Core - Publication Tool for DA CCM
Publication Handbook

Summary	The handbook contains an overview of the data that is published, along with the relevant information required to utilize the Publication tool.
Version	2.2
Date	July 2024

Version History	Change description
2.2	Correction in D2CF section
2.1	Improved explanation of how Max Net Positions is obtained Improved explanation of how MaxBex are obtained Improved explanation of LTN Updated description of maxZ2Zptdf formula Improved explanation for Schedule exchange Improved explanation of Default FB Parameters Description added for Active LTA constraints with shadow prices Description added for RAM@MCP
2.0	Alpha Factor from MCP added
1.9	Explanation for shadow price pages extended Additional Information for Validation reduction page Caveat on minRAM_target_Core V1.4 solved
1.8.	Explanation of remedial actions impact on the domain data added
1.7	Adjusted publication timings
1.6	- The URLs for Core Publication Tool Go-live and API are included - The description of the Monitoring tool is updated
1.5	Publication Tool was updated in May 2022 with - Release of the monitoring tool - Implementation of Ext LTA inclusion approach in the Core market view
1.4	Version released Apr 2022 integrating the post-coupling pages as well as following improvements/precisions to the pre-coupling pages: - UCT time in download - Core market view: explanation how to model ALEGrO as part of DE-BE exchanges and hub positions - Explanation data sources RefProg - Updated references to cross-zonal capacities being the combination of final FB domain and final BEX restrictions - Explanation on IVA capping and how it plays out in the pre-final and final FB domain - Scope of network elements that can be found in the domain pages - Caveat on the minRAM_target_Core parameter Please note the introduction of the following functionalities is deferred to a next release - Monitoring tool - Core market view: explanation on extended LTA inclusion approach added yet correct implementation to follow in a next release
1.3	Version released Nov 2021 mainly focused on the pre-coupling pages

Table of Contents

1. Background

The Core Day-ahead Capacity Calculation Methodology CCM Article 25 – "Publication of data" describes the publication obligations that TSOs need to fulfil. This encompasses the set-up of a dedicated online communication platform, and a handbook (this document) to enable market participants to have a clear understanding of the different published data.

The dedicated online communication platform is named the Core Publication Tool and can be accessed via the following link: https://publicationtool.jao.eu/core/

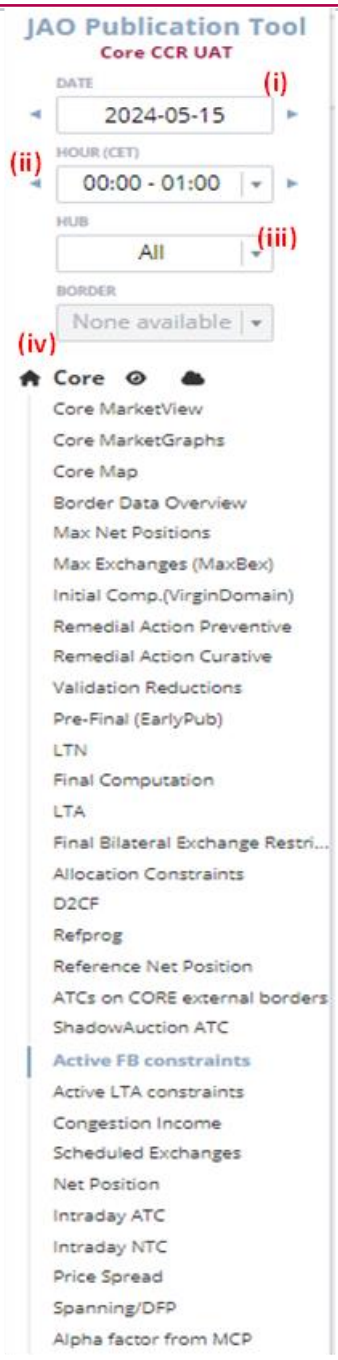
2. Navigation

Various publications are structured in multiple pages and listed in the vertical navigation bar. The navigation bar is visible at all times allowing users to easily switch between the different available publications.

Also present in the vertical navigation bar are filters which allow users to:

- Filter for a specific (i) business day and if needed a specific (ii) MTU;
- Filter on specific (iii) hubs or (iv) borders

The filter functionality allows users to target their dataset of interest, and is beneficial in terms of performance.



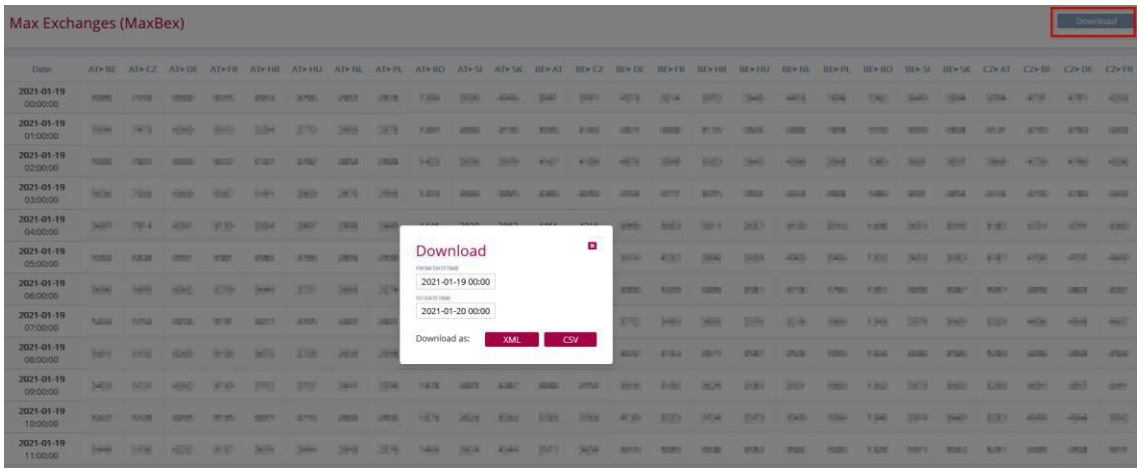
3. Downloading data

Users are able to download data in two formats (CSV or XML) via the “Download” button on the right upper corner. Users may opt to download data covering a range of days or a single day. If preferred, further filtering option to download specific time period is also available.
A download option for the Border Data Overview page is not planned as it is an overview page.

The main date filter in the navigation bar allows users to select and display data for a given day. Displaying multiple days in the GUI is not foreseen due to large volume of data (especially for domain pages).

The download option allows users additional filter functionality, users have an option to:

1.1. Download a larger dataset (>24 hours)
1.2. Download a shorter dataset (<24 hours)



Note: the UCT time convention applied in the downloads, and hence can differ from the value observed in the GUI which is based on CEST time

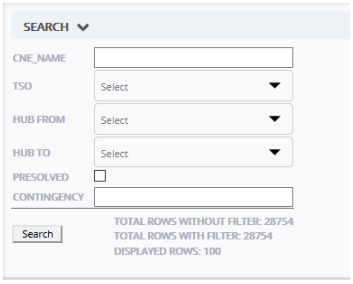
Please consider download the Data for small batches of time (less than 30 days).

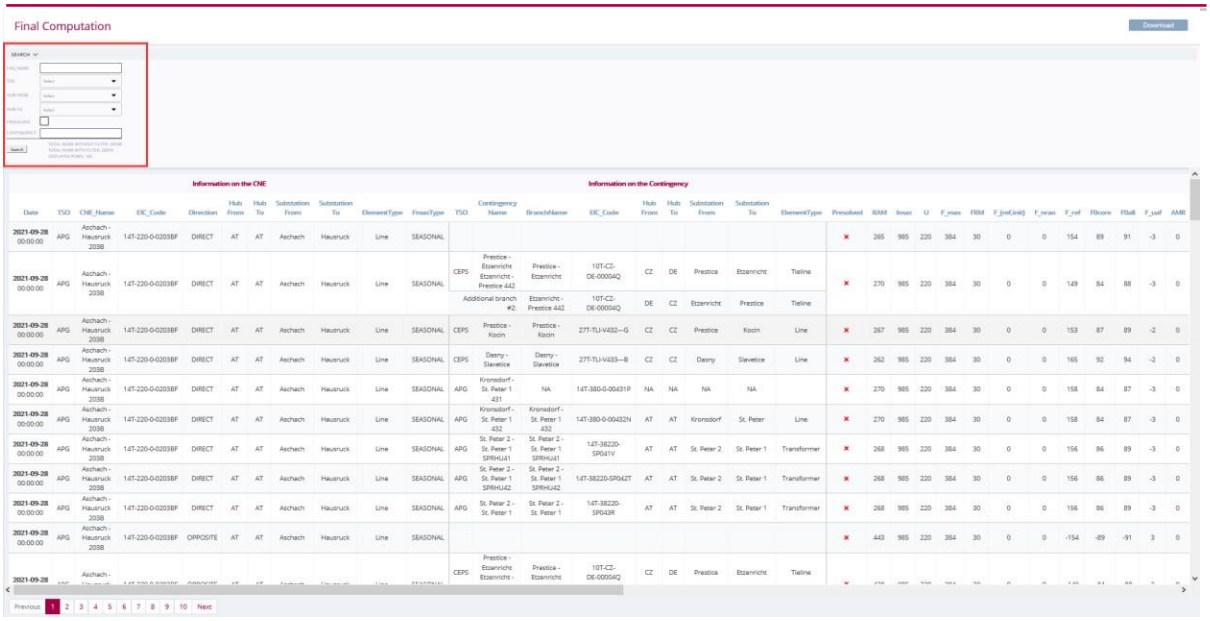
4. Filter functionality: Domain pages

In the Domain pages (Initial, Pre-Final and Final), users are able to filter within following fields:

- Pre-solved - Check box allowing user to select true or false
- TSO – picklist allowing user to select TSO(s)
- Hub from / Hub to - picklist allowing user to select multiple hubs (from/to)
- CNE – keyword based search
- Contingency – keyword based search

The filter selection will not have an effect on the downloading of data, here all the results are downloaded depending on the selected time period.





5. Publication Overview

5.1. Core MarketView

The Core Market View page enables market participants to evaluate the interaction between cross-zonal capacities and cross-zonal exchanges between bidding zones. It is split in two sections.

Max Volume: publication of "Max net position" and "Max exchanges (Maxbex)" for the MTU under consideration. Although this information is published on separate pages too, it is embedded in this page to facilitate the utilisation of the "check volume" part.

Check Volume: an interactive section where user can insert volumes of commercial trades (in terms of hub-to-hub exchanges or hub net export positions) in order to test their feasibilities. The feasibility is assessed for the selected business day and MTU as explained below.

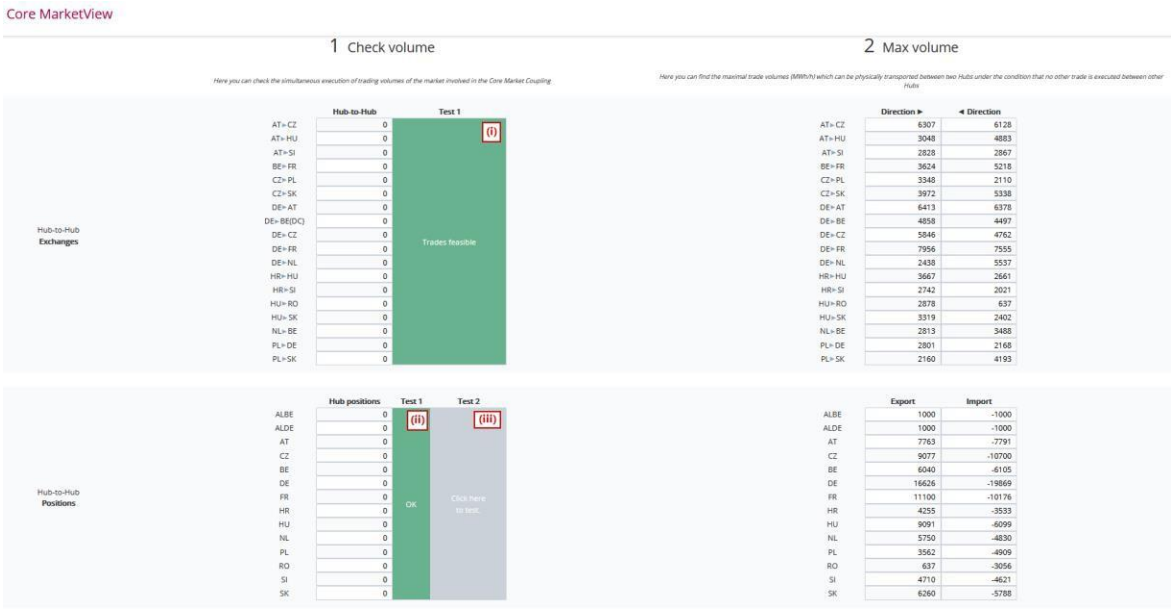
(i) Hub-to-hub

To test the feasibility of trades, users can enter for each border the volume of exchanges they are willing to trade (positive values for direction indicated and negative values if the user wants to test in the other direction) and click in the adjacent box **(i)** to run the test.

The tool will then test, as per the Ext LTA inclusion methodology implemented in Euphemia, whether the hub-to-hub exchanges fit within the union of the Final FB domain and the Final Bilateral Exchange Restrictions.

If the trades are feasible the cell turns green text "Trades feasible" is displayed. If the trades are not feasible, the cell turns red and the text "Constrained Transmission System" is displayed.

Note: the value for the DE-BE border in the max volume section represents an exchange between the German and Belgian hubs where both the ALEGrO direct DC interconnector as well as the AC grid pathways are used. Whilst the value to fill in the 'check volume part' for the DE-BE (DC) row corresponds to the direct exchange between Germany and Belgium through the ALEGrO interconnector, thus a range between -1000 and + 1000 MW.



(i) Hub positions

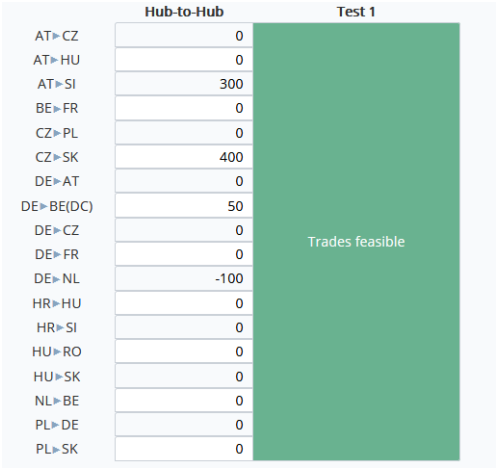
Users are able to check the feasibility of Hub positions (import/export positions).

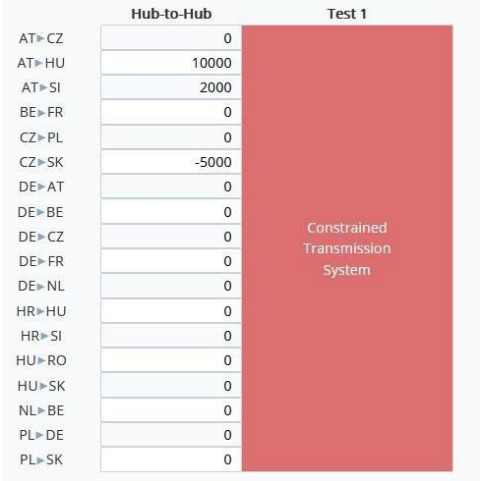
- Test 1: The tool will check if the sum of Hub positions equals to zero (ii).
- Test 2: The tool will check whether the specified Hub positions are feasible or not by checking whether the hub positions fit within the union of the Final FB domain and the Final Bilateral Exchange Restrictions

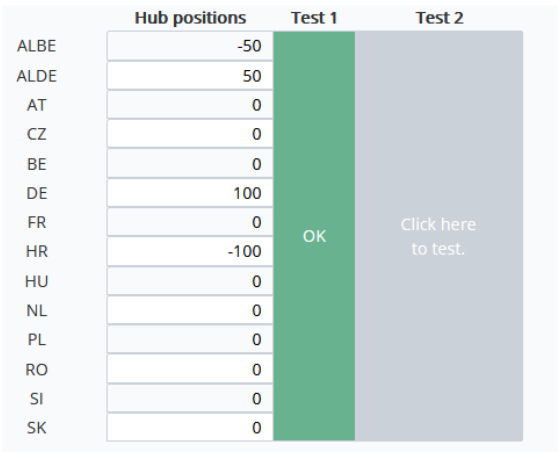
Note: when filling in the hub positions, please be aware about the following relationship between the BE, DE, ALBE and ALDE hubs

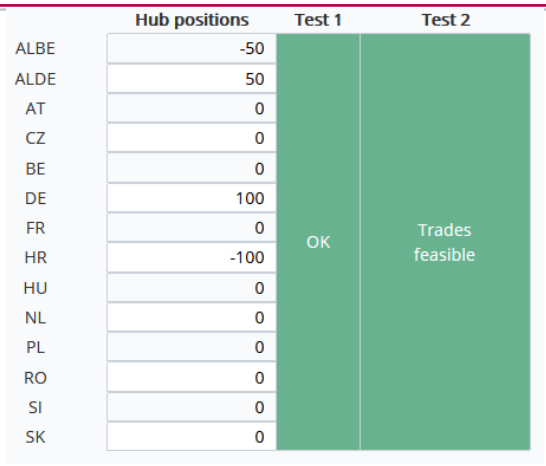
- The ALBE and ALDE hubs represent the contribution of the ALEGrO interconnector and have to be filled in symmetrically. For example, if ALDE is filled in with 1000 MW then ALBE should be filled in with -1000 MW to configure a 1000 MW export on the German side and a 1000 MW import on the Belgian side of the ALEGrO interconnector
- The BE and DE hubs represent the net positions aside from ALEGrO. Double-counting is to be avoided. For example, to model a 3000 MW Core net import for Belgium where 1000 MW comes from ALEGrO, one has to fill in -1000 MW in ALBE row and -2000 MW in the BE row. Similar, to model a 5000 MW Core net export for Germany where 1000 MW is exported through ALEGrO, one has to fill in 1000 MW in the ALDE row and 4000 MW in the DE row.

Note 2: the check on hub-to-hub exchanges and the check on the hub positions are independent from another. This means that the hub positions specified are not taken into account when testing the feasibility of the specified hub-to-hub exchanges, and vice versa.









Publication time: 10.30 am (D-1)

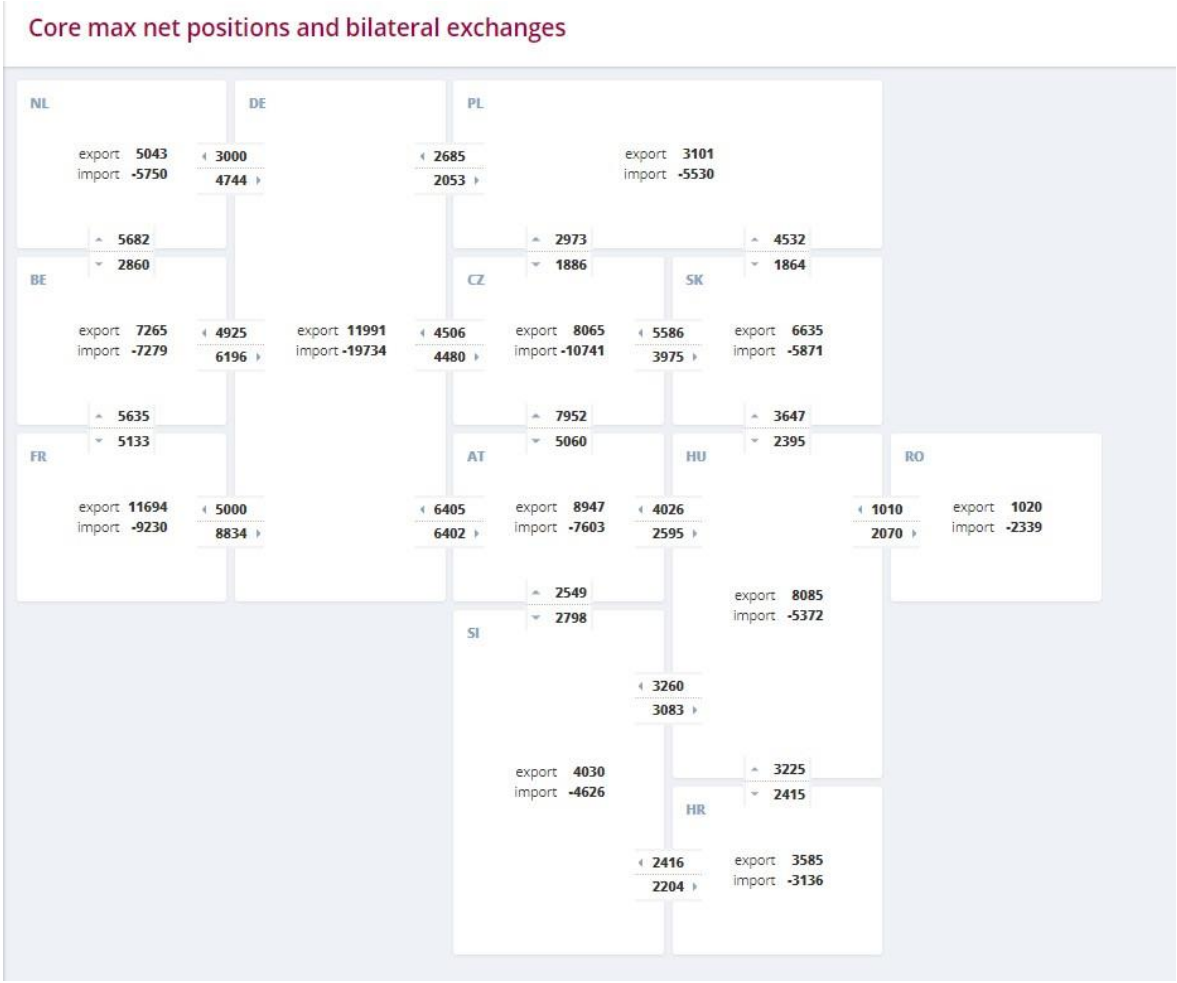
5.2. Core MarketGraphs

The "Core Market Graphs" illustrates for each Core hub, a graph with the "Min/Max net pos" and "Max exchanges (Maxbex)" for the 24 MTUs of the selected day. Users are able to de/select specific hubs on top of the page.

Publication time: 10.30 am (D-1)

5.3. Core Map

The "Core map" displays the maximum possible bilateral exchanges between each border and the minimum and maximum net positions of each hub on a map representing the Core configuration. The data corresponds to the MTU and Business Day as selected in the filter from the final flow-based computation.



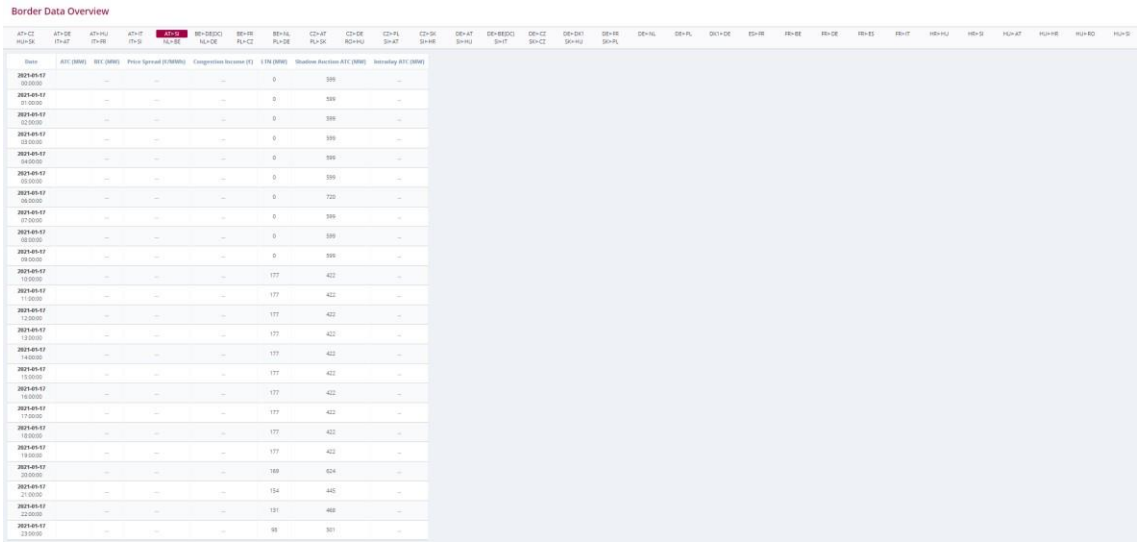
Publication time: 10.30 am (D-1)

5.4. Border Data Overview

This page displays the following information for a selected border:

1.1.1. The ATC in MW offered for the Day-ahead market coupling (for the non-Core borders)
1.1.2. The allocated capacity (or SEC) in MW after Market coupling
1.1.3. The Price Spread in €/MWh
1.1.4. The Congestion Income in €
1.1.5. The nominated volume of the long term allocated product (LTN) in MW
1.1.6. The Shadow Auction ATC, being the ATC that would be provided to a shadow auction mechanism, in MW
1.1.7. The Intraday ATC, being the left-over capacity after the FBMC expressed as initial ATC, in MW.

Please note that for the Core internal borders, the ATCs and Congestion Income are not available on a border basis and for the other borders, the long-term nominations, the Shadow Auction ATCs and the intraday ATCs will not be available.



Publication time: As soon as data is available (D-1)

5.5. Max Net Positions

This page displays the minimum and maximum Core net positions in MW of each hub for each MTU of the day. These indicators are extracted from the union of the final flow-based domain and final bilateral exchange restriction which together describe the cross-zonal capacities provided to the market coupling.

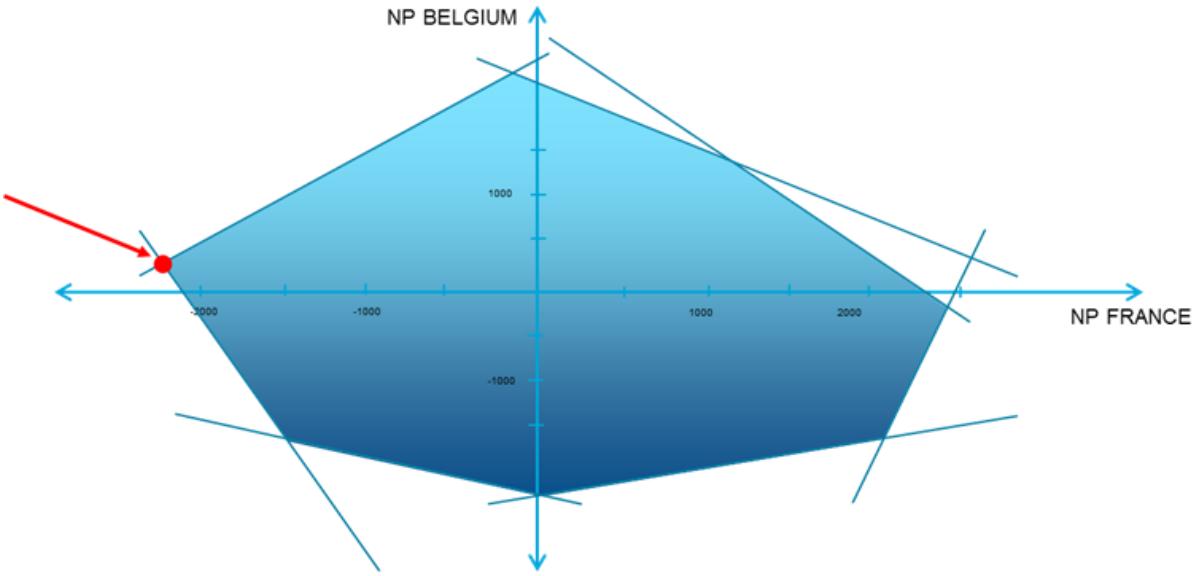
Example :

MIN FR is the vertex of the Flow Based Domain where the lowest value for NP FR is reached. It is a single vertex (summit of the geometrical domain), which means that it can only be reached if the other country's NP have very specific coordinates.

Max Net Positions

Download

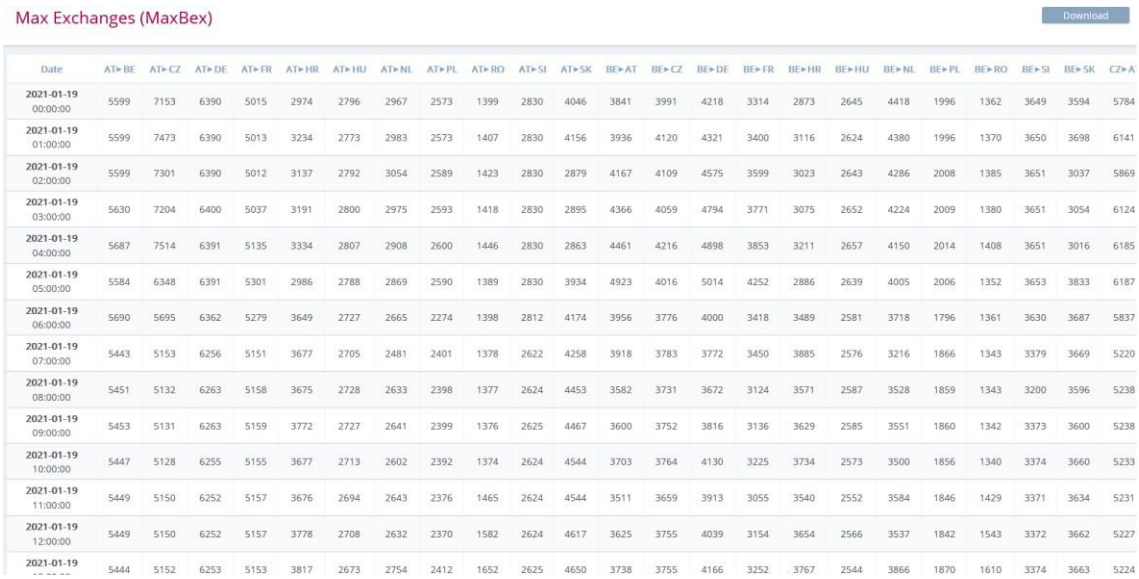
Date	Min ALBE	Min ALDE	Min AT	Min CZ	Min BE	Min DE	Min FR	Min HR	Min HU	Min NL	Min PL	Min RO	Min SI	Min SK	Max ALBE	Max ALDE	Max AT	Max CZ	Max BE	Max DE	Max FR	Max HR	Max HU	Max NL	Max PL	Max RO	Max SI	Max SK
2021-01-19 00:00:00	-1000	-1000	-7853	-11049	-6500	-16984	-9157	-4111	-5872	-4912	-5410	-2059	-4805	-5741	1000	1000	8657	8268	5670	12404	9058	4029	8090	5750	3484	1405	4217	6825
2021-01-19 01:00:00	-1000	-1000	-7847	-11090	-6500	-16978	-9301	-4057	-6039	-4856	-5324	-2239	-4814	-5813	1000	1000	8688	8507	5668	12642	9795	4270	8474	5139	3597	1459	4269	6690
2021-01-19 02:00:00	-1000	-1000	-7930	-11013	-6500	-16813	-9466	-3675	-6188	-4919	-5202	-2362	-4846	-5323	1000	1000	8467	8327	5736	12845	9514	4337	8353	5332	3557	1508	4264	6699
2021-01-19 03:00:00	-1000	-1000	-8044	-10857	-6500	-16324	-10199	-3757	-6367	-4730	-5024	-2442	-4735	-5316	1000	1000	8278	8532	5756	13271	8679	4551	8561	5169	3491	1672	4382	6777
2021-01-19 04:00:00	-1000	-1000	-8105	-10907	-6500	-16499	-10371	-3873	-6326	-4593	-5053	-2435	-4725	-5316	1000	1000	8166	8685	5830	14012	8611	4639	8420	5601	3579	1643	4316	6741
2021-01-19 05:00:00	-1000	-1000	-8083	-10839	-6500	-16401	-11296	-3543	-6477	-4430	-4946	-2186	-4772	-5775	1000	1000	7431	8560	6085	14354	7802	4284	7709	5750	4209	1720	4290	6607
2021-01-19 06:00:00	-1000	-1000	-8312	-10630	-6500	-15159	-11608	-4161	-6467	-4415	-4752	-2149	-4703	-5814	1000	1000	7167	8206	5669	14624	8268	4891	7388	5750	3967	1670	4585	6712
2021-01-19 07:00:00	-1000	-1000	-8699	-9997	-6500	-14588	-10122	-4298	-6507	-4104	-4997	-2124	-4499	-5933	1000	1000	6846	7200	5677	12222	9045	5234	7439	4761	3899	1877	4885	6813
2021-01-19 08:00:00	-1000	-1000	-8640	-9912	-6500	-14267	-11276	-4041	-6552	-4106	-5328	-2084	-4401	-5932	1000	1000	6868	7124	5051	13282	8357	5024	7485	5187	3174	1813	5092	6952
2021-01-19 09:00:00	-1000	-1000	-8437	-10028	-6500	-14426	-10082	-4231	-6473	-4299	-5284	-2038	-4518	-5961	1000	1000	6870	7146	5224	12562	9124	5017	7441	4828	3079	1845	4882	6817
2021-01-19 10:00:00	-1000	-1000	-8733	-10025	-6500	-15758	-8808	-4588	-6200	-4591	-5144	-2046	-4601	-6049	1000	1000	6853	7185	5637	11698	10391	5506	7827	4762	3418	1782	4759	6729
2021-01-19 11:00:00	-1000	-1000	-8735	-9947	-6500	-15443	-8720	-4773	-6100	-4587	-5121	-2038	-4573	-5987	1000	1000	6848	7237	5473	12056	10212	5684	7864	4950	3219	1836	4766	6678
2021-01-19 12:00:00	-1000	-1000	-8718	-9921	-6500	-15865	-8561	-4610	-6072	-4541	-5205	-2082	-4597	-6109	1000	1000	6856	7263	5457	11916	10416	5611	7946	5080	3159	1785	5205	6726



Publication time: 10.30 am (D-1)

5.6. Max Exchanges (Maxbex)

This page displays the maximum bilateral exchanges between two Core hubs with the assumption that the other net positions are zero. These indicators are extracted from the union of the final flow-based domain and final bilateral exchange restriction which together describe the cross-zonal capacities provided to the market coupling.
For all combinations (hub_i → hub_j) (excluding HVDC borders): maximize the physical net position of a specific hub with the same constraints as in "Max./min. net positions" calculation, and with one additional constraint to force 0 NPs for all hubs, except for i and j.


Max Exchanges (MaxBex)

Download

Date	AT▸BE	AT▸CZ	AT▸DE	AT▸FR	AT▸HR	AT▸HU	AT▸NL	AT▸PL	AT▸RO	AT▸SI	AT▸SK	BE▸AT	BE▸CZ	BE▸DE	BE▸FR	BE▸HR	BE▸HU	BE▸NL	BE▸PL	BE▸RO	BE▸SI	BE▸SK	CZ▸A
2021-01-19 00:00:00	5599	7153	6390	5015	2974	2796	2967	2573	1399	2830	4046	3841	3991	4218	3314	2873	2645	4418	1996	1362	3649	3594	5784
2021-01-19 01:00:00	5599	7473	6390	5013	3234	2773	2983	2573	1407	2830	4156	3936	4120	4321	3400	3116	2624	4380	1996	1370	3650	3698	6141
2021-01-19 02:00:00	5599	7301	6390	5012	3137	2792	3054	2589	1423	2830	2879	4167	4109	4575	3599	3023	2643	4286	2008	1385	3651	3037	5869
2021-01-19 03:00:00	5630	7204	6400	5037	3191	2800	2975	2593	1418	2830	2895	4366	4059	4794	3771	3075	2652	4224	2009	1380	3651	3054	6124
2021-01-19 04:00:00	5687	7514	6391	5135	3334	2807	2908	2600	1446	2830	2863	4461	4216	4898	3853	3211	2657	4150	2014	1408	3651	3016	6185
2021-01-19 05:00:00	5584	6348	6391	5301	2986	2788	2869	2590	1389	2830	3934	4923	4016	5014	4252	2886	2639	4005	2006	1352	3653	3833	6187
2021-01-19 06:00:00	5690	5695	6362	5279	3649	2727	2665	2274	1398	2812	4174	3956	3776	4000	3418	3489	2581	3718	1796	1361	3630	3687	5837
2021-01-19 07:00:00	5443	5153	6256	5151	3677	2705	2481	2401	1378	2622	4258	3918	3783	3772	3450	3885	2576	3216	1866	1343	3379	3669	5220
2021-01-19 08:00:00	5451	5132	6263	5158	3675	2728	2633	2398	1377	2624	4453	3582	3731	3672	3124	3571	2587	3528	1859	1343	3200	3596	5238
2021-01-19 09:00:00	5453	5131	6263	5159	3772	2727	2641	2399	1376	2625	4467	3600	3752	3816	3136	3629	2585	3551	1860	1342	3373	3600	5238
2021-01-19 10:00:00	5447	5128	6255	5155	3677	2713	2602	2392	1374	2624	4544	3703	3764	4130	3225	3734	2573	3500	1856	1340	3374	3660	5233
2021-01-19 11:00:00	5449	5150	6252	5157	3676	2694	2643	2376	1465	2624	4544	3511	3659	3913	3055	3540	2552	3584	1846	1429	3371	3634	5231
2021-01-19 12:00:00	5449	5150	6252	5157	3778	2708	2632	2370	1582	2624	4617	3625	3755	4039	3154	3654	2566	3537	1842	1543	3372	3662	5227
2021-01-19	5444	5152	6253	5153	3817	2673	2754	2412	1652	2625	4650	3738	3755	4166	3252	3767	2544	3866	1870	1610	3374	3663	5224

Publication time: 10.30 am (D-1)

5.7. Initial Comp.(VirginDomain)

This page contains the flow-based parameters of the selected business day and MTU of the initial flow-based computation (virgin domain, RefProg balanced).

Details of each column:

1.1.8. Date: Business Day and MTU

Information on the CNE:

1.1.9. TSO: Indicating the TSO defining the CNE
1.1.10. CNE_Name: the human readable name of the CNE as per the naming conventions defined in 10.1
1.1.11. EIC_Code: EIC Code of the Critical Network Element
1.1.12. Direction: Direction of the flow [DIRECT] or [OPPOSITE]
1.1.13. Hub From: The Hub the CNE is connected from
1.1.14. Hub To: The Hub the CNE is connected to
1.1.15. Substation From: The location (substation the CNE is connected from)
1.1.16. Substation To: The location (substation the CNE is connected to)
1.1.17. ElementType: Asset Type of the CNE, e.g. Busbar, DC-Link, Generation, Line, Load, PST, Tieline, Transformer
1.1.18. FmaxType: The Method for determining the Imax i.e. Type of maximum admissible power flow, e.g. Fixed, Dynamic, Seasonal

Please note: External constraints are also displayed in this page, e.g. NL_import

Information on the Contingency:

1.1.19. TSO: Indicationg the TSO defining the Contingency
1.1.20. Contingency Name: The readable name of the Contingency indicating [Hub from – Hub to]
1.1.21. BranchName: In case of multibe branch contingency the name of each branch
1.1.22. EIC_Code: EIC Code of the Critical Network Element
1.1.23. Hub From: The Hub the Contingency is connected from
1.1.24. Hub To: The Hub the Contingency is connected to
1.1.25. Substation From: The location (substation the Contingency is connected from)
1.1.26. Substation To: The location (substation the Contingency is connected to)
1.1.27. ElementType: Asset Type of the CNE, e.g. Busbar, DC-Link, Generation, Line, Load, PST, Tieline, Transformer

In case a Contingency consists of multiple branches, each branc is displayed as one row associated to the CNE to which the Contingency is applied.

Information on the CONTINGENCY								
TSO	Contingency Name	BranchName	EIC_Code	Hub From	Hub To	Substation From	Substation To	ElementType
Elia	380.33 [BE-BE] Y-Courcelles (-Bruegel - Drogenbos) 380.33 [BE-BE] Y-Drogenbos (-Bruegel - Courcelles) 380.33	Y-Bruegel (-Courcelles - Drogenbos) 380.33	22T-BE-IN-LI0017	BE	BE	Bruegel	Mekingen	Line
Additional branch #2:		Y-Courcelles (-Bruegel - Drogenbos) 380.33	22T-BE-IN-LI0017	BE	BE	Courcelles	Mekingen	Line
Additional branch #3:		Y-Drogenbos (-Bruegel - Courcelles) 380.33	22T-BE-IN-LI0017	BE	BE	Drogenbos	Mekingen	Line

Detailed breakdown of RAM:

1.1.27.1. Presolved: if the value is TRUE then the corresponding CNEC constrains the flow-based domain, FALSE means a redundant CNEC not constarining the flow-based domain
1.1.27.2. RAM: remaining available margin in MW;
1.1.27.3. Imax: the maximum admissible current in A
1.1.27.4. U: reference voltage of the CNEC in kV
1.1.27.5. Fmax: the maximum allowable power flow of the corresponding CNEC in MW
1.1.27.6. FRM: flow reliability margin in MW
1.1.27.7. F_(ref,init): the reference flow calculated during the initial flow-based calculation in MW
1.1.27.8. F_nrao: expected flow change due to non-costly remedial actions optimisation in MW
1.1.27.9. F0core: the flow per CNEC in the situation without commercial exchanges within the Core CCR in MW
1.1.27.10. F0all: the flow per CNEC in a situation without any commercial exchange between bidding zones within Continental Europe and between bidding zones within Continental Europe and bidding zones of other synchronous areas in MW
1.1.27.11. F_uaf: the flow resulting from assumed commercial exchanges outside the Core region in MW
1.1.27.12. AMR: Adjustment for minimum RAM in MW
1.1.27.13. LTA_margin: Flow margin for LTA inclusion where LTA_margin=max(F_{LTAmax} + FRM-AMR-Fmax; 0) in MW
1.1.27.14. CVA: coordinated value adjustment resulting from coordinated validation process in MW
1.1.27.15. IVA: individual value adjustment resulting from individual TSO validation process in MW
1.1.27.16. Ftotal_LTN: flow after consideration of LTN (Ftotal_LTN=(F0,core+F_LTN)) in MW
1.1.27.17. One column per hub with the Power Transfer Distribution Factor value (PTDF_ALBE;PTDF_ALDE;PTDF_AT;PTDF_CZ;PTDF_BE;PTDF_DE;PTDF_FR;PTDF_HR;PTDF_HU;PTDF_NL;PTDF_PL;PTDF_RO;PTDF_SI;PTDF_SK)

Please note the attributes F_nrao, AMR, LTA_margin, IVA, CVA, Fotal_LTN are empty/zero because these are determined later on in the capacity calculation process, and hence only relevant for the Pre-Final Computation and Final Computation pages.

Please note the attribute IVA is capped by the Core CCCt in order to ensure a non-negative RAM value. The capped IVA value can differ between the pre-final FB domain and the final FB domain because in the pre-final FB domain the RAM is expressed against a zero-balance reference, whilst in the final FB domain the RAM is expressed against a reference where zero-balance is shifted to the long-term nominations.

Scope of network elements: please note that the list of NECs (network elements combined with a contingency) displayed in the domain pages contains more than only CNECs. Hereby an enumeration of other network elements currently displayed:

1.1.28. Network elements which got filtered out following the 5% ptdf rule. These are monitored network elements according to the CCM and are not part of the pre-solved dataset;
1.1.29. Network elements with Imax = 9999 and that can appear at first sight as duplicates of CNECs. These CNECs relate to

borders between Core and non-Core countries and are technically part of the dataset as they are needed to calculate the non-core exchanges KPI;

1.1.30. Technical parameters to properly bound the FB domain and thus part of the pre-solved dataset

- 4 external constraints related to ALEGrO: External Constraint BE_AL_export, External Constraint BE_AL_import, External Constraint DE_AL_export, External Constraint DE_AL_import
- 4 equality constraints

Publication time: 01.15 am (D-1)

5.8. Remedial Actions (Preventive/Curative)

This page displays the Remedial Actions split between curative RA's and preventive RA's.

Users are able to switch between two pages, where one page displays the Preventive RA's that are applied and the other, the Curative RA's that are applied when nRAO was used in the process. If a MTU was not optimized by nRAO this is also shown with the information that "Given hour was not optimized in NRAO), If no data is available for a specific hour, this is also displayed, this could occur due to failing of nRAO in the process,

Baseline means the Tap position of a PST in the CGM before nRAO Application.

More information on the applied RAs can be found in the Handbook for the static grid model here

Remedial Action Preventive

	pRA Information		Parameters	
Date	pRA Name	TSO	Baseline	After NRAO
2021-08-07 07:00:00	PST_ZANDV D1_PRA	Elia	-5	-5
2021-08-07 07:00:00	PST_Diele_T441	Tennet DE	1	1
2021-08-07 07:00:00	PST_VANYK D1_PRA	Elia	-2	-2
2021-08-07 07:00:00	PST_Roehrsdorf_441	50Hertz	1	1
2021-08-07 07:00:00	PST_ZANDV D2_PRA	Elia	-5	-5

	pRA Information		Parameters	
Date	pRA Name	TSO	Baseline	After NRAO
2021-09-29 10:00:00	Given hour was not optimized in NRAO			

Remedial Action Curative

			cRA#1 Information			cRA#2 Information			cRA#3 Information			cRA#4 Information		
Date	CNEC TSO	CNEC Name	Name	Baseline	After NRAO	Name	Baseline	After NRAO	Name	Baseline	After NRAO	Name	Baseline	After NRAO
2021-08-07 22:00:00	TransnetBW	Grafenrheinfeld - Hoepfingen ge |N-1 Ensdorf - Vigy VIGY1 N	TOP_2N_VIGY_tronconnement_CRA											
2021-08-07 22:00:00	TransnetBW	Grafenrheinfeld - Hoepfingen ge |N-1 Ensdorf - Vigy VIGY2 S	TOP_COMPLEX_VIGY_quarterbar1A_CRA											
2021-08-07 22:00:00	TransnetBW	Buers - Meiningen gn |N-1 Ensdorf - Vigy VIGY1 N	TOP_2N_VIGY_tronconnement_CRA											
2021-08-07 22:00:00	TransnetBW	Buers - Meiningen gn |N-1 Ensdorf - Vigy VIGY2 S	TOP_COMPLEX_VIGY_quarterbar1A_CRA											
2021-08-07 22:00:00	TransnetBW	Buers - Westtirol rt |N-1 Ensdorf - Vigy VIGY1 N	TOP_2N_VIGY_tronconnement_CRA											
2021-08-07 22:00:00	TransnetBW	Buers - Westtirol rt |N-1 Ensdorf - Vigy VIGY2 S	TOP_COMPLEX_VIGY_quarterbar1A_CRA											
2021-08-07 22:00:00	TransnetBW	Buers - Westtirol ws |N-1 Ensdorf - Vigy VIGY1 N	TOP_2N_VIGY_tronconnement_CRA											
2021-08-07 22:00:00	TransnetBW	Buers - Westtirol ws |N-1 Ensdorf - Vigy VIGY2 S	TOP_COMPLEX_VIGY_quarterbar1A_CRA											
2021-08-07 22:00:00	TransnetBW	Gurtweil - Laufenburg ge (Alb Sued) |N-1 Ensdorf - Vigy VIGY1 N	TOP_2N_VIGY_tronconnement_CRA											
2021-08-07 22:00:00	TransnetBW	Gurtweil - Laufenburg ge (Alb Sued) |N-1 Ensdorf - Vigy VIGY2 S	TOP_COMPLEX_VIGY_quarterbar1A_CRA											
2021-08-07 22:00:00	TransnetBW	Kuehmoos - Asphard rt (Wehra) |N-1 Ensdorf - Vigy VIGY1 N	TOP_2N_VIGY_tronconnement_CRA											
2021-08-07 22:00:00	TransnetBW	Kuehmoos - Asphard rt (Wehra) |N-1 Ensdorf - Vigy VIGY2 S	TOP_COMPLEX_VIGY_quarterbar1A_CRA											

Publication time: 10.30 am (D-1)

5.9. Validation Reductions

This page lists fulfilling Article 20(11), Article 25(2d) xi the CNE(C)s and the TSOs

• for which capacity has been reduced as an outcome of the validation processes, including a justification for this reduction

• that have been additionally added to the final list of CNECs during the validation processes, including a justification of the reasons of why adding a CNEC to ensure operational security. In this case the 'Returned Branch' attribute will contain a value.

Details on the page:

- The CNEC Name consists of the CNE / Contingency.
- "Share of IVA" indicates the actual reduction of the domain capacity.
  - If "share of IVA" column is filled with a non-zero value, then its value is a part of the IVA value from the "IVA" column
- Violated Operational Security Limits (OSL) indicate for which Elements (CNEC) a capacity reduction was applied.
- The Circumstances indicate which Netposition combination leads to the violation of the Operational Security Limits (OSL) .
- If a fallback was applied on TSO individual Validation side, this would be shown as "true".

Please note that the justification is sent by the TSOs themselves.

The TSOs 50 Hertz, Amprion, APG, TNG, TTG, TTN run the individual validation process commonly with a centralised tool DAVinCy thus resulting in common justifications. [2]

[2] *A short description of the approach of the 6 TSOs (50 Hertz, Amprion, APG, TNG, TTG, TTN): When the pattern of net positions represented by an analysed vertex of the flow-based domain cannot be realised within operational security limits while taking into account all available RAs, the domain must be contracted by applying IVA on a subset of CNECs. Normally, these would be the CNECs that are adjacent to the vertex. But a TSO can apply IVA only on its own CNECs. When one or more of the CNECs do not belong to the TSO(s) performing the individual validation, the required contraction of the domain can only be achieved by applying IVA on own CNECs that are not adjacent to the vertex. Since these "substitute" CNECs are not presolved, i.e., are "outside" of the FB domain, a first part of the IVA is needed just to shift them into the analysed vertex. Only the remainder of the IVA effectively contracts the domain.*

Publication time: 10.30 am (D-1)

5.10. Pre-Final (EarlyPub)

This page displays the pre final flow-based parameters of the selected business day and MTU before long term nominations (zero balanced).

The detailed data items are the ones described under 5.5 Initial Computation (Virgin Domain), plus the following data items describing the minimum capacity targets in relation to CEP70 implementation (70%, action plan, derogation):

1.1.31. R_amr %: describes the target for the totality of market exchanges incl. non-Core exchanges

1.1.32. R_amr_justification: optional attribute through which Core TSOs can share additional information on how the R_amr has been calculated

1.1.33. minRAM target Core %

- Objective: describe the capacity for Core exchanges by deducing the non-Core exchanges from the R_amr
- Currently implemented
  - In case AMR > 0: the value is correctly displaying minRAM_target_Core = R_amr – Fuaf
  - In case AMR = 0: the value shown is the RAM as percentage of Fmax ➔ will be fixed in a future release so that it also represents R_amr – Fuaf

Scope of network elements: please note that the list of NECs (network elements combined with a contingency) displayed in the domain pages contains more than only CNECs. Hereby an enumeration of other network elements currently displayed:

1.1.34. Network elements which got filtered out following the 5% ptdf rule. These are monitored network elements according to the CCM and are not part of the pre-solved dataset;

1.1.35. Network elements with Imax = 9999 and that can appear at first sight as duplicates of CNECs. These CNECs relate to borders between Core and non-Core countries and are technically part of the dataset as they are needed to calculate the non-core exchanges KPI;

1.1.36. Network elements with slightly different RAM values that can appear at first sight as duplicate CNECs. These CNECs have the same name, but slightly different parameters as they represent the results of remedial actions application. Both entries are valid for the flow-based calculation.

1.1.37. Technical parameters to properly bound the FB domain and thus part of the pre-solved dataset

- 4 related to ALEGrO: External Constraint BE_AL_export, External Constraint BE_AL_import, External Constraint DE_AL_export, External Constraint DE_AL_import
- 4 equality constraints

Publication time: 08.00 am (D-1)

5.11. LTN

This page displays the nominated capacity from long-term auctions in MW, per border in both directions. Most of the borders make use of FTR (financial transmission rights) thus no capacity is nominated. Only the borders using PTR may have physical nominations.

Long Term Nomination

Date	AT▸CZ	AT▸HU	AT▸SI	BE▸DE	CZ▸AT	CZ▸DE	CZ▸PL	CZ▸SK	DE▸BE	DE▸CZ	DE▸PL	HR▸HU	HR▸SI	HU▸AT	HU▸HR	HU▸RO	HU▸SI	HU▸SK	PL▸CZ	PL▸DE	PL▸SK	RO▸HU	SI▸AT	SI▸HR	SI▸HU	SK▸CZ	SK▸HU	SK▸PL
2021-10-14 00:00:00	0	2	216	0	0	0	0	195	0	0	0	30	0	0	177	4	0	0	0	0	0	2	0	397	0	0	125	0
2021-10-14 01:00:00	0	2	199	0	0	0	0	195	0	0	0	30	0	0	177	4	0	0	0	0	0	2	0	398	0	0	125	0
2021-10-14 02:00:00	0	2	191	0	0	0	0	195	0	0	0	30	0	0	177	4	0	0	0	0	0	2	0	403	0	0	125	0
2021-10-14 03:00:00	0	2	193	0	0	0	0	195	0	0	0	30	0	0	177	4	0	0	0	0	0	2	0	407	0	0	125	0
2021-10-14 04:00:00	0	2	203	0	0	0	0	195	0	0	0	30	0	0	177	4	0	0	0	0	0	2	0	399	0	0	125	0
2021-10-14 05:00:00	0	2	241	0	0	0	0	195	0	0	0	30	0	0	177	4	0	0	0	0	0	2	0	402	0	0	125	0
2021-10-14 06:00:00	0	2	265	0	0	0	0	195	0	0	0	45	0	0	152	4	0	0	0	0	0	2	0	384	0	0	125	0
2021-10-14 07:00:00	0	2	265	0	0	0	0	208	0	0	0	37	0	0	152	4	0	0	0	0	0	2	0	372	0	0	125	0
2021-10-14 08:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	379	0	0	125	0
2021-10-14 09:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	372	0	0	125	0
2021-10-14 10:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	369	0	0	125	0
2021-10-14 11:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	370	0	0	125	0
2021-10-14 12:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	373	0	0	125	0
2021-10-14 13:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	372	0	0	125	0
2021-10-14 14:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	375	0	0	125	0
2021-10-14 15:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	388	0	0	125	0
2021-10-14 16:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	389	0	0	125	0
2021-10-14 17:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	392	0	0	125	0
2021-10-14 18:00:00	0	2	265	0	0	0	0	208	0	0	0	27	0	0	152	4	0	0	0	0	0	2	0	387	0	0	125	0

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5.12. Final Computation

This page contains the final flow-based parameters of the selected business day and MTU following long term nominations (Ltnom balanced).

The detailed data items are the ones as described under 5.5 Initial Computation (Virgin Domain) plus the following data items describing the the minimum capacity targets in relation to CEP70 implementation (70%, action plan, derogation):

1.1.38. R_amr %: describes the target for the totality of market exchanges incl. non-Core exchanges

1.1.39. R_amr_justification: optional attribute through which Core TSOs can share additional information on how the R_amr has been calculated

1.1.40. minRAM target Core %

- Objective: describe the capacity for Core exchanges by deducing the non-Core exchanges from the R_amr
- the value is displaying minRAM_target_Core = R_amr – Fuaf

Scope of network elements: please note that the list of NECs (network elements combined with a contingency) displayed in the domain pages contains more than only CNECs. Hereby an enumeration of other network elements currently displayed:

1.1.41. Network elements which got filtered out following the 5% ptdf rule. These are monitored network elements according to the CCM and are not part of the pre-solved dataset;

1.1.42. Network elements with Imax = 9999 and that can appear at first sight as duplicates of CNECs. These CNECs relate to borders between Core and non-Core countries and are technically part of the dataset as they are needed to calculate the non-core exchanges KPI;

1.1.43. Network elements with slightly different RAM values that can appear at first sight as duplicate CNECs. These CNECs have the same name, but slightly different parameters as they represent the results of remedial actions application. Both entries are valid for the flow-based calculation.

1.1.44. Technical parameters to properly bound the FB domain and thus part of the pre-solved dataset

- 4 related to ALEGrO: External Constraint BE_AL_export, External Constraint BE_AL_import, External Constraint DE_AL_export, External Constraint DE_AL_import
- 4 equality constraints

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5.13. LTA

This page displays the in the long term (yearly/monthly) allocated capacity in MW, per border in both directions.

The LTA domain is introduced with the Extended LTA Approach where cross-zonal capacities consist of a flow-based domain without LTA inclusion and a LTA domain.

LTA

Date	AT▸CZ	AT▸HU	AT▸SI	BE▸DE	CZ▸AT	CZ▸DE	CZ▸PL	CZ▸SK	DE▸BE	DE▸CZ	DE▸PL	HR▸HU	HR▸SI	HU▸AT	HU▸HR	HU▸RO	HU▸SI	HU▸SK	PL▸CZ	PL▸DE	PL▸SK	RO▸HU	SI▸AT	SI▸HR	SI▸HU	SK▸CZ	SK▸HU	SK▸PL
2021-09-29 00:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 01:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 02:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 03:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 04:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 05:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 06:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 07:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 08:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 09:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 10:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 11:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 12:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 13:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 14:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 15:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 16:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 17:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 18:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 19:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 20:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0
2021-09-29 21:00:00	300	300	350	400	500	1949	0	1250	400	398	0	900	850	392	1000	469	0	998	0	0	0	630	600	849	0	998	999	0

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5.14. Final Bilateral Exchange Restrictions

This page displays:

1.1.45. In case of normal operation: the LTA domain shifted with the effect of long-term nominations (LTN). Together with the final flow-based domain it represents the cross-zonal capacities provided to the market coupling.

1.1.46. In case of the day-ahead capacity calculation fails to provide the flow-based parameters in three or more consecutive hours: the default FB parameters (in MW). As per Core CCM Art 4(4) the default FB parameters are defined based on the LTA capacity for each Core oriented bidding zone border, increased by the minimum of the two adjustments provided by the TSO(s) on each side of the bidding zone border. The adjustments reflect part of the LT capacity which is reserved for day-ahead, if such practice is applicable on the concerned bidding zone border. The values displayed represent the default FB parameters including the effect of long-term nominations (LTN).

Final Bilateral Exchange Restrictions

Date	AT▸CZ	AT▸HU	AT▸SI	BE▸DE	CZ▸AT	CZ▸DE	CZ▸PL	CZ▸SK	DE▸BE	DE▸CZ	DE▸PL	HR▸HU	HR▸SI	HU▸AT	HU▸HR	HU▸RO	HU▸SI	HU▸SK	PL▸CZ	PL▸DE	PL▸SK	RO▸HU	SI▸AT	SI▸HR	SI▸HU	SK▸CZ	SK▸HU	SK▸PL
2021-09-22 00:00:00	500	393	508	400	500	1949	0	1095	400	398	0	1401	1267	399	499	489	0	998	0	0	0	610	692	432	0	1153	999	0
2021-09-22 01:00:00	500	393	524	400	500	1949	0	1095	400	398	0	1401	1268	399	499	489	0	998	0	0	0	610	676	431	0	1153	999	0
2021-09-22 02:00:00	500	393	532	400	500	1949	0	1095	400	398	0	1401	1267	399	499	489	0	998	0	0	0	610	668	432	0	1153	999	0
2021-09-22 03:00:00	500	393	530	400	500	1939	0	1095	400	408	0	1401	1265	399	499	489	0	998	0	0	0	610	670	434	0	1153	999	0
2021-09-22 04:00:00	500	393	522	400	500	1939	0	1095	400	408	0	1401	1274	399	499	489	0	998	0	0	0	610	678	425	0	1153	999	0
2021-09-22 05:00:00	500	393	488	400	500	1949	0	1095	400	398	0	1401	1263	399	499	489	0	998	0	0	0	610	712	436	0	1153	999	0
2021-09-22 06:00:00	500	393	348	400	500	1949	0	1095	400	398	0	1341	1254	399	559	489	0	998	0	0	0	610	852	445	0	1153	999	0
2021-09-22 07:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1249	399	565	489	0	998	0	0	0	610	852	450	0	1166	999	0
2021-09-22 08:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1254	399	565	489	0	998	0	0	0	610	852	445	0	1166	999	0
2021-09-22 09:00:00	500	393	365	400	500	1949	0	1082	400	398	0	1341	1250	399	559	489	0	998	0	0	0	610	835	449	0	1166	999	0
2021-09-22 10:00:00	500	393	370	400	500	1949	0	1082	400	398	0	1341	1246	399	559	489	0	998	0	0	0	610	830	453	0	1166	999	0
2021-09-22 11:00:00	500	393	369	400	500	1949	0	1082	400	398	0	1341	1250	399	559	489	0	998	0	0	0	610	831	449	0	1166	999	0
2021-09-22 12:00:00	500	393	351	400	500	1949	0	1082	400	398	0	1341	1251	399	559	489	0	998	0	0	0	610	849	448	0	1166	999	0
2021-09-22 13:00:00	500	393	354	400	500	1949	0	1082	400	398	0	1335	1248	399	565	489	0	998	0	0	0	610	846	451	0	1166	999	0
2021-09-22 14:00:00	500	393	363	400	500	1949	0	1082	400	398	0	1335	1251	399	565	489	0	998	0	0	0	610	837	448	0	1166	999	0
2021-09-22 15:00:00	500	393	356	400	500	1949	0	1082	400	398	0	1335	1261	399	565	489	0	998	0	0	0	610	844	438	0	1166	999	0
2021-09-22 16:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1263	399	565	489	0	998	0	0	0	610	852	436	0	1166	999	0
2021-09-22 17:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1263	399	565	489	0	998	0	0	0	610	852	436	0	1166	999	0
2021-09-22 18:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1259	399	565	489	0	998	0	0	0	610	852	440	0	1166	999	0
2021-09-22 19:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1265	399	565	489	0	998	0	0	0	610	852	434	0	1166	999	0
2021-09-22 20:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1264	399	565	489	0	998	0	0	0	610	852	435	0	1166	999	0
2021-09-22 21:00:00	500	393	348	400	500	1949	0	1082	400	398	0	1335	1261	399	565	489	0	998	0	0	0	610	852	438	0	1166	999	0
2021-09-22	500	393	350	400	500	1949	0	1095	400	398	0	1401	1260	399	499	489	0	998	0	0	0	610	850	439	0	1153	999	0

Publication time: 10.30 am (D-1)

5.15. Allocation Constraints

As per the Core CCM, Belgium, Poland and the Netherlands are allowed to use external constraints.

Allocation Constraints

	BE		PL	
Date	Import	Export	Import	Export
2021-09-22 00:00:00	6500		662	5039
2021-09-22 01:00:00	6500		45	5731
2021-09-22 02:00:00	6500		0	6199
2021-09-22 03:00:00	6500		0	5987
2021-09-22 04:00:00	6500		441	5332
2021-09-22 05:00:00	6500		1084	3959
2021-09-22 06:00:00	6500		1671	1298
2021-09-22 07:00:00	6500		2211	0
2021-09-22 08:00:00	6500		2891	0
2021-09-22 09:00:00	6500		5142	0
2021-09-22 10:00:00	6500		5289	0
2021-09-22 11:00:00	6500		5380	0
2021-09-22 12:00:00	6500		5460	0
2021-09-22 13:00:00	6500		5461	0
2021-09-22 14:00:00	6500		4813	76
2021-09-22 15:00:00	6500		4665	14
2021-09-22 16:00:00	6500		4848	0
2021-09-22 17:00:00	6500		5667	0
2021-09-22 18:00:00	6500		7122	0
2021-09-22 19:00:00	6500		7607	0
2021-09-22 20:00:00	6500		7268	0
2021-09-22 21:00:00	6500		5755	79

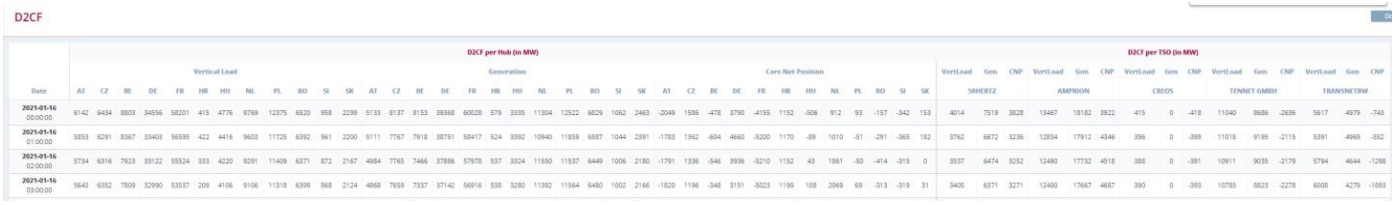
Publication time: 10.30 am (D-1)

5.16. D2CF

This page publishes the aggregated assumptions from the grid models for each MTU on TSO and Hub level: Vertical load, generation (production) and net position in MW for each Core hub and TSO if it differs from the hub level.

For capacity calculation purposes, each Core TSO generates one individual grid model per MTU. Please note that the published load, generation and net positions are based on an AC loadflow solved grid model. Therefore, the generation + load is not necessarily equal to the net position of the hubs due to losses in the AC grid.

- "Vertical load" is the load as seen from the transmission grid in MW in the Common Grid Model
- "Generation" is the generation in MW in the Common Grid Model
- "Core net position" is the forecast of the overall balance of the countries in MW in the Common Grid Model



Publication time: 10.30 am (D-1)

5.17. Refprog

The RefProg page display the exchange data per border that are used for merging of the European grid models including HVDC-interconnectors within the synchronous area in MW. Multiple data sources are used:

- Exchanges between two Core hubs are derived from the Core net positions in the CGM thus representing the result of the merging step of the Core capacity calculation process;
- Exchanges on DC links are taken over from the IGMs;
- Exchanges on Core-Swiss and Core-Italian borders are forecasted by the Net Position Forecast tool deployed in Core;
- For other exchanges between a Core and a non-Core hub or between two non-Core hubs, a reference day approach is applied thus using historical scheduled commercial exchanges from a previous working day / weekend / bank holiday.

Publication time: 10.30 am (D-1)

5.18. Reference Net Position

This page displays the reference net position assumed for creating the CGM for non-core hubs in the common grid model which are the global Net Positions of this hubs.

Reference Net Position

Date	AL	BA	BG	CH	DK1	ES	GR	IT	ME	MK	PT	RS	TR	UA
2021-01-16 00:00:00	59	1209	259	-889	2330	-1033	388	-1950	-427	-140	-2250	676	-309	44
2021-01-16 01:00:00	100	1177	63	-2129	2490	-1033	308	-1737	-343	-57	-2250	907	-388	35
2021-01-16 02:00:00	120	1223	92	-2817	2500	-586	401	-2188	-350	56	-2250	599	-435	-46
2021-01-16 03:00:00	130	1153	95	-3334	2490	-46	441	-3056	-318	89	-2250	689	-553	-46
2021-01-16 04:00:00	145	1173	210	-3401	2480	-834	257	-3027	-273	69	-2385	845	-503	-46
2021-01-16 05:00:00	92	1261	127	-3232	2500	-748	196	-3104	-277	102	-2385	878	-172	26
2021-01-16 06:00:00	-187	1291	21	-3388	2500	-227	393	-3683	-363	-106	-2370	1018	150	-57
2021-01-16 07:00:00	-277	1276	71	-2454	2480	-706	302	-4828	-232	-214	-1620	1097	150	0
2021-01-16 08:00:00	-329	1385	273	-1316	2127	-1478	317	-3412	-10	-257	-1620	863	150	24
2021-01-16 09:00:00	-344	1305	556	1458	1580	-1750	291	-2293	0	-399	-1348	604	150	31
2021-01-16 10:00:00	-360	1315	555	1623	1641	-2442	273	-1806	5	-389	-656	450	150	34
2021-01-16 11:00:00	-366	1315	535	1425	1672	-2342	250	-2251	26	-403	-756	424	150	34
2021-01-16 12:00:00	-360	1294	444	1312	1717	-2578	333	-631	11	-408	-937	407	150	34
2021-01-16 13:00:00	-350	1295	508	9	1845	-2641	325	-953	-11	-443	-874	502	150	14
2021-01-16 14:00:00	-344	1295	498	-1224	2121	-2531	240	-2154	6	-474	-845	609	150	11
2021-01-16 15:00:00	-344	1345	615	-981	1901	-2367	127	-1820	-80	-453	-1009	648	150	8

When external constraints are expressed as a limitation on the Core net position, they appear as part of the FB parameter set. This practice is applied by the Netherlands.

When external constraints are expressed as a limitation on the SDAC net position, they are send as a separate data flow to the market coupling, called Allocation Constraints. This practice is applied by Belgium (import direction) and Poland (import and export direction). The Allocation Constraints page thus displays the Allocation constraints in MW send by Elia and PSE.

Note: there exist also 4 external constraints related to the DE-BE HVDC interconnector ALEGrO (BE_AL_import, BE_AL_export, DE_AL_import, DE_AL_export). These external constraints are of a different nature i.e. they describe the 1000 MW technical capacity of the interconnector.

Publication time: 10.30 am (D-1)

5.19. ATCs on Core external borders

This page displays the ATC values in MW made available for the Day-Ahead market coupling and this for the two directions of the concerned borders.

ATCs on CORE external borders

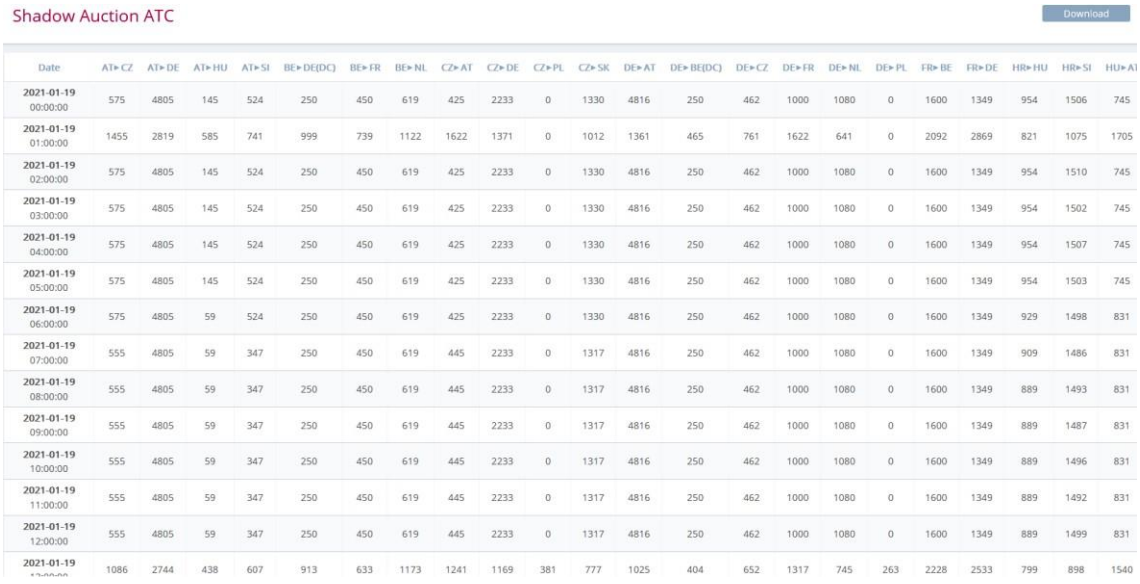
For the full list of Core external borders please see the ENTSO-E Transparency platform.

Date	AT▸IT	BG▸RO	DE▸DK1	DK1▸DE	ES▸FR	FR▸ES	FR▸IT	IT▸AT	IT▸FR	RO▸BG
2021-11-19 00:00:00	215	870	1740	2500	3607	3330	3479	145	1205	1174
2021-11-19 01:00:00	215	867	1760	2500	3607	3330	2856	145	1205	1174
2021-11-19 02:00:00	215	856	1760	2500	3607	3330	2637	145	1205	1174
2021-11-19 03:00:00	215	857	1760	2500	3607	3283	2593	145	1205	1174
2021-11-19 04:00:00	215	859	1720	2500	3700	3283	2637	145	1205	1174
2021-11-19 05:00:00	215	856	1690	2500	3700	3283	2564	145	1205	1174
2021-11-19 06:00:00	215	855	1650	2160	3700	3283	2564	145	1205	1175
2021-11-19 07:00:00	215	849	1440	1600	3561	3422	2408	145	1205	1181
2021-11-19 08:00:00	215	841	1440	1620	3561	3422	2517	145	1205	1189
2021-11-19 09:00:00	176	845	1440	1670	3561	3422	2408	145	1205	1188
2021-11-19 10:00:00	116	833	1440	1750	3561	3422	2654	145	1205	1197
2021-11-19 11:00:00	116	832	1440	1930	3237	3422	2306	145	1205	1198

Publication time: 10.30 am (D-1)

5.20. ShadowAuction ATC

This page displays the ATC for SDAC fall-back procedure (Shadow Auctions) per border in the two directions.



Shadow Auction ATC

Download

Date	AT▸CZ	AT▸DE	AT▸HU	AT▸SI	BE▸DE(DC)	BE▸FR	BE▸NL	CZ▸AT	CZ▸DE	CZ▸PL	CZ▸SK	DE▸AT	DE▸BE(DC)	DE▸CZ	DE▸FR	DE▸NL	DE▸PL	FR▸BE	FR▸DE	HR▸HU	HR▸SI	HU▸AT
2021-01-19 00:00:00	575	4805	145	524	250	450	619	425	2233	0	1330	4816	250	462	1000	1080	0	1600	1349	954	1506	745
2021-01-19 01:00:00	1455	2819	585	741	999	739	1122	1622	1371	0	1012	1361	465	761	1622	641	0	2092	2869	821	1075	1705
2021-01-19 02:00:00	575	4805	145	524	250	450	619	425	2233	0	1330	4816	250	462	1000	1080	0	1600	1349	954	1510	745
2021-01-19 03:00:00	575	4805	145	524	250	450	619	425	2233	0	1330	4816	250	462	1000	1080	0	1600	1349	954	1502	745
2021-01-19 04:00:00	575	4805	145	524	250	450	619	425	2233	0	1330	4816	250	462	1000	1080	0	1600	1349	954	1507	745
2021-01-19 05:00:00	575	4805	145	524	250	450	619	425	2233	0	1330	4816	250	462	1000	1080	0	1600	1349	954	1503	745
2021-01-19 06:00:00	575	4805	59	524	250	450	619	425	2233	0	1330	4816	250	462	1000	1080	0	1600	1349	929	1498	831
2021-01-19 07:00:00	555	4805	59	347	250	450	619	445	2233	0	1317	4816	250	462	1000	1080	0	1600	1349	909	1486	831
2021-01-19 08:00:00	555	4805	59	347	250	450	619	445	2233	0	1317	4816	250	462	1000	1080	0	1600	1349	889	1493	831
2021-01-19 09:00:00	555	4805	59	347	250	450	619	445	2233	0	1317	4816	250	462	1000	1080	0	1600	1349	889	1487	831
2021-01-19 10:00:00	555	4805	59	347	250	450	619	445	2233	0	1317	4816	250	462	1000	1080	0	1600	1349	889	1496	831
2021-01-19 11:00:00	555	4805	59	347	250	450	619	445	2233	0	1317	4816	250	462	1000	1080	0	1600	1349	889	1492	831
2021-01-19 12:00:00	555	4805	59	347	250	450	619	445	2233	0	1317	4816	250	462	1000	1080	0	1600	1349	889	1499	831
2021-01-19	1086	2744	438	607	913	633	1173	1241	1169	381	777	1025	404	652	1317	745	263	2228	2533	799	898	1540

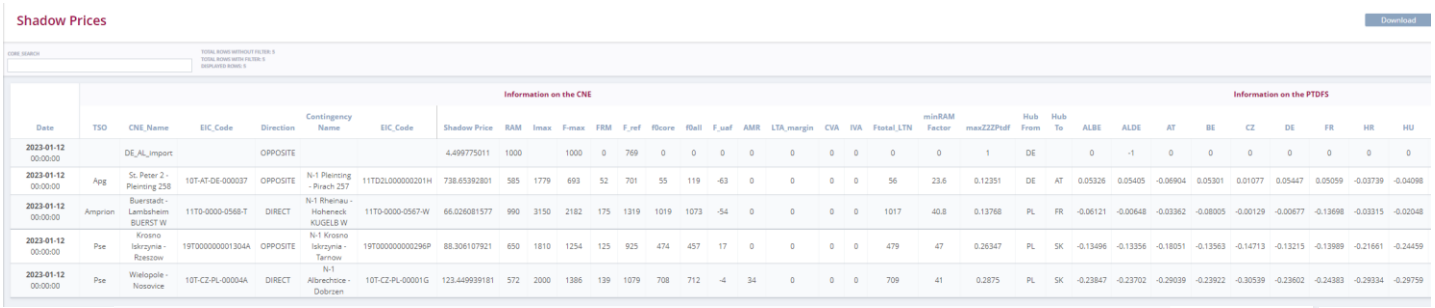
Publication time: 10.30 am (D-1)

5.21. Active FB constraints

This page displays the binding active FB constraints (CNECs) after Market Coupling, with its associated shadow price. Shadow prices in the FB model represent the effect on the social welfare of a marginal increase (1 MW) of the RAM. In a FB model, the price differences among bidding zones are the result of shadow prices on all congested CNECs - i.e., active FB constraints. The structure of the page displays CNE and Contingency EIC and Names as well as the detailed breakdown of parameters similar to the initial/final Computation page cf. 5.14 but instead pre-solved the cells are filled with the shadow price the limiting CNEC has.

The Hub From/Hub To columns refer to the maxZ2ZPtdf columns and indicates for which cross zonal exchange the binding CNEC has its maximum sensitivity. The Max z2zPTDF is defined as the maximal hub to slack PTDF minus the minimal hub to slack PTDF according to equation 5 in DA CCM Article 11.

The RAM@MCP represents the RAM relative to the market clearing point. When the alpha variable value is equal to 1, then the active constraints have RAM = 0 MW because the market clearing point is limited by the active FB constraints only. When the alpha variable value is in between 1 and 0, the RAM@MCP can be both positive and negative. RAM@MCP for an active FB constraint is negative due to the enlarged convex combination of the FB domain and the LTA domain - i.e., the LTA domain not covered by the FB domain.



maxZ2ZPtdf	Hub From	Hub To	ALBE	ALDE	AT	BE	CZ	DE	FR	HR	HU	NL	PL	RO	SI	SK
1	BE		-1	0	0	0	0	0	0	0	0	0	0	0	0	0
0.22268	NL	DE	0.09603	0.04926	0.00509	0.09752	-0.00488	-0.02065	0.05468	0.00368	-0.00099	0.20203	-0.00955	-0.00029	0.00615	-0.00328
0.08342	RO	HU	-0.0383	-0.03836	-0.03832	-0.03828	-0.03921	-0.03844	-0.0381	-0.02711	-0.0423	-0.03838	-0.03976	0.04113	-0.03474	-0.04079

Publication time: 13:30 pm (D-1)

5.22. Active LTA constraints

This page displays the active LTA constraints after Market Coupling, with its scaled shadow price by the alpha variable. Quantity (Qty) represents the limit set by LTA inclusion. The shadow price of LTA constraints is identical to their classic ATC counterparts. Shadow prices from the active LTA constraints represent the effect on the social welfare of a marginal increase of the LTA quantity, which is equivalent to the resulting price difference between the two bidding zones concerned.

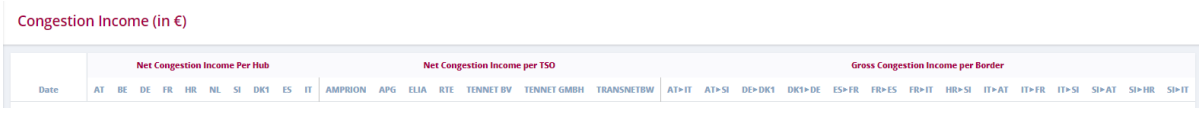
Active LTA constraints

	AT▶CZ		AT▶DE		AT▶HU		AT▶SI		BE▶ALBE	
Date	ShadowPrice	Qty	ShadowPrice	Qty	ShadowPrice	Qty	ShadowPrice	Qty	ShadowPrice	Qty
2024-02-21 01:00:00							0	600	0	500
2024-02-21 05:00:00							0	600	0	500
2024-02-21 08:00:00	0	350	0	4419	0	400	0	600	1	500

Publication time: 13:30 pm (D-1)

5.23. Congestion Income

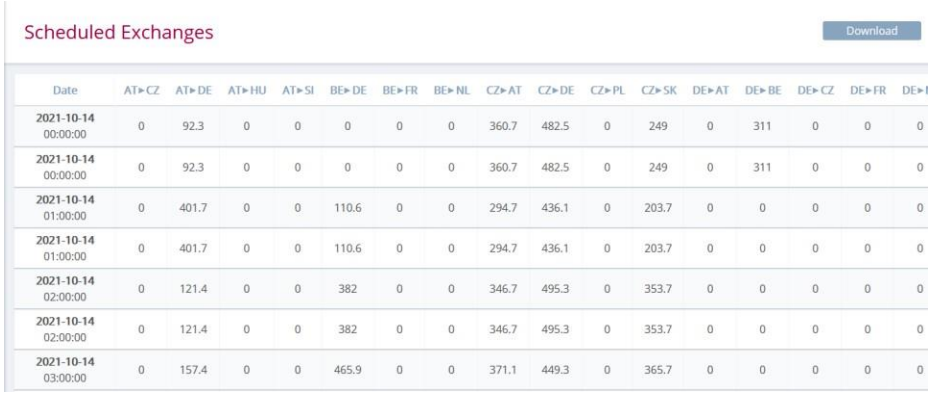
This tab gathers the net congestion income per hub and per TSO for the Core region, and the gross congestion income (without UIOSI taken into account) for the non-Core borders in €.



Publication time: 15:00 pm (D-1)

5.24. Scheduled Exchanges

This page displays the capacity allocated by the market coupling algorithm in both border directions for defined borders in MW. The published data relates only to DA and does not take LTN into account.



Scheduled Exchanges

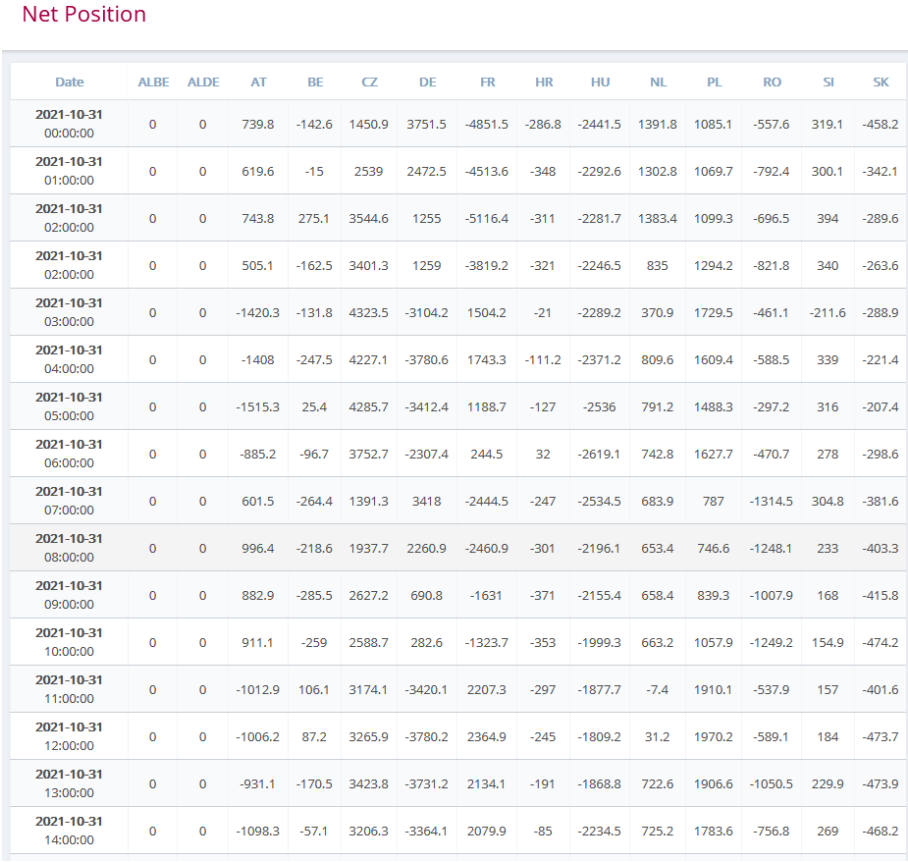
Download

Date	AT▸CZ	AT▸DE	AT▸HU	AT▸SI	BE▸DE	BE▸FR	BE▸NL	CZ▸AT	CZ▸DE	CZ▸PL	CZ▸SK	DE▸AT	DE▸BE	DE▸CZ	DE▸FR	DE▸I
2021-10-14 00:00:00	0	92.3	0	0	0	0	0	360.7	482.5	0	249	0	311	0	0	0
2021-10-14 00:00:00	0	92.3	0	0	0	0	0	360.7	482.5	0	249	0	311	0	0	0
2021-10-14 01:00:00	0	401.7	0	0	110.6	0	0	294.7	436.1	0	203.7	0	0	0	0	0
2021-10-14 01:00:00	0	401.7	0	0	110.6	0	0	294.7	436.1	0	203.7	0	0	0	0	0
2021-10-14 02:00:00	0	121.4	0	0	382	0	0	346.7	495.3	0	353.7	0	0	0	0	0
2021-10-14 02:00:00	0	121.4	0	0	382	0	0	346.7	495.3	0	353.7	0	0	0	0	0
2021-10-14 03:00:00	0	157.4	0	0	465.9	0	0	371.1	449.3	0	365.7	0	0	0	0	0

Publication time: 15.50 pm (D-1)

5.25. Net Position

This page displays the Core net positions after Market Coupling in MW.



Net Position

Date	ALBE	ALDE	AT	BE	CZ	DE	FR	HR	HU	NL	PL	RO	SI	SK
2021-10-31 00:00:00	0	0	739.8	-142.6	1450.9	3751.5	-4851.5	-286.8	-2441.5	1391.8	1085.1	-557.6	319.1	-458.2
2021-10-31 01:00:00	0	0	619.6	-15	2539	2472.5	-4513.6	-348	-2292.6	1302.8	1069.7	-792.4	300.1	-342.1
2021-10-31 02:00:00	0	0	743.8	275.1	3544.6	1255	-5116.4	-311	-2281.7	1383.4	1099.3	-696.5	394	-289.6
2021-10-31 02:00:00	0	0	505.1	-162.5	3401.3	1259	-3819.2	-321	-2246.5	835	1294.2	-821.8	340	-263.6
2021-10-31 03:00:00	0	0	-1420.3	-131.8	4323.5	-3104.2	1504.2	-21	-2289.2	370.9	1729.5	-461.1	-211.6	-288.9
2021-10-31 04:00:00	0	0	-1408	-247.5	4227.1	-3780.6	1743.3	-111.2	-2371.2	809.6	1609.4	-588.5	339	-221.4
2021-10-31 05:00:00	0	0	-1515.3	25.4	4285.7	-3412.4	1188.7	-127	-2536	791.2	1488.3	-297.2	316	-207.4
2021-10-31 06:00:00	0	0	-885.2	-96.7	3752.7	-2307.4	244.5	32	-2619.1	742.8	1627.7	-470.7	278	-298.6
2021-10-31 07:00:00	0	0	601.5	-264.4	1391.3	3418	-2444.5	-247	-2534.5	683.9	787	-1314.5	304.8	-381.6
2021-10-31 08:00:00	0	0	996.4	-218.6	1937.7	2260.9	-2460.9	-301	-2196.1	653.4	746.6	-1248.1	233	-403.3
2021-10-31 09:00:00	0	0	882.9	-285.5	2627.2	690.8	-1631	-371	-2155.4	658.4	839.3	-1007.9	168	-415.8
2021-10-31 10:00:00	0	0	911.1	-259	2588.7	282.6	-1323.7	-353	-1999.3	663.2	1057.9	-1249.2	154.9	-474.2
2021-10-31 11:00:00	0	0	-1012.9	106.1	3174.1	-3420.1	2207.3	-297	-1877.7	-7.4	1910.1	-537.9	157	-401.6
2021-10-31 12:00:00	0	0	-1006.2	87.2	3265.9	-3780.2	2364.9	-245	-1809.2	31.2	1970.2	-589.1	184	-473.7
2021-10-31 13:00:00	0	0	-931.1	-170.5	3423.8	-3731.2	2134.1	-191	-1868.8	722.6	1906.6	-1050.5	229.9	-473.9
2021-10-31 14:00:00	0	0	-1098.3	-57.1	3206.3	-3364.1	2079.9	-85	-2234.5	725.2	1783.6	-756.8	269	-468.2

Publication time initial: 15:50 pm (D-1)

5.26. Intraday ATC

This page displays the remaining capacity left after the Day-Ahead capacity allocation, expressed as initial ID ATCs for two directions of the Core borders in MW.

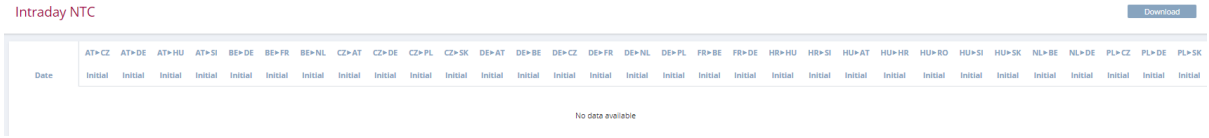
The initial ATC takes into account how each Core TSO defines the parameters wrt virtual capacity. As defined in the Core ID CCM, Core TSOs are allowed to remove virtual capacity prior to extracting the left-overs.

The initial ATCs are subject to decrease/increase actions. As for the former CWE borders a reporting solution for this decrease/increase was in place, it has been kept in the Core Publication Tool. A full overview of the resulting ID ATCs for all Core borders as applied in XBID can be consulted on the ENTSO-E transparency platform.

Publication time initial: 15:50 pm (D-1)

5.27. Intraday NTC

This page displays the net transmission capacity before the update the bilateral increase/decrease process for both directions for defined borders in MW.



Publication time initial: 15:50 pm (D-1)

Intraday ATC

	AT▸DE		BE▸DE		BE▸FR		BE▸NL		DE▸AT		DE▸BE		DE▸FR		DE▸NL		FR▸BE		FR▸DE		NL▸BE		NL▸DE	
Date	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease	Initial	In/Decrease
2021-10-21 00:00:00	5404	0	1066	-457	2072	0	1077	0	11521	0	1762	0	11479	0	11526	0	1181	0	6490	0	1830	0	6841	0
2021-10-21 01:00:00	6105	0	1018	-786	1690	0	1011	0	11159	0	2035	0	11415	0	11460	0	1512	0	6860	0	2131	0	7322	0
2021-10-21 02:00:00	5038	0	860	-733	1389	0	849	-849	11265	0	2105	0	11574	0	11578	0	1587	0	7031	0	2206	0	7629	0
2021-10-21 03:00:00	5879	0	856	-729	1475	0	847	-847	11270	0	2243	0	11608	0	11580	0	1609	0	6704	0	2367	0	7231	0
2021-10-21 04:00:00	5654	0	1103	0	1986	0	1090	0	11399	0	2322	0	11853	0	11797	0	1643	0	6433	0	2453	0	6993	0
2021-10-21 05:00:00	5368	0	1111	0	1965	-1965	1094	0	11773	0	2396	0	12613	0	12365	0	1710	0	6064	0	2522	0	6488	0
2021-10-21 06:00:00	5513	0	1180	-1053	2099	0	1155	0	12492	0	2283	0	13059	0	10409	0	1578	0	6266	0	2284	0	8545	0
2021-10-21 07:00:00	5375	0	1087	0	1931	0	1064	0	12822	0	2108	0	13389	0	10505	0	1458	0	6099	0	2108	0	8310	0
2021-10-21 08:00:00	5622	0	1172	0	2152	0	1158	0	12178	0	2062	0	12402	0	9754	0	1391	0	6533	-100	2062	0	9215	0
2021-10-21 09:00:00	6242	0	1225	-1098	2161	0	1196	0	11164	0	2082	0	11167	0	9156	0	1449	0	7287	-10	2084	0	10103	0
2021-10-21 10:00:00	6137	0	1285	-340	2299	0	1260	0	11161	0	2209	0	11320	0	9259	0	1533	0	7169	-4	2212	0	9976	0
2021-10-21 11:00:00	5868	0	1317	-700	2462	0	1309	0	11240	0	2444	0	11357	0	9077	0	1616	0	7026	-3000	2450	0	10105	0
2021-10-21 12:00:00	5764	0	1265	-691	2420	-1000	1238	0	11056	0	2555	0	11130	0	8837	0	1657	0	7112	0	2563	0	10580	0
2021-10-21 13:00:00	5729	0	1263	0	2434	-2000	1228	0	10858	0	2631	0	10951	0	8659	0	1699	0	7165	0	2642	0	10919	0
2021-10-21 14:00:00	5770	0	1356	0	2600	-500	1325	0	11047	0	2533	0	11159	0	8814	0	1644	0	7105	0	2540	0	10472	0
2021-10-21 15:00:00	6003	0	1414	-414	2557	0	1391	0	11196	0	2091	0	11355	0	9246	0	1452	0	7153	0	2093	0	9967	0
2021-10-21 16:00:00	5720	0	1146	0	2085	0	1130	0	11835	0	2103	0	12229	0	9625	0	1429	0	6737	0	2104	0	9504	0
2021-10-21 17:00:00	5863	0	1045	0	1870	0	1025	0	11638	0	2326	0	11960	0	9557	0	1582	0	6851	-3000	2329	0	9644	0

Publication time initial: 15:50 pm (D-1) **Publication time Increase/Decrease**: 08:00 am (D+1)

5.28. Price Spread

This page indicates the market price spread in €/MWh for the two directions of the defined borders.

Price Spread

Date	AT▸CZ	AT▸DE	AT▸HU	AT▸SI	BE▸DE	BE▸FR	BE▸NL	CZ▸AT	CZ▸DE	CZ▸PL	CZ▸SK	DE▸AT	DE▸BE	DE▸CZ	DE▸DK1	DE▸FR	DE▸NL	DE▸PL	DK1▸DE	DK1▸NL	ES▸FR	FR▸BE
2023-03-28 00:00:00	-6.35	-13.04	-3.41	0.98	-96.32	-43.23	-75.1	6.35	-6.69	24.62	1.56	13.04	96.32	6.69	0	53.09	21.22	31.31	0	21.22	0	43.23
2023-03-28 01:00:00	-4.64	-9.36	-2.52	0.66	-67.99	-30.29	-45.79	4.64	-4.72	22.81	1.12	9.36	67.99	4.72	0	37.7	22.2	27.53	0	22.2	0	30.29
2023-03-28 02:00:00	-5.17	-6.18	-2.66	0.84	-35.33	-5.2	-19.9	5.17	-1.01	24.09	1.44	6.18	35.33	1.01	0	30.13	15.43	25.1	0	15.43	0	5.2
2023-03-28 03:00:00	-5.89	0.92	-7.13	-0.41	-11.14	6.96	-7.87	5.89	6.81	20.77	-1.17	-0.92	11.14	-6.81	0	18.1	3.27	13.96	0	3.27	0	-6.96
2023-03-28 04:00:00	-2.99	-1.67	-1.61	0.71	-7.9	4.76	-5	2.99	1.32	15.86	0.83	1.67	7.9	-1.32	0	12.66	2.9	14.54	0	2.9	0	-4.76
2023-03-28 05:00:00	-3.48	-1.86	-1.68	0.65	-8.86	6.18	-7.53	3.48	1.62	12.19	1.13	1.86	8.86	-1.62	0	15.04	1.33	10.57	0	1.33	0	-6.18
2023-03-28 06:00:00	0.32	0.13	0.89	-0.87	0.01	-0.04	0	-0.32	-0.19	-5.89	0.47	-0.13	-0.01	0.19	0	-0.05	-0.01	-5.7	0	-0.01	0	0.04
2023-03-28 07:00:00	1.07	1.4	1.15	-0.16	-0.14	-0.06	0.01	-1.07	0.33	-46.98	0.09	-1.4	0.14	-0.33	0	0.08	0.15	-47.31	0	0.15	12.51	0.06

Publication time: 15.50 pm (D-1)

5.29. Spanning/DFP

This page displays MTUs in which a fallback was applied during capacity calculation like spanning or default flow-based parameters due to technical or other issues in the daily process.

'Default flow-based parameters' means the pre-coupling backup values calculated in situations when the day-ahead capacity calculation fails to provide the flow-based parameters in three or more consecutive hours. These flow-based parameters are based on long-term allocated capacities.

'Spanning' means the pre-coupling backup solution in situations when the day-ahead capacity calculation fails to provide the flow-based parameters for strictly less than three consecutive hours. This calculation is based on the intersection of previous and subsequent available flow-based parameters;

Spanning / DFP

Date	Computation	Type
2021-01-10 18:00:00	Initial	Spanning
2021-01-10 18:00:00	Final	Spanning
2021-01-10 18:00:00	Pre-Final	Spanning
2021-01-10 19:00:00	Initial	Spanning
2021-01-10 19:00:00	Final	Spanning
2021-01-10 19:00:00	Pre-Final	Spanning

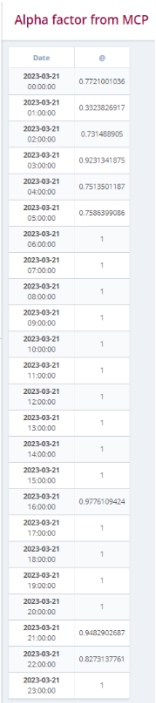
Publication time: when available

5.30. Alpha factor from MCP

This page shows the Alpha Factor from DA Market Clearing Point indicating the share of cross-zonal capacity provided by the FB domain and LTA domain from the SDAC.

- If alpha = 0, it means that the total cross zonal capacity is provided by the LTA domain. Shadow prices are applicable to LTA constraints only.
- If alpha = 1, it means that the total cross zonal capacity is provided by the FB domain. Shadow prices are applicable to FB constraints only
- If alpha is between 0 and 1, it means that the total cross zonal capacity is provided by both the FB domain and LTA domain. Shadow prices are applicable to both FB constraints and LTA constraints.

The alpha factor is the outcome of the market coupling optimization algorithm introduced by the new Extended LTA Inclusion approach referred to in DA CCM Art. 18.


Alpha factor from MCP

Date	α
2023-03-21 00:00:00	0.7721001036
2023-03-21 01:00:00	0.3323826917
2023-03-21 02:00:00	0.731468905
2023-03-21 03:00:00	0.9231341875
2023-03-21 04:00:00	0.7513501187
2023-03-21 05:00:00	0.758639908
2023-03-21 06:00:00	1
2023-03-21 07:00:00	1
2023-03-21 08:00:00	1
2023-03-21 09:00:00	1
2023-03-21 10:00:00	1
2023-03-21 11:00:00	1
2023-03-21 12:00:00	1
2023-03-21 13:00:00	1
2023-03-21 14:00:00	1
2023-03-21 15:00:00	1
2023-03-21 16:00:00	0.9776109424
2023-03-21 17:00:00	1
2023-03-21 18:00:00	1
2023-03-21 19:00:00	1
2023-03-21 20:00:00	1
2023-03-21 21:00:00	0.9482902687
2023-03-21 22:00:00	0.8273137761
2023-03-21 23:00:00	1

Publication time: 15.50 pm (D-1)

6. Monitoring Tool

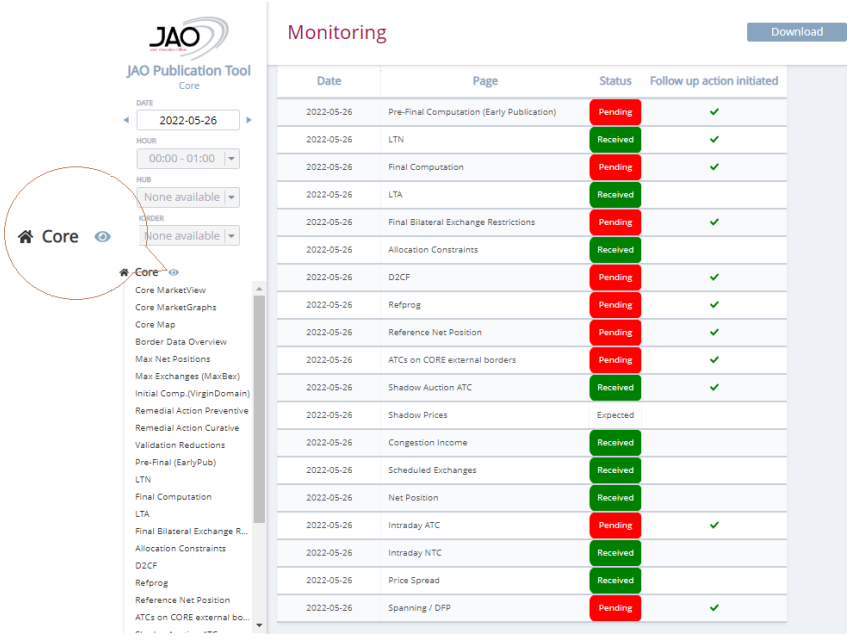
The Monitoring Tool is part of the continuous monitoring implementation in line with Art 26(2) of the Core DA CCM. It provides a dashboard reflecting the data completeness for each of the data items (pages) that can be consulted through the Publication Tool.

The dashboard displays the Date, Page, Status and Follow up action initiated for the selected Business Day. The Status can be one of the following values:

- Expected: the publication of the page has not yet reached the target time
- Received: the publication of the page has been completed
- Pending: the publication of the page has not yet been completed whilst the target time for the publication is reached
- Spanning/DFP
    - In case Spanning/DFP is detected, the Spanning/DFP label is applied to those pages which are impacted.
    - In such case, the Spanning/DFP page itself will be marked as Received
    - The Spanning/DFP page itself is left blank by default. Only in case Spanning/DFP is detected, it will be filed in and marked as 'Received'

The column 'Follow up action initiated 'is marked with a green check to signal that publication has not been done by target time and an automatic alarm is sent to JAO operators, so that corrective measures can be done to retrieve the data for publication. As soon as the data publication is done, the Status label will change from Pending to Received, to signal data has been updated.

The Monitoring Tool allows to download the historical overview per page in csv file format and is available through the Monitoring button in the Publication Tool landing page.



7. Backup Tool

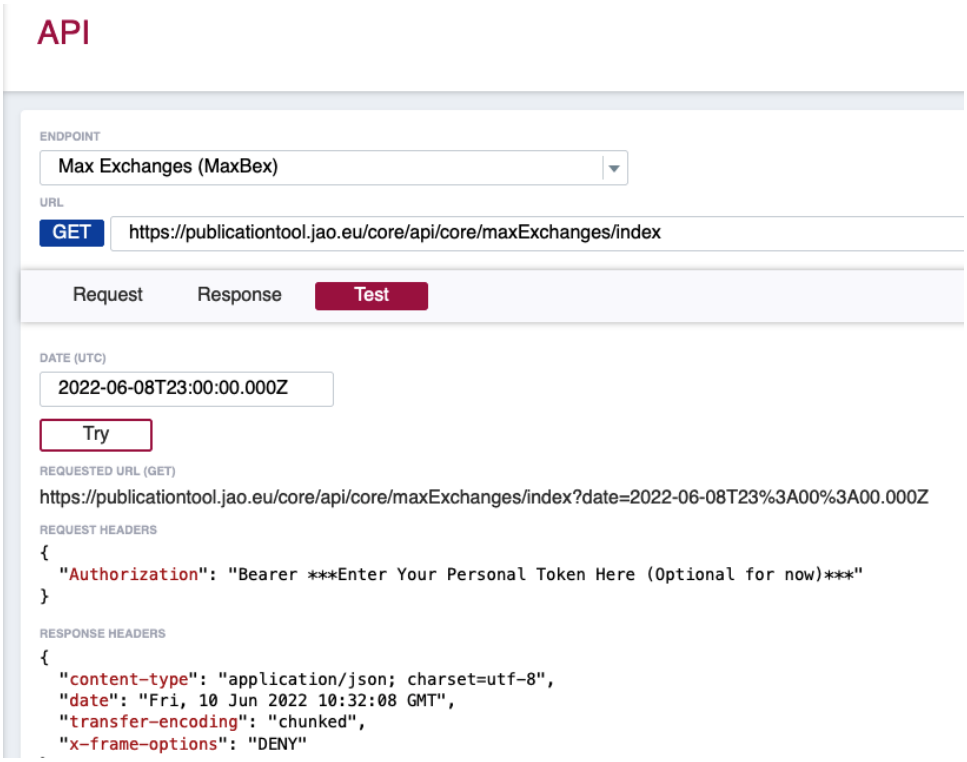
In case a critical issue occurs with the Core Capacity Calculation Tool, a Backup Tool is used to generate the capacity calculation outputs for the Market Coupling. In such case, a more limited set of information is published on the Publication Tool, namely for the concerned business day data is published on the following pages whilst the other pages will remain empty:

- Spanning/DFP – indicating the concerned Business Day consists of Default FB parameters
- Final Bilateral Exchange Restrictions – in this case representing the Default FB parameters
- Allocation Constraints
- LTA
- LTN

8. Web Service

On https://publicationtool.jao.eu/core/api, users will find:

- Endpoint (drop down): Displays the different available publications.
- Request-tab: Displays the parameter structure which will be needed to retrieve the data, as it is a GET-method it will be needed to append the parameters to the URL
- Response-tab: displays how the response will be structured
- Test-tab: what the URL looks like with the provided parameters.



9. Publication tool (underlying architecture)

The publication tool website is developed with a .netCore backend and a react frontend, communicating via rest-api.
A .netCore service runs on a separate server saving all data retrieved via FTP into an SQL-database.

10. Annex

10.1. Naming Convention for CNECs

Core TSO have defined the following naming conventions for CNECs.

- Line: "AVELGEM-HORTA 380.101“
- PST: “PST ZANDVLIET 1”
- Tripod line: “Y-DELLMENSINGEN-HOHENECK-VÖHRINGEN rot”, where
    - The Y stands for the node connecting all three branches of the tripod.
    - The firstly mentioned substation after the Y defines the branch of the tripod that is monitored i.e. Dellmensingen to the Y-node in this case
- TSOs harmonize the descriptive name of cross-border network elements with their neighbors

10.2. Naming Convention for RAs

10.2.1. Remedial Action Naming conventions

For Topological and PST Remedial Actions, the agreed naming conventions are the followings:

10.2.2. Topological

- Opening a line: TOP_OPEN_SubstationA_SubstationB_ElementIdentifier, Example: *TOP_OPEN_Mercator_Horta_73*
- Closing a line: TOP_CLOSE_SubstationA_SubstationB_ElementIdentifier, Example: *TOP_CLOSE_Mercator_Horta_73*
- Split in multiple nodes: TOP_#NODES_Substation, Examples: *TOP_2N_Dellmensingen*; *TOP_3N_VIGY*

10.2.3. Complex action

TOP_COMPLEX_SubstationA_SubstationB_SubstationC_...

- Example: TOP_COMPLEX_GYOR_LITR_GABC

TSOs may include an optional suffix ‘_PRA’ or ‘_CRA’ in case the RA is specifically designed to be applied only as PRA or CRA. The example should read: *TOP_COMPLEX_GYOR_LITR_GABC_CRA*"

10.2.4. PST taps

PST_SubstationName_Enumeration Example: *PST_DIELE_441; PST_VANYK_2*

10.2.5. Miscellaneous

- Special protection schemes that are applied in case of tripping of network elements are indicated with prefix “SPS” e.g. “SPS1_Pleinting_St. Peter Tr3_CRA”.
- Transformers with angle regulation are indicated with prefix “AT” e.g. “AT_Mikulowa_1_PRA”, “AT_Mikulowa_2_PRA”, “AT_Mikulowa_1_CRA”, ”AT_Mikulowa_2_CRA”. Their impact as remedial action is implemented as a change of the phase angle between the coupled girds (400/220kV) .