2 S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Maasbracht - Van Eyck 380 Black/27	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	TENNETBV	ELIA	12
Doetinchem - Niederhein 380 black	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
L 400kV NO 2 AVELIN - MASTAING	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	RTE	ELIA	12
Doetinchem - Niederhein 380 white	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Y-Oberzier (-Dahlem - Niederstedem) SELHN O	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Y-Niederstedem (-Dahlem - Oberzier) SELHN W	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Niederstedem - Rommersheim NIMSTA O	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Paffendorf - Rommerskirchen PAFEN N	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Endorf - Vigy VIGY1 N	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Rommerskirchen - Sechtem VILLE W	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Rommerskirchen - Sechtem VILLE O	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Rilland - Zandvliet 380 White/30	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	TENNETBV	ELIA	12
Endorf - Uchtelfangen TAUBNT S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Maasbracht - Van Eyck 380 White/28	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	TENNETBV	ELIA	12
Endorf - Uchtelfangen TAUBNT N	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
L 400kV NO 1 AVELIN-MASTAING	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	RTE	ELIA	12
Knapsack - Sechtem WABERG W	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Brauweller - Rommerskirchen BRAUWL W	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Brauweller - Knapsack BURBAC O	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Paffendorf - Rommerskirchen PAFEN S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Avelgem - Avelin 380.80	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	RTE	ELIA	12
Y-Rommersheim (-Dahlem - Oberzier) SELHN O	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	12
Gronau - Hengelo 380 black	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	10
Y-Sechtem (-Oberzier - Paffendorf) SECHTM S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	10
Y-Paffendorf (-Oberzier - Sechtem) SECHTM S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	10
Hanekenfehr - Doerpen West EMSLD WB	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	10
Buenstadt - Lambheim BUERST W	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	10
Y-Oberzier (-Paffendorf - Sechtem) SECHTM S	velgem - Mastaing 380.79 Avelgem - Mastaing 380.7	AMPRION	ELIA	10

- Recommendation :
  - TSOs should clean their configuration to remove all current outstanding duplicates
  - TSOs should set up systematic duplicate CNECs data checks that raise warnings in order to promptly correct the duplicates as they arise



## Transmission outage – 1

### 1. Platform and format:

- not all TSOs publish data through ENTSOE
- not all TSOs publish the data according to ACER guidances
- Exotic platform non consistent with ACER guidances :
  - <https://netztransparenz.tennet.eu/electricity-market/transparency-pages/urgent-market-messages-planned-maintenance-nl/>
  - <https://www.elia.be/en/grid-data/transmission/unavailability-of-grid-components-380-220-kv>
  - <https://www.sepsas.sk/en/control-centre/monthly-operational-data/plan-of-outages/>
  - <https://www.services-rte.com/en/view-data-published-by-rte/unavailability-of-the-transmission-network-ntc-impact.html> (ACER guidance ok on format but no API)
  - <https://www.50hertz.com/en/Transparency/GridData/Congestionmanagement/OutageandPlanning> (though seems to respect ACER guidances)
  - <https://www.hops.hr/en/planned-disconnections-in-next-week>
  - <https://www.transelectrica.ro/documents/10179/91762/6functionare1a.xls/8cd2bfad-9361-4148-bb54-5613e32068be>
- **Recommendation :**
  - **Ideally all CORE TSOs should published outages in a single platform (ENTSOE TP could be a good candidate)**
  - **Independently of the publication platform, TSOs should respect ACER guidances :**  
[https://www.acer.europa.eu/sites/default/files/REMIT/REMIT%20Reporting%20Guidance/Manual%20of%20Procedures%20\(MoP\)%20on%20Data%20Reporting/ACER\\_REMIT\\_MoP-on-data-reporting.pdf](https://www.acer.europa.eu/sites/default/files/REMIT/REMIT%20Reporting%20Guidance/Manual%20of%20Procedures%20(MoP)%20on%20Data%20Reporting/ACER_REMIT_MoP-on-data-reporting.pdf)
  - **NORDIC TSOs current practice should be seen as a good example to follow (common platform NUCS / UMM format consistent with ACER guidances)**

### 3. Publication of data

Market Parties' request for additional updates/fixes to the PuTo



## Transmission outage – 2

### 2. Scope of outage publication – which outages should be published?

- We believe there are important CORE outages that are not published (especially internal lines)
- Right table shows number of distinct EIC (network element) that has at least an outage that starts in that year on Entsoe Transparency Platform
- Very few or no outages published on many borders/for many TSOs
- **Recommendation :**
  - **We believe all outages on monitored CORE CNECs must be published as a minimum requirement**
  - **Ideally, all outages impacting the PTDF/RAM on CNECs should be published (as they are “likely to significantly affect the prices of wholesale energy products”\*)**
  - **As it might be difficult to assess quantitatively the previous point, an easier criteria would be to publish all outages on network element present in CORE static grid model**

TSO	2016	2017	2018	2019	2020	2021	2022	2023
TENNET NL	0	0	4	0	0	0	0	0
SK-UA	1	1	1	1	1	1	1	0
SEPS	1	3	0	2	1	1	0	0
BE-NL	4	2	4	4	0	0	0	0
HR-SI	0	0	0	0	0	1	1	0
ELES	0	0	0	0	0	1	1	0
RS-HR	1	1	1	1	1	1	1	0
RO-UA	1	1	1	1	1	0	1	0
RO-RS	1	1	1	1	1	1	1	0
PL-SE	1	1	1	1	1	1	1	1
NO-DE	0	0	0	0	0	1	1	0
IT-SI	1	1	1	1	1	2	1	0
HU-SR	1	1	1	1	1	1	1	0
HU-SK	2	2	2	2	2	2	1	0
TRANSTNETBW	0	0	0	0	0	1	1	0
BG-RO	1	0	1	1	0	1	1	0
AT-IT	0	1	1	1	1	1	1	0
PL-SK	2	2	2	2	2	2	2	0
LT-PL	2	2	2	2	2	2	2	0
DE-DK	2	2	2	2	2	2	2	0
HU-UA	0	0	0	0	0	0	2	0
DE-NL	1	5	6	6	2	2	2	0
CEPS	1	1	1	1	3	1	2	0
RO-BG	3	0	3	3	0	3	3	0
FR-IT	3	3	3	3	3	3	3	0
ES-FR	4	4	4	4	4	4	3	0
DE-FR	4	3	2	4	4	4	3	0
AT-SI	3	3	3	3	3	3	3	0
AT-HU	4	4	4	2	4	2	4	0
AT-CZ	4	4	4	4	4	4	4	0
DE-PL	4	3	4	4	4	4	4	1
CZ-DE	4	4	4	4	4	4	4	0
AT-CH	4	4	3	4	4	4	4	2
CZ-PL	4	4	4	4	4	4	4	0
CZ-SK	5	5	5	5	5	5	5	0
BE-FR	6	5	5	5	6	5	6	0
Amprion GmbH	1	4	6	6	10	5	6	0
AT-DE	4	5	6	8	8	5	7	0
CH-DE	10	8	9	8	9	9	8	7
D2-D8	12	12	13	12	12	13	12	0
APG	24	27	22	20	22	20	26	0
PSE	45	49	38	50	53	59	30	0
ELIA	16	20	35	34	41	38	38	0
RTE	59	53	53	53	43	59	54	0
50HERTZ	51	94	91	93	102	100	95	0
TENNETGMBH	38	44	56	81	83	90	97	0

\*[https://documents.acer-remit.eu/wp-content/uploads/202105\\_5th-Edition-ACER-Guidance-Update2.pdf](https://documents.acer-remit.eu/wp-content/uploads/202105_5th-Edition-ACER-Guidance-Update2.pdf)



## Transmission outage – 3

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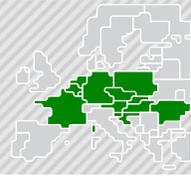
### 3. Outage Impact on cross border capacities

- We see three possible ways of publishing impact of transmission outage :
  - 1. No impact published, just the network element outage start date / end date is published
  - 2. Legacy NTC impact of transmission outage on bilateral commercial borders
  - 3. Nordic flow-based proposal : publishing Reference full network FB domain vs reference FB domain with the outage : [https://nordic-rcc.net/wp-content/uploads/2022/06/8.-NUCS\\_LT.pdf](https://nordic-rcc.net/wp-content/uploads/2022/06/8.-NUCS_LT.pdf). Similar to the SPAIC process, but rendered systematic and with high standards for data quality /tooling
- **Recommendation :**
  - **We think option 3 would be the best but is likely to take time to implement. In the meantime, options 2 (current) seems meaningless given we are in a FB world and create barrier for TSOs to publish required outages. As a result, temporarily, we are in favor of option 1 coupled with more outage published**

### 4. Transmission outage considered in D2CF

- Even if all above recommendations are followed, it would still be impossible to know what outage TSOs have considered when building their D2CF. Indeed, TSOs might “freeze” their view of forward outage at a certain arbitrary time in D-2 that could change / be different for each TSOs
  - **Recommendation :**
    - **Extract from D2CF all considered outage in the D2CF per MTU and publish it as a new dataset on JAO**
- Publication tool**

### 3. Publication of data



#### Market Parties' request for additional updates/fixes to the PuTo

## Transmission outage – 4

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### 5. Outage planning

- We observed that barely any outage are published for Y+1 (cf Table on slide “Transmission outage – 2” / column 2023)
- As a result, every year in Q4, we have almost no information on Q1 despite being only few months away.
- This publication pattern seems to come from TSO yearly planning cycle which is generally finalized around end of the year
- **Recommendation :**
  - **Each TSO should explain their outage planning cycle so that market parties can know whether the absence of outage means no outage or means outage planning not yet finalized**
  - **Even though outage planning is not yet finalized, it is better to publish approximate expected outages rather than publishing nothing.**
  - **TSOs should try to have outage published for all tradable horizons (i.e., at least up to end of Y+1)**

### 3. Publication of data



Market Parties' request for additional updates/fixes to the PuTo

## Static Grid Model

1. It seems that CORE static grid model is not complete in terms of transmission lines and transformers

	APG	50HZ	ELES	TNG	MAVIR	TEL	CEPS	SEPS	TTG	PSE	RTE	AMP
count_tfos_missing	2	3	3	3	4	4	5	5	5	7	9	17

Attached Full list of missing 400/220 TFOs:



possible missing  
tfos list

- We've also spotted some missing lines in the static grid model (there could be more...):
  - LIT 400kV NO 2 AVELIN – GAVRELLE
  - 220kV - Hausruck - St. Peter - 204A
- **Recommendation :**
  - **TSOs should review that their static grid model are exhaustive for the voltage level they publish**

### 3. Publication of data



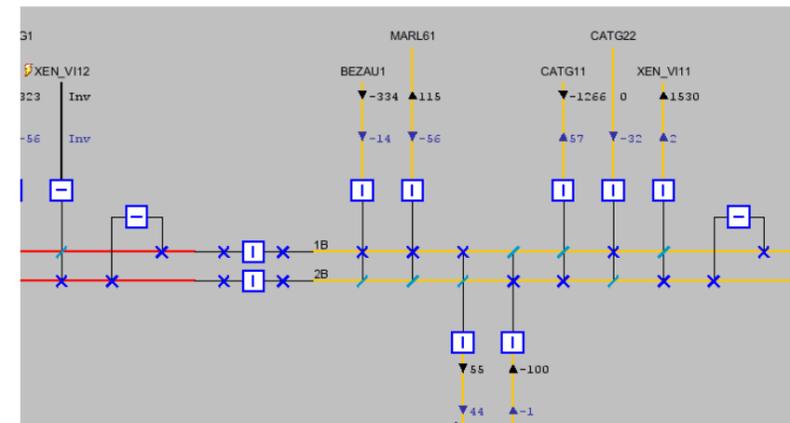
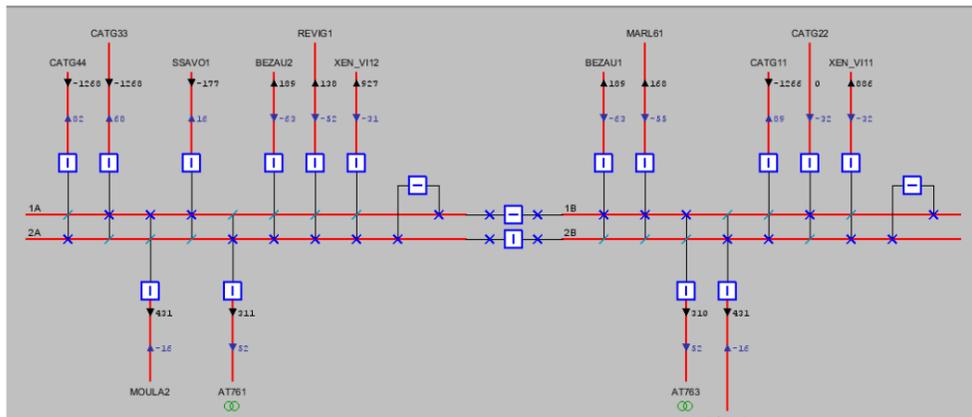
Market Parties' request for additional updates/fixes to the PuTo

## Static Grid Model

2. Market players can't simulate 2 nodes topology nor model how PSTs are connected because of the lack of substation standard topology description.

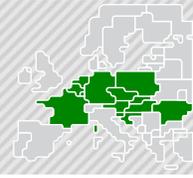
### Recommendation :

- For each substation that contains PSTs or that can be operated under a 2 node topology in the RAO, a standard bus bar schema should be published as shown in the example bellow



source : [https://www.acm.nl/sites/default/files/old\\_publication/bijlagen/13001\\_annex-16-4-examples-remedial-actions.pdf](https://www.acm.nl/sites/default/files/old_publication/bijlagen/13001_annex-16-4-examples-remedial-actions.pdf)

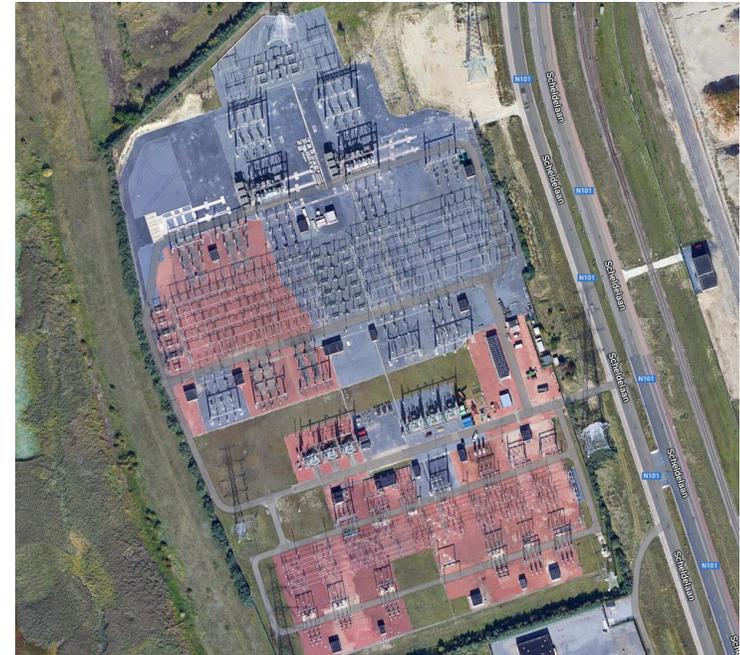
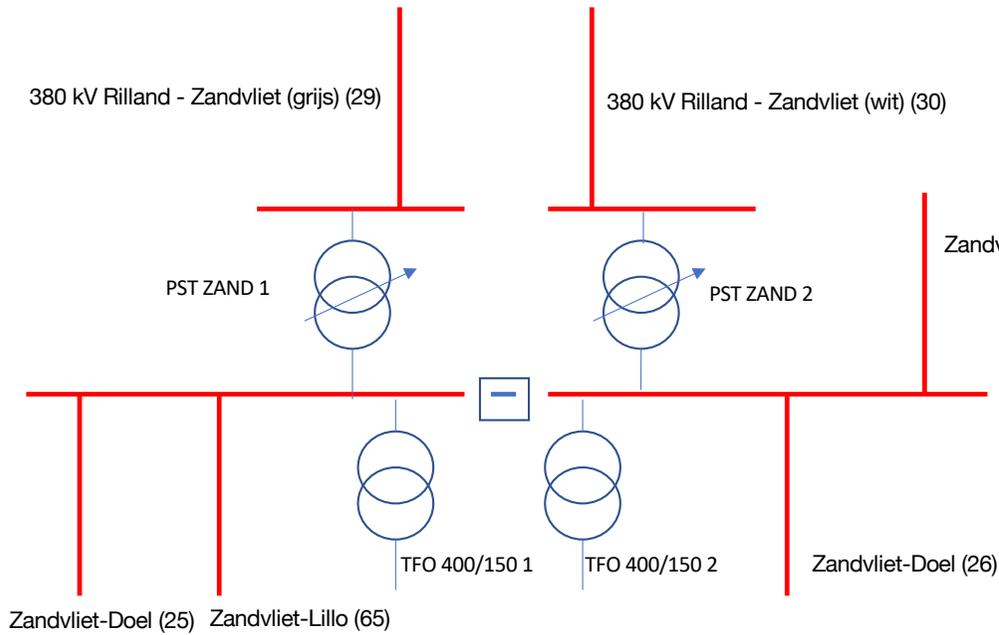
### 3. Publication of data



Market Parties' request for additional updates/fixes to the PuTo

## Static Grid Model

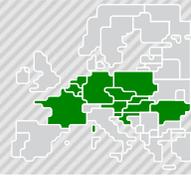
Example substation topology Zandvliet 400kV



source :

<https://www.google.com/maps/@51.3695441,4.2476233,467m/data=!3m1!1e3>

## 3. Publication of data



Market Parties' request for additional updates/fixes to the PuTo

# Static Grid Model

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## 3. Voltage level coverage

- It is not clear for market players what are the voltage levels that TSOs model in their D2CF
- In particular the main uncertainty concerns the modelling of the 150/132/110kV voltage level
- **Recommendation :**
  - **All TSOs should provide the list of the voltage level they model in their D2CF and whether these voltage levels are modelled through equivalent equipment or real equipment**
  - **All real or virtual equipment (line / transformer) that are modelled in the D2CF should be provided in the CORE static grid model**

(note that recommendation 1 is not needed anymore if recommendation 2 is followed)

### 3. Publication of data



Market Parties' request for additional updates/fixes to the PuTo

## Static Grid Model

### 4. Transformers

- It seems that transformer parameters published in static grid model have a wide range of values. For example bellow the distribution of parameters for all 400kV(Primary)-220kV(Secondary) transformers:

	count	mean	std	min	10%	20%	30%	40%	50%	60%	70%	80%	90%	max
Resistance_R( $\Omega$ )	405	0.4	0.3	0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	2.3
Reactance_X( $\Omega$ )	405	45.7	17.1	-11.7	22.9	39	42.4	42.8	45.2	45.7	47.5	63.2	70.4	86.4
Susceptance_B ( $\mu$ S)	170	-27.7	101	-669.6	-14.2	-9.4	-6.9	-6.3	-5	-3.5	-2.3	-1.4	-0.6	-0.1
Conductance_G ( $\mu$ S)	170	1	0.8	0	0	0.4	0.5	0.6	0.9	1	1.6	1.9	2	3.9

- Susceptance and conductance not published for a large number of transformers
- **Recommendation :**
  - **If the wide range of parameters is coming from different modelling of transformer (different conversion of 3 windings transformer to 2 windings transformer equivalent for example), TSOs should align the way they model transformer in the CORE static grid model so that those parameters can be used uniformly by standard load flow software**

### 5. Internal German tie lines

- There are still some German TSOs that published internal tie line in the “lines” sheet, some in the “Tielines” sheet
- **Recommendation : choose a convention and follow it consistently for all DE TSOs (preferably consider them in “tie-lines” sheet)**

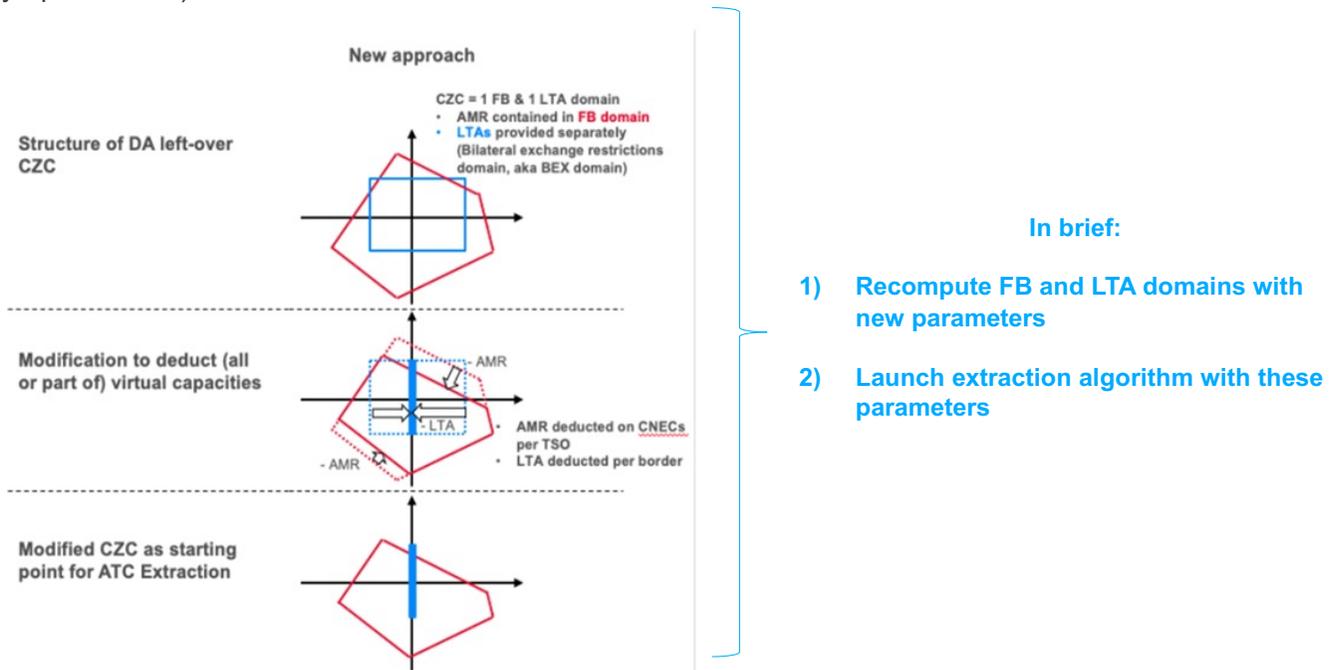
### 3. Publication of data



Market Parties' request for additional updates/fixes to the PuTo

## Extraction process for the initial IntraDay ATC

- **Reminder:** a new FB and LTA domain must be reconstructed with ID-specific values prior to launching the ATC extraction for intraday (now done by optimization):



- **The TSOs have started publishing on JAO the intermediary calculation steps** for the ID ATC extraction, e.g the LTA UID domain and the FB UID domain.

### 3. Publication of data



Market Parties' request for additional updates/fixes to the PuTo

## It is not clear how the published 'UID' parameters are computed from the final DA values

RAM UID

- According to the public *Intra-Day Capacity Calculation Methodology*, the FB domain in ID is obtained from the following formula:

$$\overline{RAM}_{UID} = \max(0, \overline{RAM}_f - \overline{PTDF}_f \overline{NP}_{AAC})$$

Equation 3b

- However for some CNECs the UID value does not seem to follow that rule in the published files:

Time	TSO	NEC_ID	Contingency ID	branchStatus	f_ltn	F_SDAC	F_AAC	RAM_f_before_Adj	RAM_f_after_Adj	RAM_UID	Gap
2022-09-15 22:00:00+00:00	D2	D2_CBCO_00611	D7_CO_00025	OK	0.89509	93.80477	94.699861	252	109.6	158	142
2022-09-15 22:00:00+00:00	D2	D2_CBCO_00607	D2_CO_00023	OK	0.89509	93.80477	94.699861	252	113.6	158	138
2022-09-15 22:00:00+00:00	D2	D2_CBCO_00612	D2-D7_CO_00008	OK	0.89509	93.80477	94.699861	252	114.4	158	137
2022-09-15 22:00:00+00:00	D2	D2_CBCO_00610	D2-D7_CO_00005	OK	0.89509	93.80477	94.699861	252	128	158	124
2022-09-15 22:00:00+00:00	NL	NL_CBCO_00435	D7_CO_00018	OK	1.05104	117.70641	118.757456	209	122.6	91	86

LTA UID

- According to the public *Intra-Day Capacity Calculation Methodology*, the LTA domain in ID is obtained from the following formula:

$$\overline{LTA}_{UID} = \max(0, \overline{LTA}_f - \overline{SEC}_{DA})$$

Equation 3c

- However for some borders the UID value does not seem to follow that rule in the published files:

Time	Exchange	LTA_f_before_Adj	LTN	SEC_DA	LTA_f_after_Adj	LTA_UID	Gap
2022-09-15T22:00:00Z	AT-CZ	349	0	0	174.5	1684	-1510
2022-09-15T22:00:00Z	AT-DE	4819	0	0	963.8	2466	-1502
2022-09-15T22:00:00Z	AT-HU	400	0	393.8	80	0	0

NB: here some borders end up with much larger LTA in ID than in DA which is counter-intuitive



### 3. Publication of data

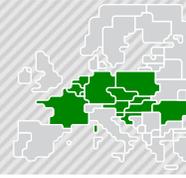


### Market Parties' request for additional updates/fixes to the PuTo

## Varia - JAO website

- Filtering and showing page >10 has stopped working for (at least) Final on the website.
- The website and the API do not return the same headers (e.g. F0Core and FCore). On the website some could be swapped around and some are imprecise (MinRamTarget probably means MinRamTargetCore)
- Neither of the website and the API are consistent with the EU terminology of MAZCT
- Hub From/ Hub To in ShadowPrices is confusing – they are probably something related to the border generation welfare gains but the documentation says “The structure of the page is the same as for the initial/final Computation page cf. 5.14 with the exception that the column “pre-solved” is replaced with the shadow price the limiting CNEC has.” (leading to think it’s the geographical from/to):

Date	TSO	CNEC_Name	EIC_Code	Direction	Contingency Name	EIC_Code	Shadow Price	RAM	Break	F-max	FBM	F_ref	Bcore	Bstat	F_stat	AMR	LTA_margin	CVA	NV	Ftotal_LTN	minRAM Factor	maxZZPdiff	Hub From	Hub To
2022-11-14 00:00:00	Agg	St Pflwr 2- Pfandorf 258	105AT-DE-000037	OPPOSITE	N-1 Pfandorf - Pfandorf 257	11TDL000000201H	124.368854832	691	1733	675	52	468	-70	63	-133	0	0	0	0	-68	16.6	0.12332	DE	AT
2022-11-14 00:00:00	Amprion	Burghausen-Lambstein BUEBST W	1179-0000-0968-T	DIRECT	N-1 Hohenack-Hohenack KUEBEL O	1170-0000-0566-Z	300.918788794	653	3150	2182	175	2019	1351	1101	250	0	0	0	0	1354	31	0.14278	FL	FR
2022-11-14 00:00:00	Amprion	Pfandorf - Rommerskirchen PAFFEN N	1170-0000-9829-R	OPPOSITE	Rommerskirchen - Siechem VILE O	1170-0000-0831-A	211.208873158	560	3150	2182	218	2025	1539	1424	115	136	0	0	0	1540	31	0.16321	DE	-0
2022-11-14 00:00:00	Schweitz	Neuenhagen - Varnsdorf 304	11TDL304-0000-V	OPPOSITE	N-1 TR Varnsdorf 229/400 404	1170-0000-0028-X	368.426906641	87	1870	417	42	344	287	185	103	0	0	0	0	288	31	0.09382	DE	PL



### Varia – CBCO missing information

- According to regulations, every critical branch should contain information about the bidding zones it connects, as well as EIC of the CNE => this is not the case as explained in the analysis hereunder:  
'tso','cneName','cneEic','direction','hubFrom','hubTo','substationFrom','substationTo','elementType','fmaxType','contTso','contName','contingencies'

**CNEs with missing information**

**1)Introduction**

According to regulations, every critical branch should contain information about the bidding zones it connects, as well as EIC of the CNE.

The purpose of this report is to identify instances of missing information in published CNEs and to investigate whether missing information can reasonably be retrieved from other published instances of that or similar CNEs. The period investigated is 11<sup>th</sup> of June to 1<sup>st</sup> of August inclusive.

To identify similar looking names, an algorithm scoring strings based on how human-similar they look and read was used. It identified at least 2 similar looking CNEs for every CNE which had unpublished data. From there, CNEs were looked on a case-by-case basis. We also compared EICs to make sure we don't miss information. Every reasonable attempt within the limit of the information contained within the dataset was made.

**2)Results**

A total of 19 CNEs and 11407 instances of missing information were detected (One instance is one CNE per timestamp. Note: if we looked at CNECs, they would be orders of magnitude more.) We will now look at them on a case-by-case basis.

**2.1) Zaya/Bisamberg – Sokolnice [AT-CZ]**

This CNE consists of a single 2 circuit line, but it comes up under 8 different names (more if we include inconsistent hyphen and space placement), 6 of which have missing border and/or EIC information occasionally. It is monitored jointly by APG and CEPS. For a user to be able to understand where this CNE is located, they would need to both look for similar names and match by EIC.

**2.2) Other AT / APG CNEs**

There are another 9416 instances of 8 other APG monitored CNEs, spanning AT-SI, AT-DE, AT-AT and AT-CZ borders showing up without border information but with EIC. They could be matched using the EIC code to other instances of themselves.

**2.3) Y-Mercator(-Doel-Lillo)380.52**

This [BE-BE] CNE, monitored by ELIA shows up without border information sometimes (672 times), but often it also shows up under the same name with border information.

**2.4) Zerjavinec -Heviz 1**

This [HR-HU] CNE, monitored by MAVIR shows up 48 times without border and EIC information. It was matched to a very similar sounding CNE Zerjavinec-Heviz.

**2.5) Plattling-Schwandorf 465**

This [DE-DE] CNE, monitored by TENNETGMBH shows up 144 times without border information. Using the EIC, it was matched to Y Plattling-Pleinting 465.

**2.6) 400kV Zerjavinec-Cirkovce**

This was the hardest to identify CNE. It showed up 260 times and contained no border information, and no EIC information. By looking at CNEs containing these hubs as a start/end point it was identified as a [HR-SI] CNE, monitored by HOPS.

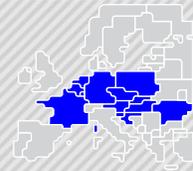
**3)Summary**

Below is a summary of how many instances of missing information each TSO had.

TSO	Instances
APG	10225
ELIA	672
HOPS	260
TENNETGMBH	144
CEPS	58
MAVIR	48

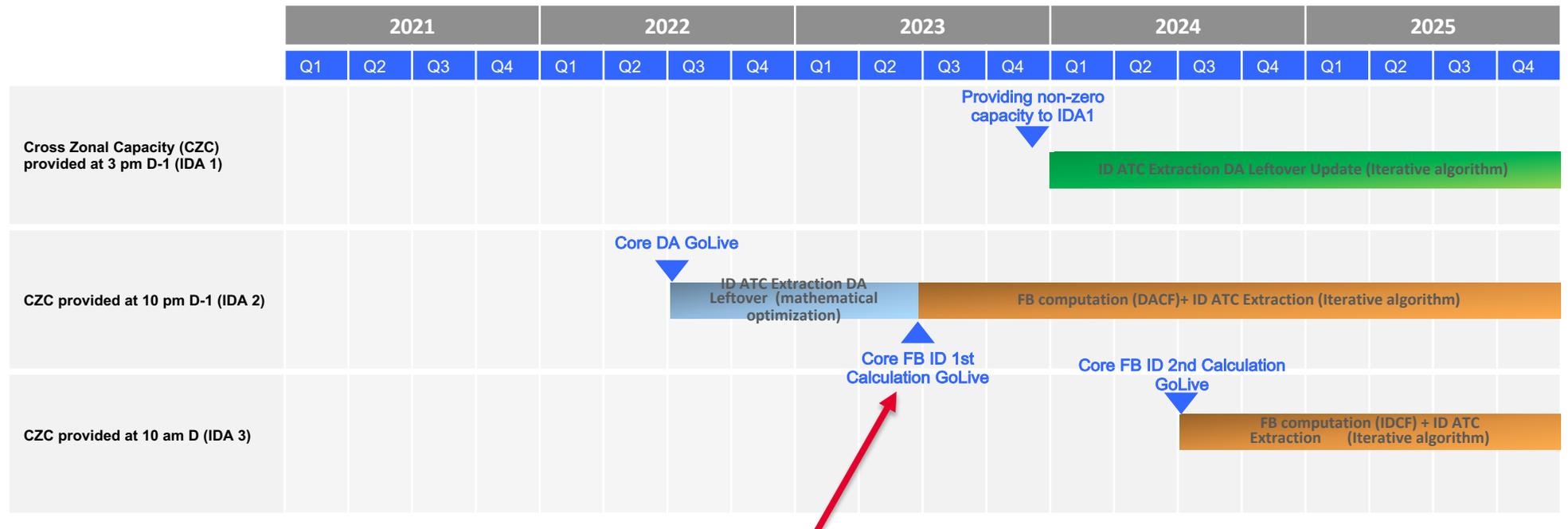
It's very clear that APG has the biggest problem with publishing information. However, with them it was relatively easy to identify another record with all the required information. On the other hand, while HOPS had only one problematic CNE, it was much harder to identify, since it contained virtually no useful information.

# 4. Intraday Capacity Calculation



## ID CC Implementation update

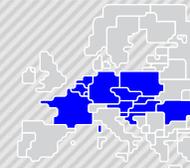
Please find below as a reminder an overview of the timings of the future ID CC processes



### Explanation on the timeline

- The dates are relative to the Core DA Go Live (June 2022)
- Core FB ID 1st Calculation takes place 1 year after Core DA Go Live (anticipated June 2023)
- Providing non-zero capacity at 3 pm D-1 takes place 6 months after Core FB ID 1st Calculation (cf. Annex 2 of the Core ID CCM)
- Core FB ID 2nd Calculation takes place 1 year after Core FB ID 1st Calculation

Core TSOs are currently working on the 1st Calculation, of which the Go-live window is June 2023. An implementation update will be provided today



The 1<sup>st</sup> Flowbased Intraday capacity calculation process consists of four main stages:

- The creation of capacity calculation inputs by the Core TSOs and RSCs;
- The capacity calculation process by the CCC;
- The capacity validation by the Core TSOs (IVA based or ATC based)
- The conversion of the results of the Flowbased capacity calculation into ATC results, during the time SIDC project is not yet able to take into consideration explicit Flowbased data. This will be the case for several years.

### Main differences between Day-Ahead and Intraday

#### Day-Ahead



#### Intraday

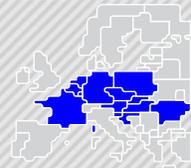


#### Unique to intraday

- No virtual capacity (minRAM or LTA inclusion)
- RAs used from CSA / future ROSC process (No NRAO)
- No intermediate or pre-final FB computation
- Approach of ID ATC extraction (iterative instead of mathematical optimization)
- Only individual validation planned
- Updated Fallback strategies

#### Synergies

- Provision of similar input data
- FB computation module & CNEC selection
- Publication obligations and procedures



### ATC based validation

#### Background

- The security of the grid is verified under the resulting ATC and adapted if needed during the individual validation phase.
- The Intraday process however is subject to constraining timings, including a 40-minute window for individual validation.

#### Core TSOs have identified the need to validate the outcome of the Intraday process during an ATC based validation step, in addition of IVA-based validation at CNEC level

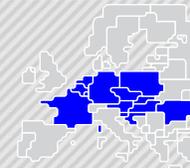
- The validation step will identify ATC which are too high and jeopardize grid security. These ATC can then be reduced by the validating TSO at the end of the ATC extraction step.
- Generally, ATC based validation brings more simplicity in the Intraday process, which improves the performance as it helps handling the challenge of the 40-minutes deadline to perform Individual validation.
- Core TSOs agree that ATC reduction during validation is an exceptional measure only to be used when grid security cannot be guaranteed as according to the general methodology.

#### Core TSOs will make the ATC based validation approach compliant for Go-Live in June '23 via a new annex introduced as anew amendment.

- The ATC based validation is foreseen as a temporary solution until arrival of FB allocation in SIDC XBID.

#### Core TSOs will inform the CCG about the timeline and the public consultation

## 4. Intraday Capacity Calculation



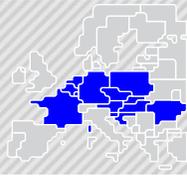
### ATC based validation

#### Core TSOs foresee the following timeline for updating the CCM with an annex

- Core TSOs are currently still preparing the public consultation package as they strive to deliver a package that represent the final version as much as possible for market parties to provide feedback on.
- The anticipated start of the publication period is scheduled on 28/11



## 4. Intraday Capacity Calculation



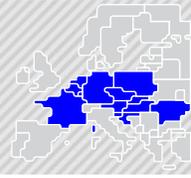
On 05/09, Core TSOs have proceeded to the next phase of IDCC INT//Run which means a daily process for computing 7 BDs by operators

Two main objective for ID CC INT//Run phase 3.2 are:

- 1) Obtain functional process for EXT//Run
  - Obtain representative computation
  - Getting closer to HLBP timing
  - TSOs & RSCs prove operational readiness for EXT//Run
  - Daily execution by operators, according to HLBP timings
  - Develop process to publish results
- 2) Achieve sufficient ID ATC to be made available to the intraday and balancing timeframes, while ensuring that grid security is not jeopardized.
  - Detailed analysis on the results to check validity of data and security of the grid and work on further improvements
  - Improve the parameters used in the ID CC process

Core TSOs will inform Core CG on the preliminary results of ID CC INT//Run phase 3.2

# 4. Intraday Capacity Calculation



Update on ID //run results & KPIs: timeline

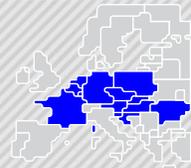
Internal parallel run is divided into phases



<b>Objective</b>	Ensure correct input data	Execute IDCC process chain	Reach representative results	Perform process with operators
<b>Expected Duration</b>	3 weeks	2 months	6 months	3 months
<b># of BDs</b>	1 BD per week	1-2 BD per week	2-4 BD per week	7 BD per week

Updated timeline internal parallel run phases





### Scope comparison ID ATCs INT//Run phase 3.2

#### Current status INT//Run (BD20220906 – BD20221012)

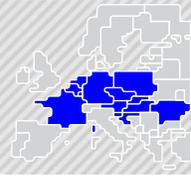
- The KPIs presented are the results of 7 BDs (Monday – Sunday) being analyzed every week in IDCC INT//Run phase 3.2
- **Disclaimer:** The results are not representative for the situation at ID Go-live June 2023 but at the moment they are used for KPI analysis. Although a general trend is visible, the business process is still subject to short-term changes and parties are not ready to fully confirm representativeness (of both IDCC input and output) in place.

Core TSOs would like to highlight that only some minor issues with respect business process timings occurred and the process is running stable (no impact as all BDs were successfully completed)

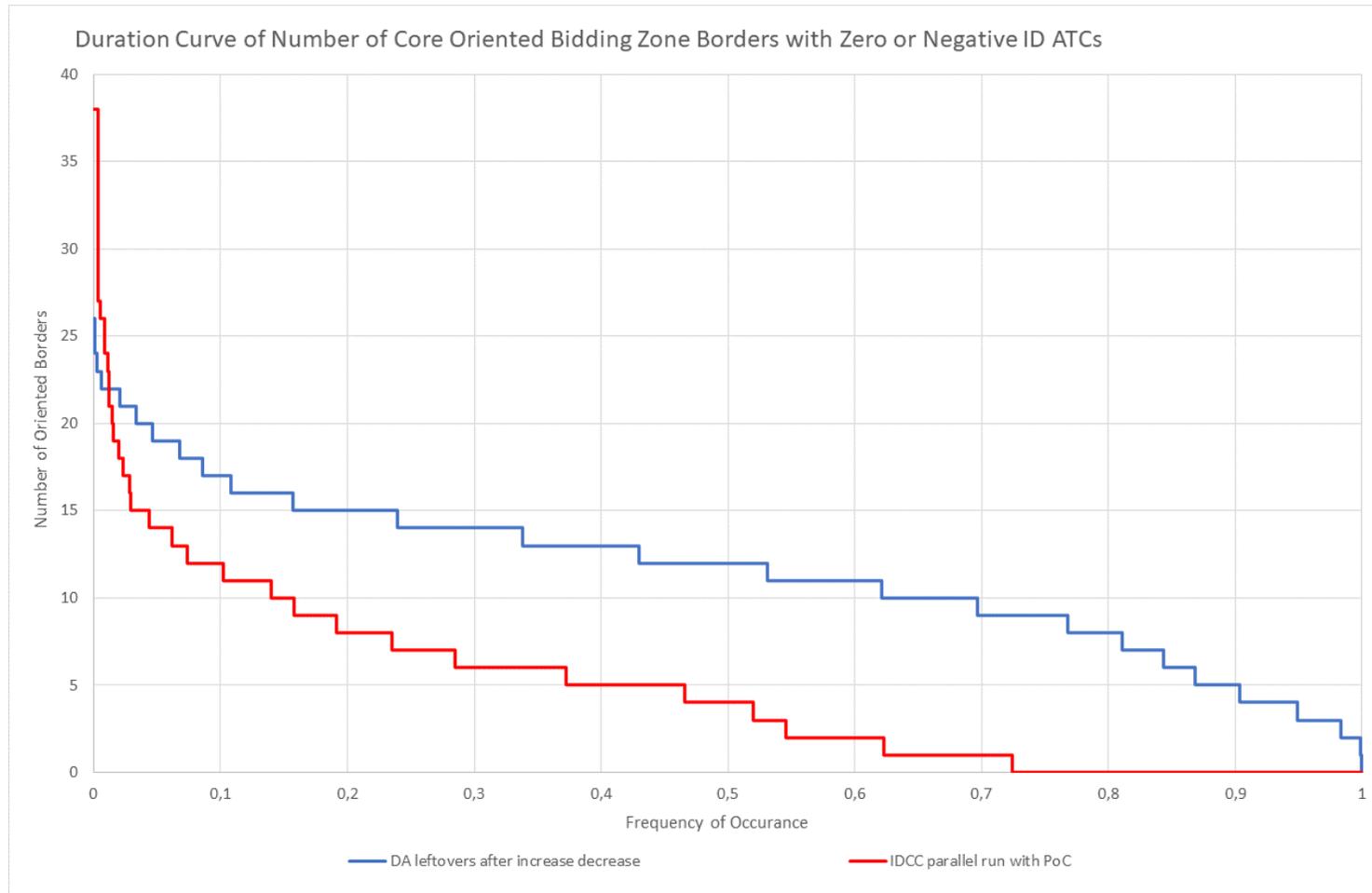
For the INT//Run results of phase 3.2, the following is presented:

- **Data used ID ATC comparison (BD20220906 – BD20221012):**
  - IDCC INT//Run
  - DACC Production – ID ATCs from DA Leftover computation after bilateral coordination or increase/decrease in CWE
- **Phase 3.2 until BD20221030:**
  - IDCC INT//Run
- **KPIs graphs:**
  - Duration curve of Core oriented bidding zone borders with simultaneous zero (or negative) ID ATCs
  - Mean positive ID ATCs by oriented Core bidding zone border, and Core average
  - Frequency of zero (or negative) ID ATCs by oriented Core bidding zone border, and Core average
  - Frequency of isolated BZs of zero (or negative) ID ATCs in import, export and both directions

## 4. Intraday Capacity Calculation

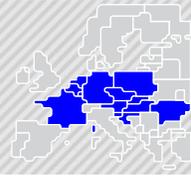


Duration Curve of Number of Core oriented bidding zone borders with zero or negative ID ATCs  
BD20220906 – BD20221012

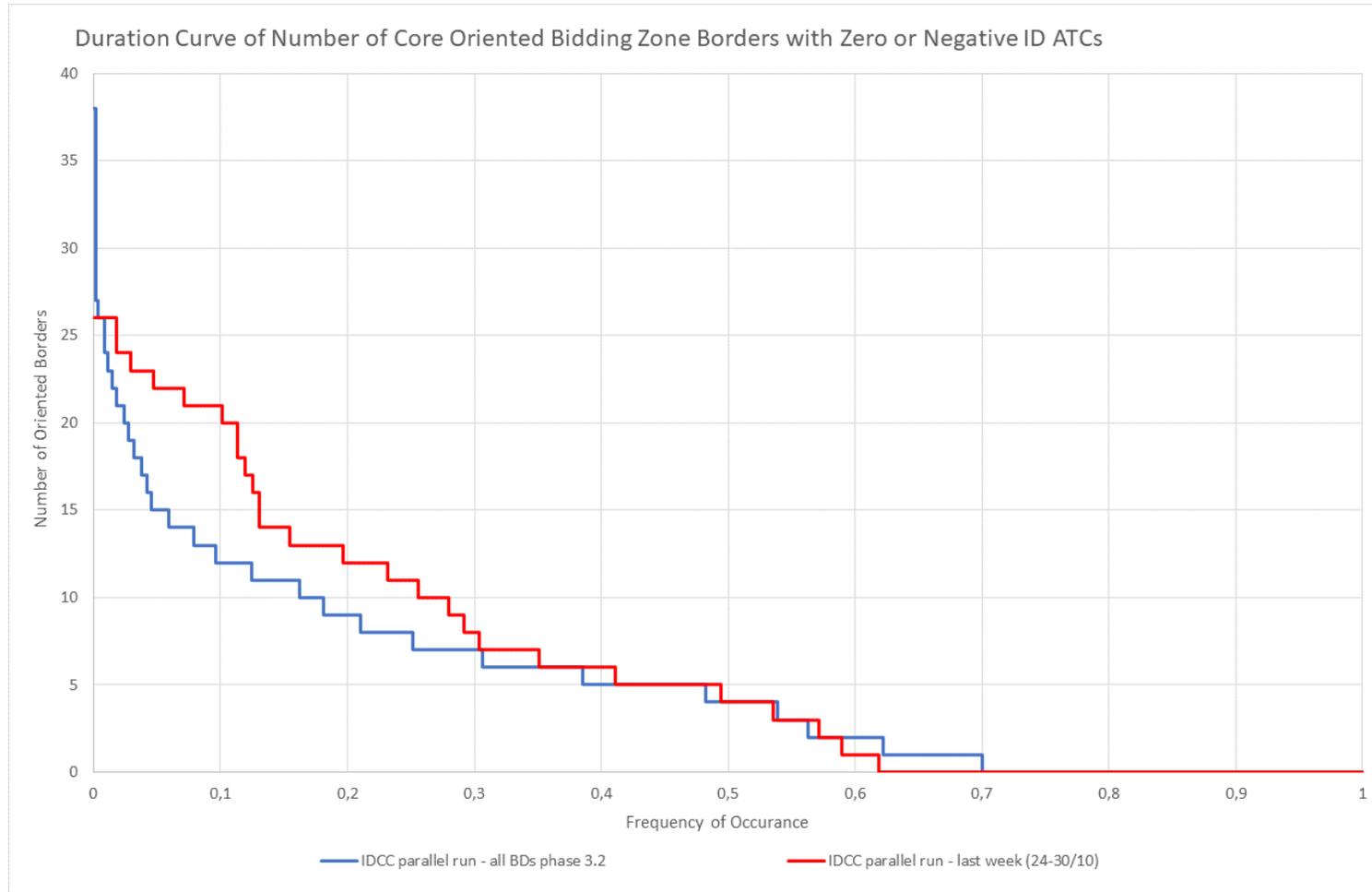


- Number of occurrences of BZ borders with zero or negative ATCs in //run is much lower compared to DA leftovers.
- 30% of the time all borders have non-zero ATC, 80% of the time less than 8 ATC values are zero (or negative)

## 4. Intraday Capacity Calculation

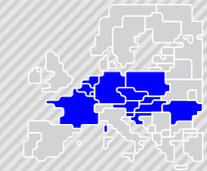


Duration Curve of Number of Core Oriented Bidding Zone Borders with Zero or Negative ID ATCs Until BD20221030

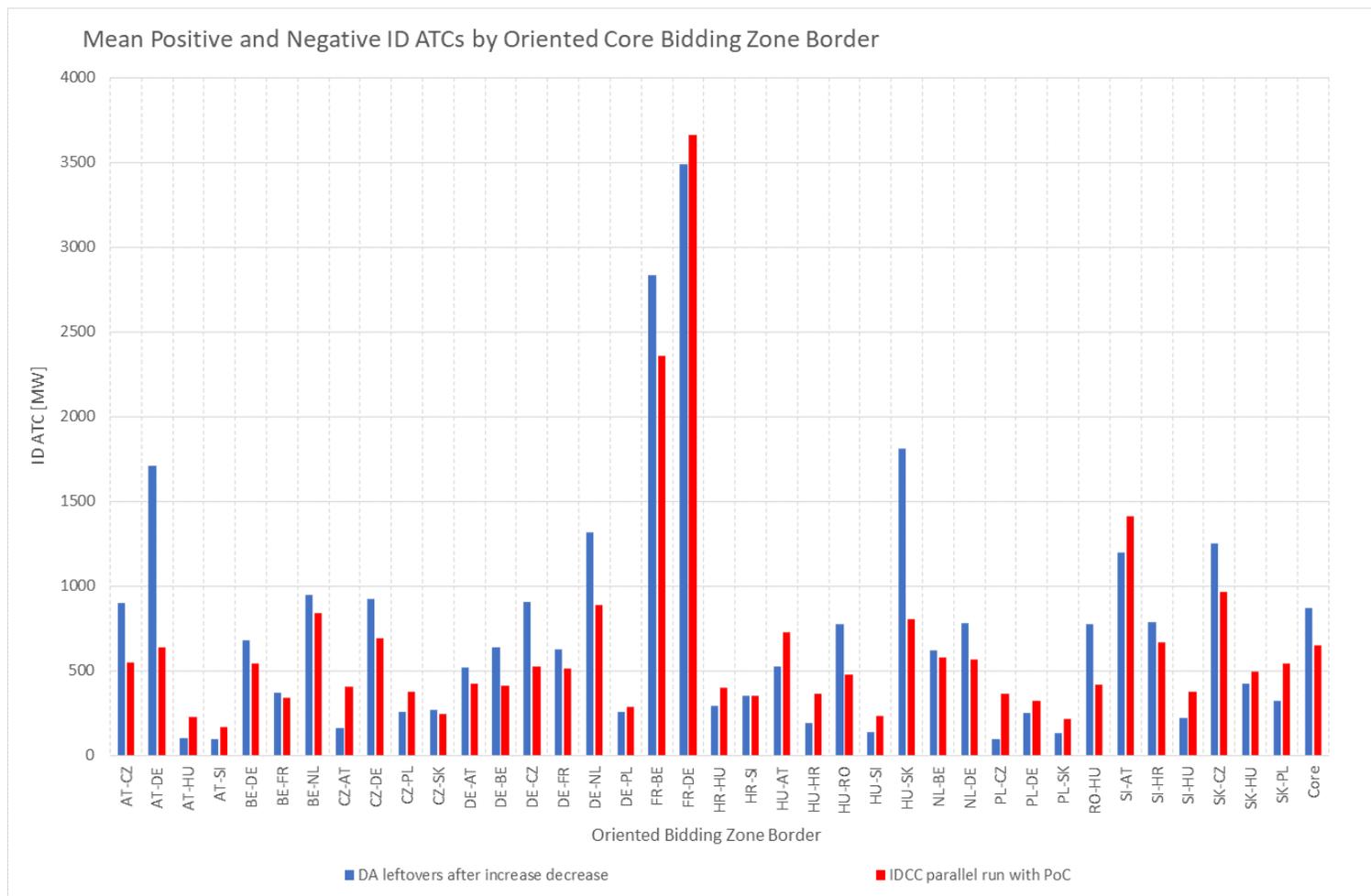


- The results until the end of October illustrate a stable trend compared to earlier data

# 4. Intraday Capacity Calculation

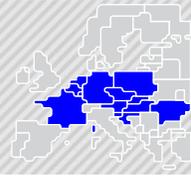


Mean positive ID ATCs by oriented Core bidding zone border BD20220906 – BD20221012

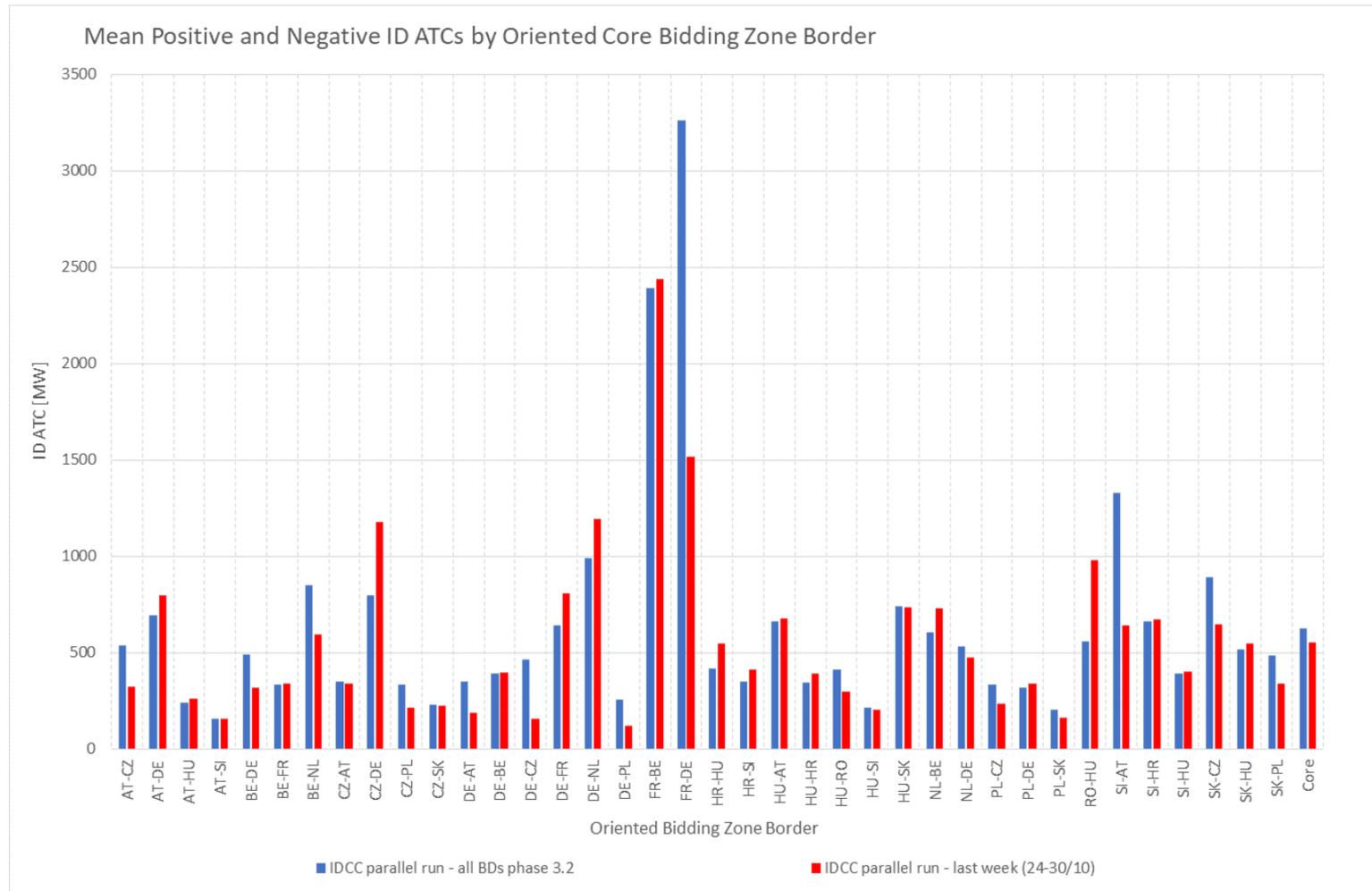


- Various results per BZ border but on average positive ATCs from IDCC//run are comparable to current DA leftovers.
- Please note only ATCs > 0 are considered to calculate the mean

## 4. Intraday Capacity Calculation

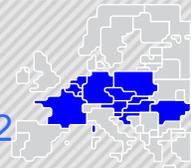


Mean positive ID ATCs by oriented Core bidding zone border until BD20221030

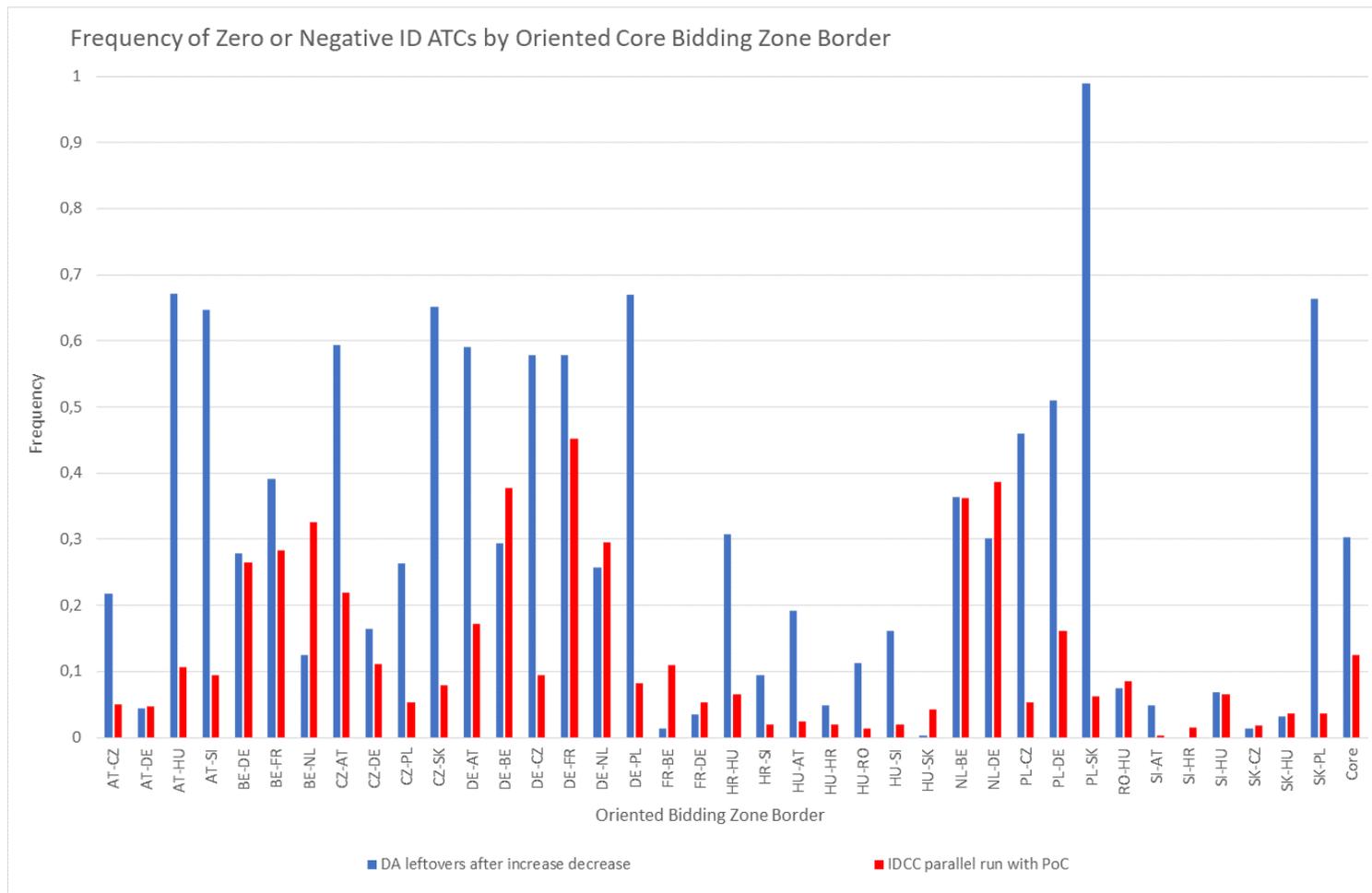


- The results until the end of October illustrate a stable trend compared to earlier data
- Please note only ATCs > 0 are considered to calculate the mean

## 4. Intraday Capacity Calculation

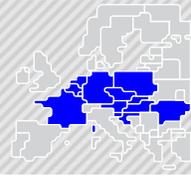


Frequency of zero or negative ID ATCs by oriented core bidding zone border BD20220906 – BD20221012

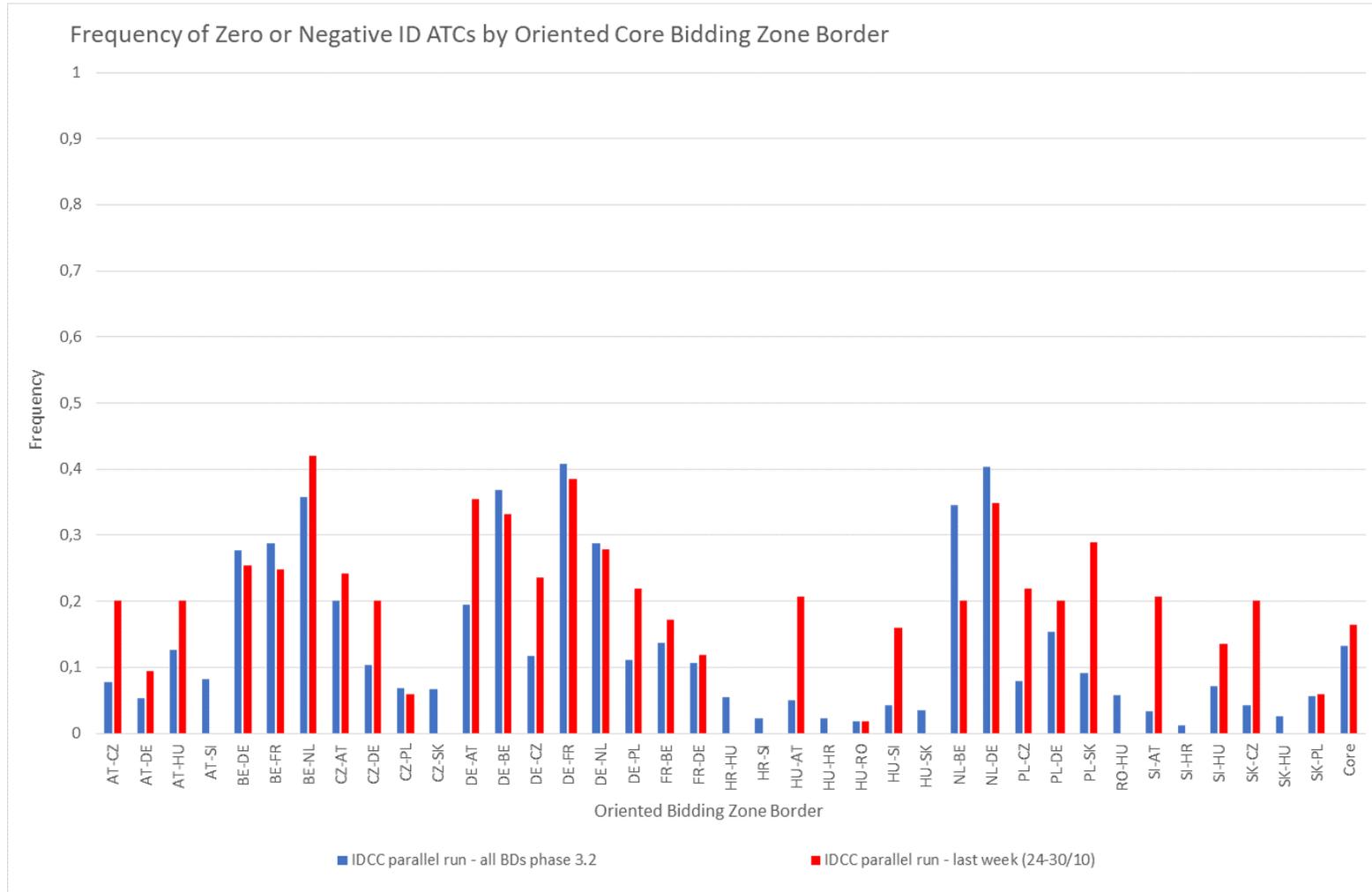


- Frequency of zero or negative ATCs in //run is significantly lower compared to DA leftovers on most CORE borders.

## 4. Intraday Capacity Calculation



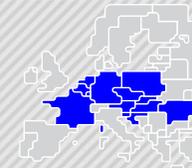
### Frequency of Zero or Negative ID ATCs by oriented Core bidding zone border until BD20221030



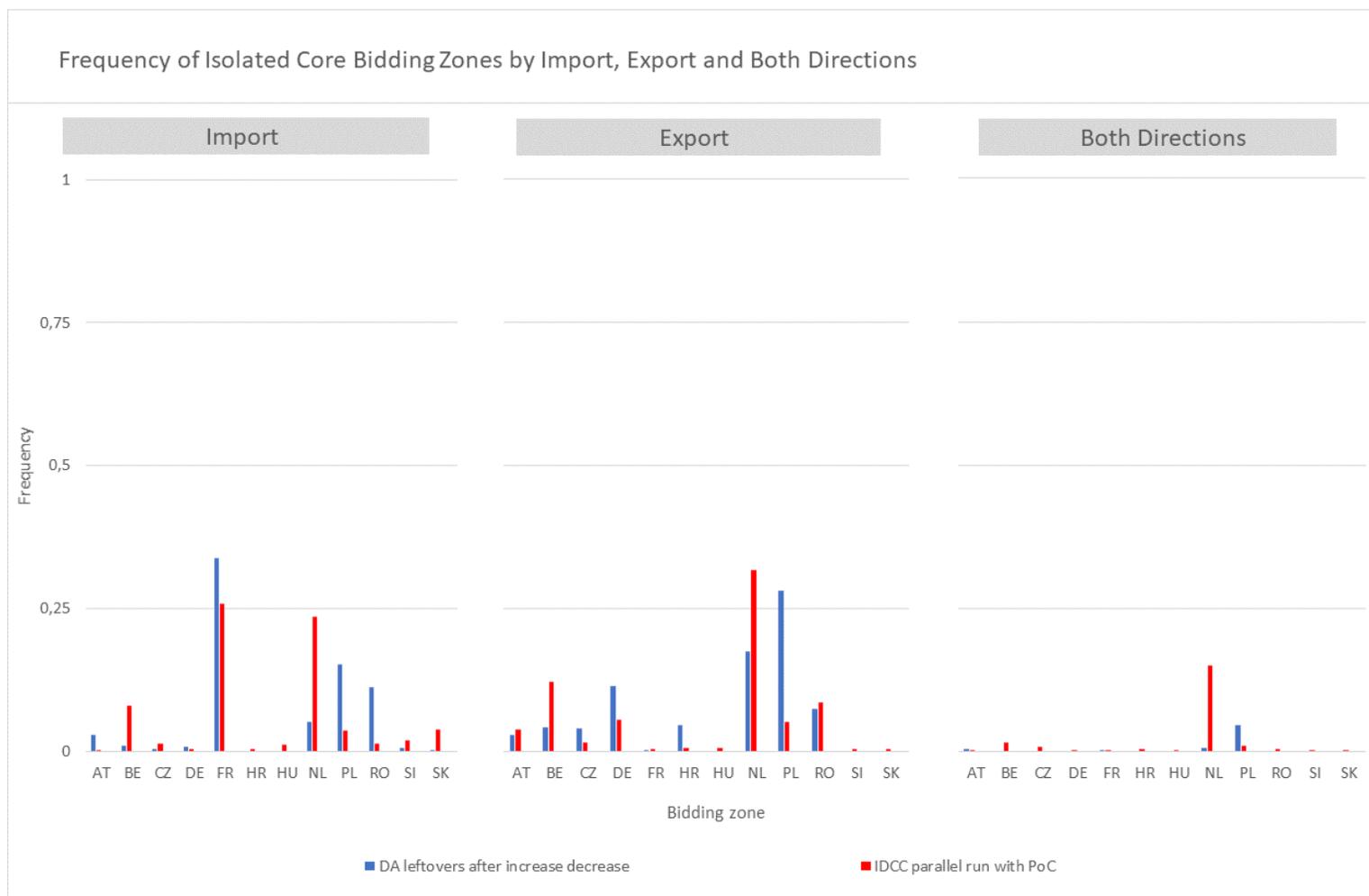
- The results until the end of October illustrate a stable trend compared to earlier data

## 4. Intraday Capacity Calculation

B. MALFLIET

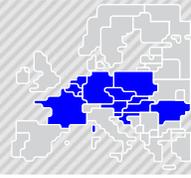


Frequency of isolated Core bidding zones by import, export and both directions BD20220906 – BD20221012

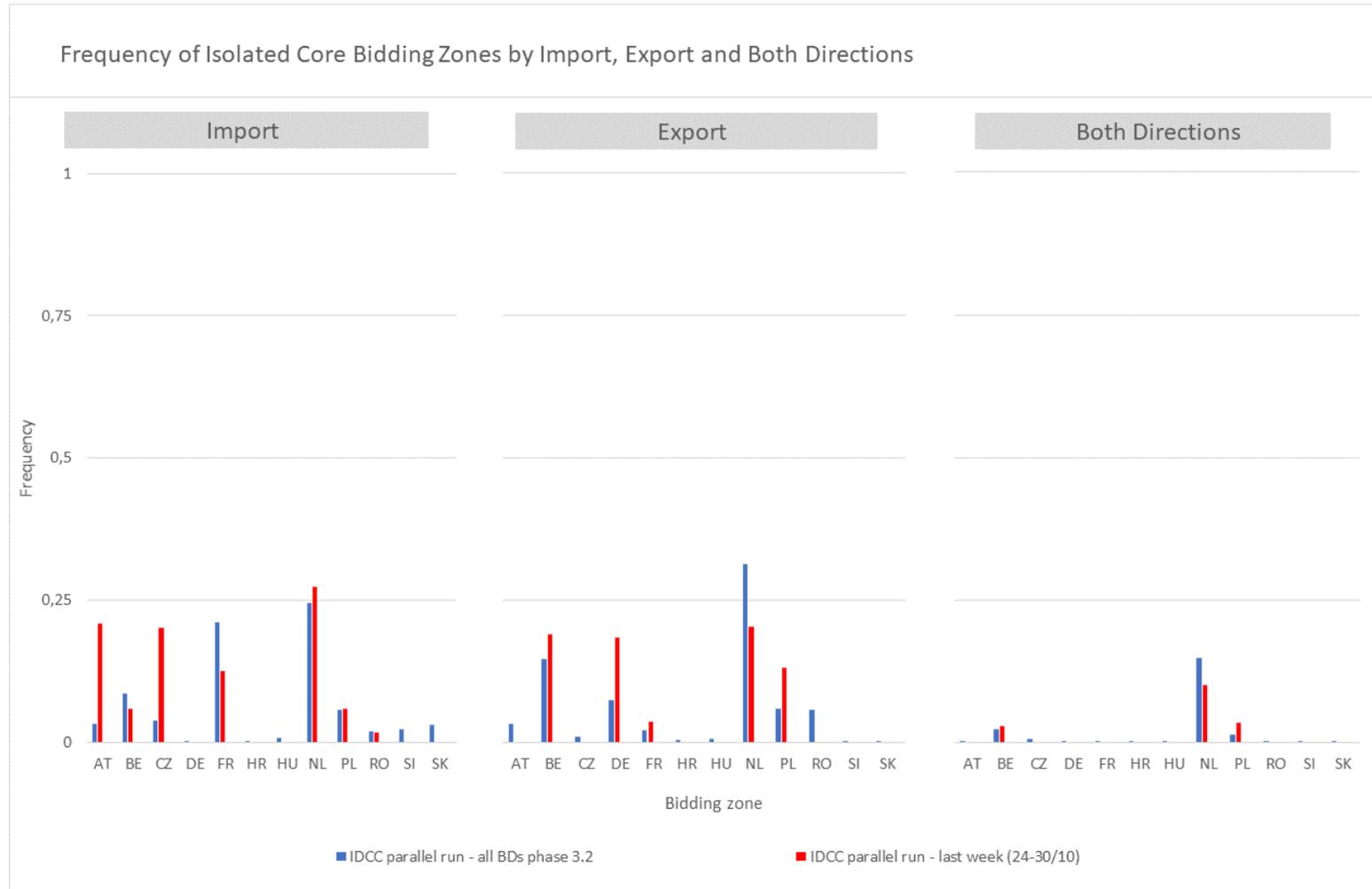


- Frequency of isolation increases for some BZs (BE, NL) but decreases for most others (eg. FR, DE, PL).
- In general, frequency of total isolation in both directions is quite rare.

# 4. Intraday Capacity Calculation



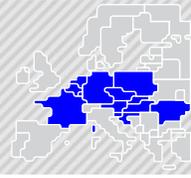
Frequency of isolated Core bidding zones by import, export and both directions until BD20221030



- The results until the end of October illustrate a stable trend compared to earlier data

## 4. Intraday Capacity Calculation

B. MALFLIET



Late November, a conclusion on the acceptability of the current ID ATC levels and grid security of the INT//Run phase 3.2 results is anticipated and Go/no-go decision will be made by Core TSOs to proceed to EXT//Run.

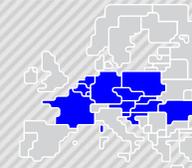
Any further questions?



Break 12:30 – 13:30



## 5. Balancing Timeframe Capacity Calculation Methodology



Update following public consultation feedback and Q&A

### Reminder

- EBGL Regulation 37(3) foresees submission of the final Capacity Calculation Methodology for the Balancing Timeframe for the Core Capacity Calculation Region to NRAs by the end of 2022
- TSOs submitted the draft proposal and explanatory document for public consultation (05/09 - 05/10)
- Several market participants have provided feedback. Specific requests were made:
  - To provide clarifications regarding foreseen FRM and ATC extraction
  - The opportunity to ask clarification questions

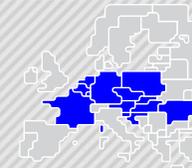
### Objectives of today

- TSOs to present:
  - Preliminary TSO feedback following public consultation
  - Further explanations on FRM and ATC extraction
- Q&A session

See next slides for TSO input

### Next steps:

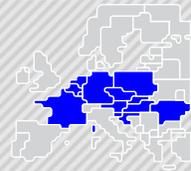
- December: Publication of public consultation report with final TSO feedback
- December: Submission of the final BTCC methodology for NRAs approval



## Preliminary TSO feedback

### Preliminary TSO feedback regarding main common responses following public consultation

Stakeholder response	Number of stakeholders requesting	Preliminary feedback
<b>1</b> General quality of both explanatory notes and draft methodology could be enhanced, notably in terms of redaction, and more pedagogical information are seen as useful	2	Methodology and explanatory note will be updated considering feedback from market participants and NRAs to further improve the quality.
<b>2</b> An organization of a public workshop to give market participants the opportunity to ask clarification questions would have been appreciated	3	Possibility for a Questions and Answer session planned for today
<b>3</b> Clarification regarding the FRM topic for BTCC is requested <ul style="list-style-type: none"> <li>• in particular the statement “the Core TSOs shall use <i>FRM</i> values not higher than the <i>FRM</i> values used in the Core Intraday capacity calculation” is challenged.</li> <li>• in addition, it is highlighted that FRM set in the BT CC in comparison to the one used for the DA/ID CC FRM reduction is one of the BT CC’s main interests</li> </ul>	2	More information on next slides
<b>4</b> Numbers/statistics regarding the added value due to an increased number of ATC extraction are requested	3	More information on next slides
<b>5</b> Clarification on the final method used to extract ATCs (iterative or mathematical optimization) is requested	3	More information on next slides



### Explanations on FRM and ATC extraction

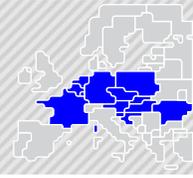
#### Clarification regarding the FRM topic

- Using more recent information during the calculation process allows lower FRM in theory, therefore this possibility is integrated in the methodology. The basis for a possible FRM reduction are the values applied in IDCC. No concrete methodology has been investigated as the impact of non-operational processes IDCC and ROSC is unclear at the moment
- With the statement “the Core TSOs shall use *FRM* values not higher than the *FRM* values used in the Core Intraday capacity calculation” Core TSO propose to set an upper limit for FRM application within the balancing timeframe. It only allows the usage of lower FRM compared to the previous performed capacity update (here IDCC vs BTCC). This is similar to the expectations of an FRM reduction between the DA and ID timeframe.

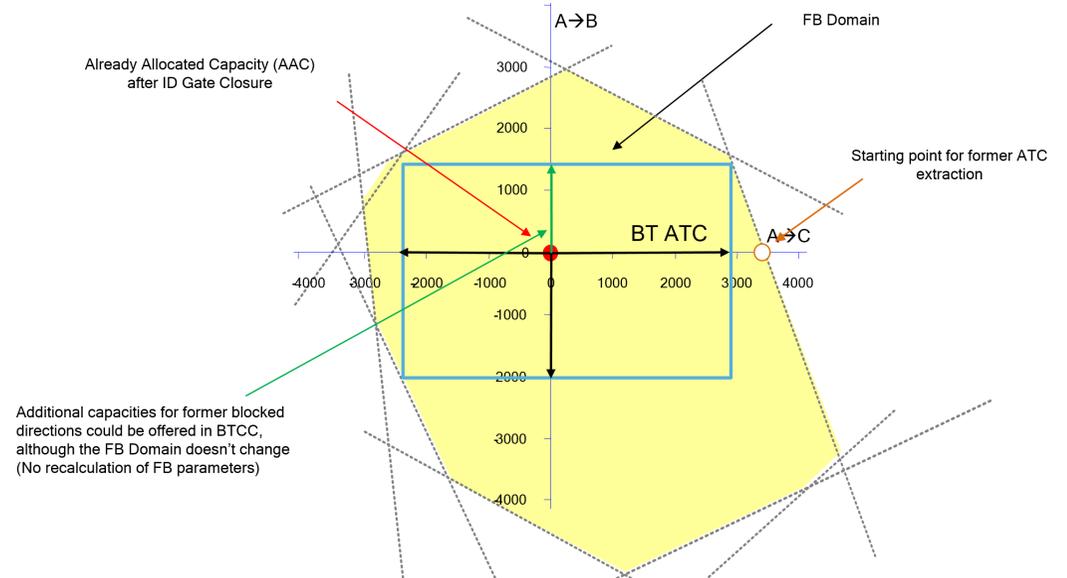
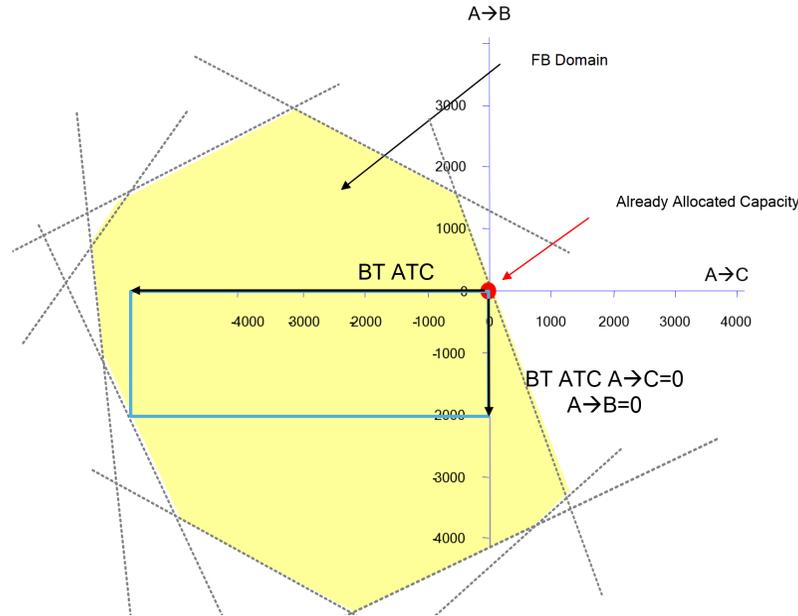
#### Clarification regarding the ATC extraction

- The BTCC methodology will use the “iterative extraction” that is planned for the IDCC go-live in 2023. The method is described in article 21 of the IDCC methodology (2nd amendment)
- At the moment, no concrete number or statistics can be provided as the iterative approach of IDCC process is not in operation and the ID ATC for the DA Leftover calculation are based on the mathematical approach using a BEX Domain (LTA) and FB Domain
- The theoretical benefits of using more frequent ATC extraction compared are illustrated on the next slide

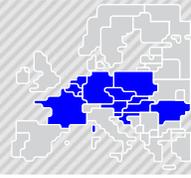
# 5. Balancing Timeframe Capacity Calculation Methodology



## Explanations on FRM and ATC extraction



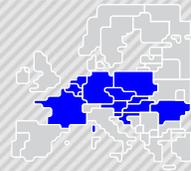
Due to the increased number of ATC extractions, it is expected to better utilize the FB Domains and achieve more optimal capacities within the balancing timeframe



Any questions?

### Question and Answers Session





### Implementation update

#### Background & reminder

- After an ACER referral process, the final methodology was decided by ACER on 13/08/2021

#### Current status

- The TSOs of the balancing capacity cooperation of AT, CZ and DE (“ALPACA TSOs”) informed the Core TSOs that they do not intend to apply the market-based allocation process for the time being.
- Thereby, ALPACA TSOs want to allow more time for the necessary adaption of Core CCR processes and tools such as for ROSC, Intraday Capacity Calculation Methodology (ICCM) and Balancing Capacity Calculation Methodologies (BCCM) to be ready for the implementation of the Harmonized MBM according to Art. 38(3) EBGL in Core CCR
- Core TSOs will continue this preparatory work with dedicated efforts to be ready for the implementation of the harmonized MBM in the Core CCR.
- Core NRAs have been updated on the outcome of Core TSOs discussions and the timeline during the 20/10 Core IG meeting.

The All-TSO harmonized method will be submitted by end of this year, and ACER is expected to approve it by June 2023. All the Core processes shall be assessed regarding required changes considering the Harmonized MBM by the respective Core project teams.

#### Next steps

- Core TSO determined that the goal should be that allocation of balancing is to remain firm until real time
- A dedicated Subgroup has been established to overlook and monitor implementation of respecting CZCA in all other Core CCs and security calculations. This includes a coordinated amendment of existing methodologies implementation timeline (e.g. implement with a dependency on ROSC V2)

## 7. AOB & closure



### Next meeting and communication channels

#### Proposal for next Core Consultative Group in 2023

- 05/04/2023
- 04/10/2023

#### 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](https://www.entsoe.eu/network_codes/ccr-regions/#core)

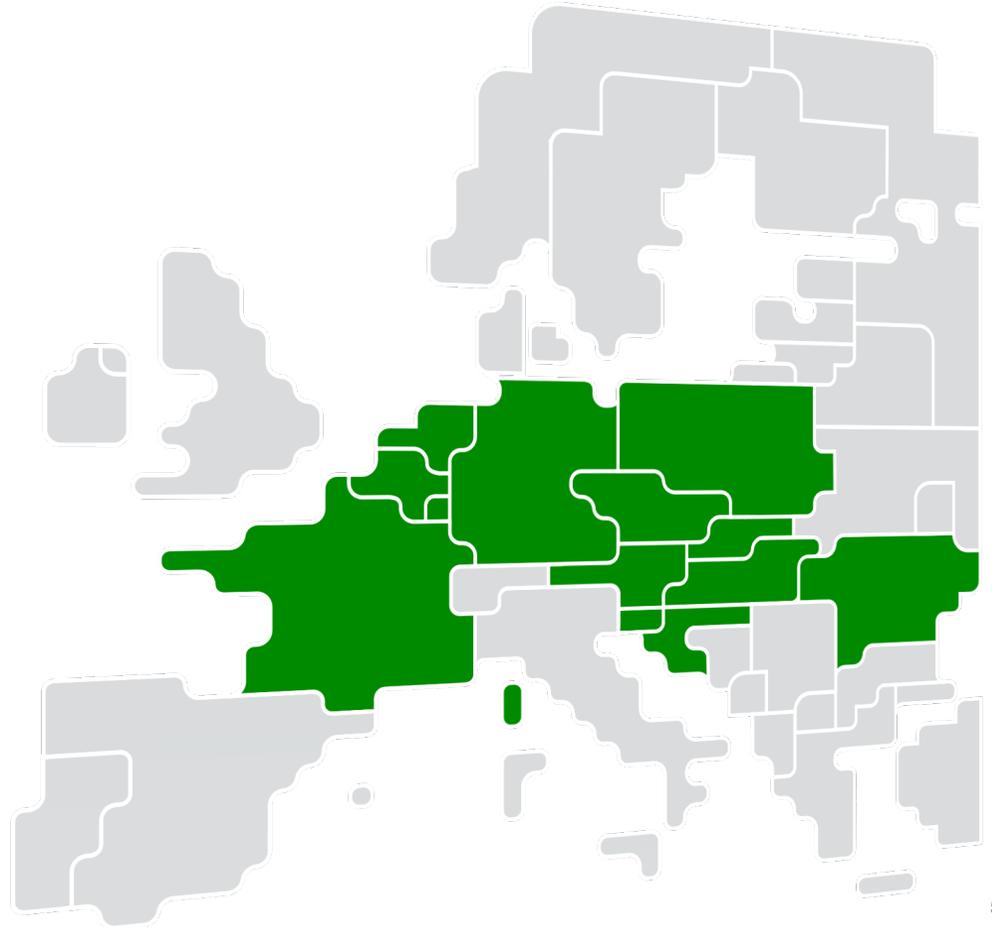
##### ENTSO-E newsletter

- 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/>

# 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		