CORE - Publication Tool for ID capacity calculation and allocation 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	1.0
Date	December 2022

Version History	Change description
1.0	Publication handbook for first publication in the external parallel run

Contents

1   Background

The Core Intraday Capacity Calculation Methodology Article 23 – "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: http://parallelrun-publicationtool.jao.eu/coreID
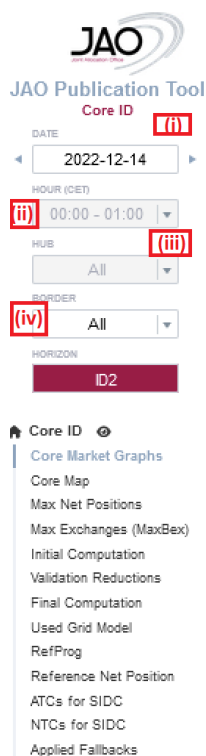
2   Navigation

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) hour;
- 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:

- Download a larger dataset (>24 hours)
- Download a shorter dataset (<24 hours)

Note: UTC is applied in the downloads, and hence can differ from the value observed in the GUI which is based on CET

4   Filter functionality: Domain pages

In the Domain pages (Initial and Final), users are able to filter within following fields:
- CNE name – keyword based search
- TSO – picklist allowing user to select TSO(s)
- Hub from / Hub to - picklist allowing user to select multiple hubs (from/to)
- Contingency – keyword based search
- Pre-solved - Check box allowing user to select true or false

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.

Final Computation

Download

SEARCH ⌄

CNE NAME	
TSO	Select ▼
HUB FROM	Select ▼
HUB TO	Select ▼
CONTINGENCY	
PRESOLVED	○ TRUE ○ FALSE ○ UNSET

Reset filters
Search

TOTAL ROWS WITHOUT FILTER: 15642
TOTAL ROWS WITH FILTER: 15642
DISPLAYED ROWS: 100

			Information on the CNE										**Information on the Contingency**				
Date	TSO	CNE_Name	EIC_Code	Direction	Hub From	Hub To	Substation From	Substation To	ElementType	FmaxType	TSO	Contingency Name	BranchName	EIC_Code	Hub From	Hub To
2022-12-05 00:00:00	APG	Salzburg - Tauern 231A	14T-220-0-0231AB	DIRECT	AT	AT	Salzburg	Tauern	Line	SEASONAL	APG	Salzburg - Tauern 232A	Salzburg - Tauern 232A	14T-220-0-0232A8	AT	AT
2022-12-05 00:00:00	APG	Salzburg - Tauern 231A	14T-220-0-0231AB	OPPOSITE	AT	AT	Salzburg	Tauern	Line	SEASONAL	APG	Salzburg - Tauern 232A	Salzburg - Tauern 232A	14T-220-0-0232A8	AT	AT
2022-12-05 00:00:00	APG	Salzburg - Tauern 232A	14T-220-0-0232A8	DIRECT	AT	AT	Salzburg	Tauern	Line	SEASONAL	APG	Salzburg - Tauern 231A	Salzburg - Tauern 231A	14T-220-0-0231AB	AT	AT
2022-12-05 00:00:00	APG	Salzburg - Tauern 232A	14T-220-0-0232A8	OPPOSITE	AT	AT	Salzburg	Tauern	Line	SEASONAL	APG	Salzburg - Tauern 231A	Salzburg - Tauern 231A	14T-220-0-0231AB	AT	AT
2022-12-05 00:00:00	APG	St. Peter 2 - Altheim 233_230	10T-AT-DE-00001B	DIRECT	AT	DE	St. Peter 2	Altheim	TieLine	SEASONAL	APG	St. Peter 2 - Salzburg 456	St. Peter 2 - Salzburg 456	14T-220-0-00456D	AT	AT
2022-12-05	APG	St. Peter 2 - Altheim	10T-AT-DE-	OPPOSITE	AT	DE	St. Peter 2	Altheim	TieLine	SEASONAL	APG	St. Peter 2 -	St. Peter 2 -	14T-220-0-00456D	AT	AT

5 Publication Overview

5.1 General remarks

- In the Intraday capacity calculation, it can happen that in each combination set of net positions at least one CNEC has a negative RAM. FB domains with this characteristic are called "empty domains". Empty domains can still provide capacities in certain trading directions but are mathematically not well formed. Therefore, certain indicators like which constraints are presolved, Max Net Positions or Max Exchanges are not computed and therefore not published for hours with an empty domain.

- In hours in which the DA market clearing point is outside of the ID FB domain (at least one CNEC has a negative RAM) but the domain is at the same time well formed (it is not empty) it can happen that Max Exchanges cannot be calculated for all borders or are negative. In this situation the Max Net Positions can be calculated for all hubs, but some Minimum Net Positions will be positive, and some Maximum Net Positions will be negative.

5.2 Core Market Graphs

The "Core Market Graphs" page shows for the selected day for each Core hub, a graph with the "Min/Max net pos" and "Max exchanges (Maxbex)" that are possible within the final FB domain. Users are able to de/select specific hubs on top of the page.

Note: This view illustrates the limits of the final FB domain. As long as ID capacities are allocated in form of ATCs and not FB domains it is possible that those limits cannot be reached during the capacity allocation process. The ATCs used for capacity allocation are extracted from the FB domain as described in the ID capacity calculation methodology and are therefore more or less restrictive than the ID FB domain.

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 hour and Business Day as selected in the filter from the final flow-based computation.

Core max net positions and bilateral exchanges

NL — export 5043 / import -5750 | ‹ 3000 / 4744 › | ▲ 5682 / ▼ 2860

DE — ‹ 2685 / 2053 ›

PL — export 3101 / import -5530

CZ: ▲ 2973 / ▼ 1886   SK: ▲ 4532 / ▼ 1864

BE — export 7265 / import -7279 | ‹ 4925 / 6196 › | ▲ 5635 / ▼ 5133

CZ — export 11991 / import -19734 | ‹ 4506 / 4480 › | ▲ 7952 / ▼ 5060

SK — export 6635 / import -5871 | ‹ 5586 / 3975 › | ▲ 3647 / ▼ 2395

FR — export 11694 / import -9230 | ‹ 5000 / 8834 ›

AT — export 8947 / import -7603 | ‹ 6405 / 6402 › | ▲ 2549 / ▼ 2798

HU — export 8085 / import -5372 | ‹ 4026 / 2595 › | ‹ 1010 / 2070 ›

RO — export 1020 / import -2339

SI — ‹ 3260 / 3083 › | export 4030 / import -4626 | ▲ 3225 / ▼ 2415

HR — export 3585 / import -3136 | ‹ 2416 / 2204 ›

Note: This view illustrates the limits of the final FB domain. As long as ID capacities are allocated in form of ATCs and not FB domains it is possible that those limits cannot be reached during the capacity allocation process. The ATCs used for capacity allocation are extracted from the FB domain as described in the ID capacity calculation methodology and are therefore more or less restrictive than the ID FB domain.

5.4 Max Net Positions

This page displays the minimum and maximum Core net positions in MW of each hub for each hour of the day. These indicators are extracted from the final flow-based domain.

Max Net Positions

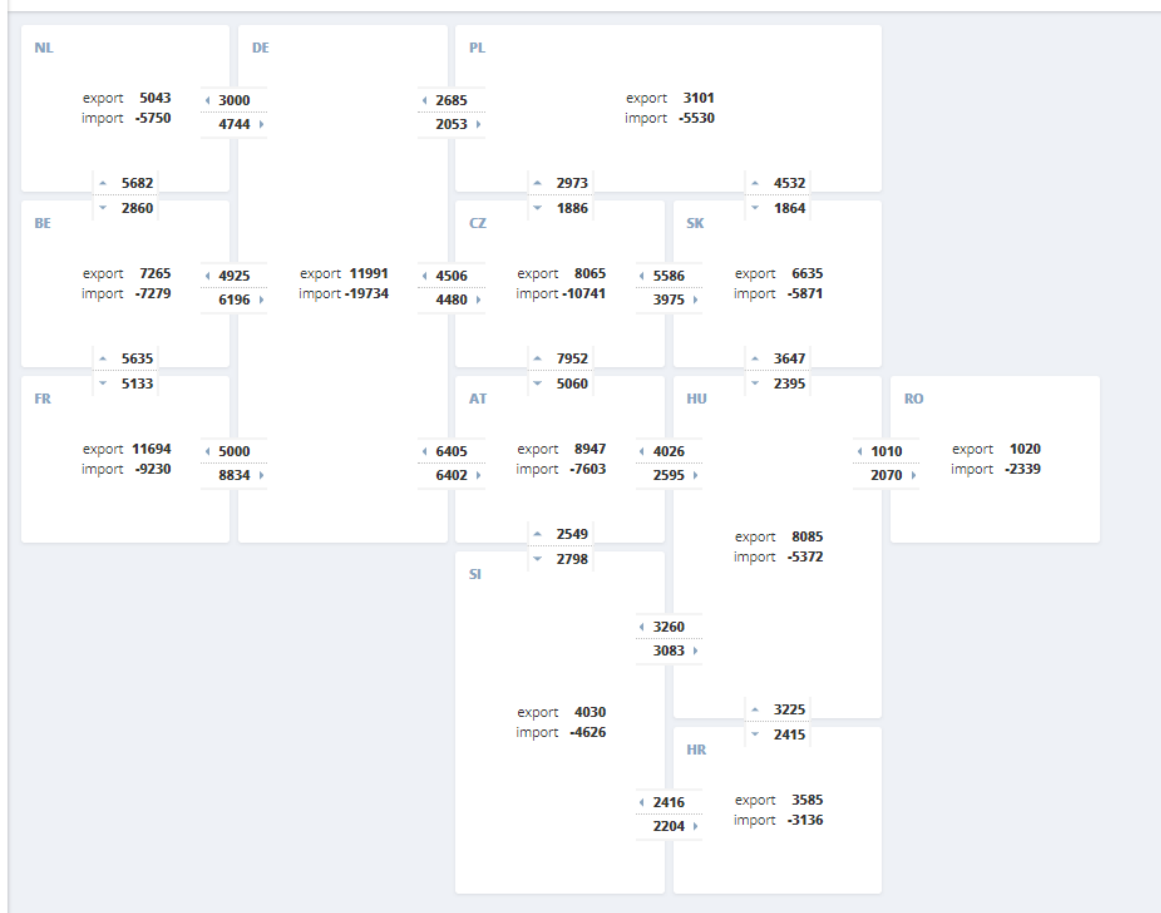| Date	Min ALBE	Min ALDE	Min AT	Min BE	Min CZ	Min DE	Min FR	Min HR	Min HU	Min NL	Min PL	Min RO	Min SI	Min SK	Max ALBE	Max ALDE	Max AT	Max BE	Max CZ	Max DE	Max FR	Max HR	Max HU	Max NL	Max PL	Max RO	Max SI
2022-11-30 00:00:00	-1000	-1000	-7525	-10077	-9975	-20639	-9197	-5739	-6209	-4896	-5159	-1407	-5813	-7473	1000	1000	6318	7157	11032	14090	15486	3595	9501	5750	3899	2213	4518
2022-11-30 01:00:00	-1000	-1000	-7477	-9974	-9828	-21030	-9033	-5622	-5173	-3662	-5101	-1287	-5970	-7668	1000	1000	6186	7158	11057	12505	16117	2832	9693	5750	3865	1511	4312
2022-11-30 02:00:00	-1000	-1000	-7304	-10144	-9800	-21005	-9259	-5626	-5529	-4394	-4953	-1381	-6054	-7677	1000	1000	6093	7718	10936	13027	15955	3145	9812	5750	3814	1707	4205
2022-11-30 03:00:00	-1000	-1000	-6628	-10094	-9885	-20705	-10900	-5819	-6262	-4751	-5014	-1561	-5940	-7759	1000	1000	6858	7916	11003	13884	14774	3672	9951	5750	3849	2240	4367
2022-11-30 04:00:00	-1000	-1000	-7237	-10169	-9791	-20173	-10898	-5692	-5340	-5307	-5278	-1483	-5742	-7779	1000	1000	6441	7822	11215	14700	14680	3076	9933	5750	3884	1531	4584
2022-11-30 05:00:00	-1000	-1000	-7552	-10068	-9899	-19496	-11280	-5664	-5385	-5714	-5503	-2085	-5312	-7726	1000	1000	6354	7621	11236	14693	14447	3718	10010	5376	3895	1210	5070
2022-11-30 06:00:00	-1000	-1000	-8166	-10241	-9786	-20731	-10431	-5225	-4414	-2601	-5446	-2417	-5256	-7823	1000	1000	5997	7576	11014	9084	15123	2872	10288	5750	4176	157	5051
2022-11-30 07:00:00	-1000	-1000	-8937	-9982	-8956	-19087	-10088	-5462	-3133	-3410	-4984	-1884	-4285	-7751	1000	1000	4060	8009	10745	13131	14796	841	9814	5750	4501	-486	4738
2022-11-30 08:00:00	-1000	-1000	-9878	-9921	-9072	-17766	-9667	-5444	-3178	-3644	-4997	-2207	-4812	-7802	1000	1000	3837	7532	10797	13840	14943	1430	10091	5390	4439	-678	4974
2022-11-30 09:00:00	-1000	-1000	-9577	-9572	-9304	-18572	-9673	-5637	-3868	-3383	-4997	-2233	-4950	-7733	1000	1000	4136	6978	10780	12896	14819	2027	10129	5476	4435	-193	5213
2022-11-30 10:00:00	-1000	-1000	-9428	-9716	-9203	-18735	-9751	-5357	-2895	-2969	-4977	-2273	-4076	-7978	1000	1000	4191	7558	10770	12995	14923	914	10081	5262	4599	-932	4876
2022-11-30 11:00:00	-1000	-1000	-9247	-9609	-9052	-18432	-10391	-5505	-2513	-2804	-4975	-1873	-2983	-7789	1000	1000	4108	7547	10779	13063	14181	-964	9922	5616	4571	-840	4673
2022-11-30	-1000	-1000	-9485	-9662	-9308	-18657	-9419	-5332	-2883	-2727	-4998	-2086	-3827	-7932	1000	1000	4155	7464	10761	12795	14791	484	9986	5000	4484	-777	4882

Note: This table illustrates the limits of the final FB domain. As long as ID capacities are allocated in form of ATCs and not FB domains it is possible that those limits cannot be reached during the capacity allocation process. The ATCs used for capacity allocation are extracted from the FB domain as described in the ID capacity calculation methodology and are therefore more or less restrictive than the ID FB domain.

5.5   Max Exchanges (Maxbex)

This page displays the maximum bilateral exchanges within the final FB domain between two CORE hubs with the assumption that the other net positions are zero.

Max Exchanges (MaxBex)

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
2022-11-30 00:00:00	2903	3835	2833	2880	4075	2284	2936	1924	741	2952	1590	5568	4630	5705	5696	3867	3180	4025	2228	748	3861	1978	49
2022-11-30 01:00:00					4040				593		-3388					3834				599			
2022-11-30 02:00:00					3980			-2607	703		-2166					3777				710	4102	-2698	
2022-11-30 03:00:00	3391	3563	3363	3225	4047	2164	3478	1744	885	3228	1451	4476	4490	5744	6683	3840	3069	3512	1743	894	4222	1808	39
2022-11-30 04:00:00					4226				854		-3210					4009				862		-3996	
2022-11-30 05:00:00					3863				1713							4225				1729			
2022-11-30 06:00:00																				1756			

Note: This table illustrates the limits of the final FB domain. As long as ID capacities are allocated in form of ATCs and not FB domains it is possible that those limits cannot be reached during the capacity allocation process. The ATCs used for capacity allocation are extracted from the FB domain as described in the ID capacity calculation methodology and are therefore more or less restrictive than the ID FB domain.

5.6   Initial Computation

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

Details of each column:

- Date: Business Day and hour

  Information on the CNE:

- TSO: Indicating the TSO defining the CNE
- CNE_Name: the human readable name of the CNE as per the naming conventions defined in 8.1
- EIC_Code: EIC Code of the Critical Network Element
- Direction: Direction of the flow [DIRECT] or [OPPOSITE]
- Hub From: The Hub the CNE is connected from
- Hub To: The Hub the CNE is connected to
- Substation From: The location (substation the CNE is connected from)
- Substation To: The location (substation the CNE is connected to)
- ElementType: Asset Type of the CNE, e.g. Busbar, DC-Link, Generation, Line, Load, PST, Tieline, Transformer
- 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.

  Information on the Contingency:

- TSO: Indicating the TSO defining the Contingency
- Contingency Name: The readable name of the Contingency indicating [Hub from – Hub to]
- BranchName: In case of multibe branch contingency the name of each branch
- EIC_Code: EIC Code of the Critical Network Element
- Hub From: The Hub the Contingency is connected from
- Hub To: The Hub the Contingency is connected to

- Substation From: The location (substation the Contingency is connected from)
- Substation To: The location (substation the Contingency is connected to)
- 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 branch 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
APG	Ernsthofen 2 - Weissenbach 202	Ernsthofen 2 - Weissenbach 202	14T-220-0-002027	AT	AT	Ernsthofen 2	Weissenbach	A02
APG	Ernsthofen 2 - Weissenbach 202	Ernsthofen 2 - Weissenbach 202	14T-220-0-002027	AT	AT	Ernsthofen 2	Weissenbach	A02
APG	Tauern - Tauern TAPST	Tauern - Tauern TAPST	14T-22220-TAPST0	AT	AT	Tauern	Tauern	A06
APG	Tauern - Tauern TAPST	Tauern - Tauern TAPST	14T-22220-TAPST0	AT	AT	Tauern	Tauern	A06
APG	Ernsthofen 2 - Weissenbach 202	Ernsthofen 2 - Weissenbach 202	14T-220-0-002027	AT	AT	Ernsthofen 2	Weissenbach	A02

Detailed breakdown of RAM:

- Presolved: if the value is TRUE then the corresponding CNEC constrains the flow-based domain, FALSE means a redundant CNEC not constraining the flow-based domain
- RAM: remaining available margin in MW;
- Imax: the maximum admissible current in A
- U: reference voltage of the CNEC in kV
- Fmax: the maximum allowable power flow of the corresponding CNEC in MW
- FRM: flow reliability margin in MW
- F_ref: the reference flow calculated during the initial flow-based calculation in MW
- F0core: the flow per CNEC in the situation without commercial exchanges within the Core CCR in MW
- 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
- F_uaf: the flow resulting from assumed commercial exchanges outside the Core region in MW
- IVA: individual value adjustment resulting from individual TSO validation process in MW
- 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 attribute IVA, is empty/zero because IVAs are determined later on in the capacity calculation process, and hence only relevant for the Final Computation page.

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:
- Network elements which got filtered out following the 5% ptdf rule. These are not part of the pre-solved dataset;
- 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;
- 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

5.7   Validation Reductions

This page lists CNECs and the TSO:

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

> • that have been 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.

The CNEC Name consists of the CNE / Contingency.

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

Validation Reductions

Date	CNEC Name	TSO Name	Returned Branch	IVA (MW)	Justification
2022-12-05 05:00:00	PEHLIN - DIVACA / MELINA - DIVACA 400 KV DIVACA - MELINA	Hops	✕	0.37223142	IVA applied due to unsolvable overloads
2022-12-05 20:00:00	PEHLIN - DIVACA / MELINA - DIVACA 400 KV DIVACA - MELINA	Hops	✕	0.71528494	IVA applied due to unsolvable overloads

5.8   Final Computation

This page contains the final flow-based parameters of the selected business day and hour. The detailed data items are the ones as described under 5.6 Initial Computation.

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:
- Network elements which got filtered out following the 5% ptdf rule. These are not part of the pre-solved dataset;
- 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;
- 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

5.9   Used grid model

For the intraday capacity calculation purpose, Core TSOs make use of the latest DACF common grid model available, one common grid model per hour. 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
> • "Global net position" is the forecast of the overall balance of the countries in MW in the Common Grid Model

Information about the used grid model

Date	AT	BE	CZ	DE/LU	FR	HR	HU	NL	PL	RO	SI	SK	AT	BE	CZ	DE/LU	FR	HR	HU	NL	PL	RO	SI	SK	AT	BE
						CGM per Hub (in MW)																				
			Vertical Load												Generation										
2022-11-16 00:00:00	6895	7187	6253	15612	36458	1424	4204	7844	15622	5544	1200	1722	3290	6654	7127	25163	32229	1006	2871	7552	15439	6034	600	1957	-3605	-1425.1
2022-11-16 01:00:00	7093	6836	6233	14562	34569	1305	4060	7471	15227	5432	1163	1642	2929	6701	6577	24184	31102	1018	2868	6775	15270	6006	618	1959	-4164	-958.1
2022-11-16 02:00:00	7090	6375	6089	13419	33924	1211	3926	7368	14922	5439	1129	1644	2899	6523	6660	23661	29814	1051	2865	6748	15302	6008	648	1960	-4191	-741.9
2022-11-16 03:00:00	7043	6298	6005	13717	31034	1267	3948	7531	15031	5514	1143	1693	2876	6530	6641	22561	29661	1069	2969	6327	15304	6006	648	1861	-4167	-533.4
2022-11-16 04:00:00	7248	6371	6195	15220	30155	1260	4034	7666	15459	5776	1170	1734	2954	6612	6899	22768	30351	1080	3004	5951	15328	6045	652	1961	-4294	-320.7
2022-11-16 05:00:00	7205	6607	6677	17875	31615	1433	4283	7977	16394	6312	1308	1926	3048	6722	7689	25301	30754	1338	3131	6420	16242	6040	655	1970	-4157	-483
2022-11-16 06:00:00	7594	7601	7667	21291	36176	1758	4981	9575	19132	7000	1430	2298	3866	7690	8435	29989	32469	1743	3379	7666	18944	6612	662	1976	-3727	-219.3
2022-11-16 07:00:00	8384	8508	7972	25236	40484	2010	5281	10529	20729	7490	1192	2427	4351	7816	8720	34608	37679	1764	3461	8362	20567	6784	661	2071	-4033	-1233.3
2022-11-16 08:00:00	8545	8570	7953	26552	41738	2145	5342	11113	21424	7628	930	2488	4956	7942	9028	35325	38969	1790	3502	8948	21273	6803	663	1978	-3590	-1061.2
2022-11-16 09:00:00	8472	8372	8161	27123	41844	2210	5333	10969	21624	7505	900	2500	4867	8014	9140	35873	39554	1783	3530	8619	21479	6790	664	1993	-3605	-395.1
2022-11-16 10:00:00	8472	7764	8191	27546	40636	2207	5291	10429	21324	7386	1074	2440	4655	8154	9174	34543	38544	1786	3485	8658	21197	6839	663	1974	-3817	995.1
2022-11-16 11:00:00	8531	7670	8217	28846	39690	2243	5367	9739	21429	7320	1352	2463	4543	8171	9312	34429	38382	1740	3608	8589	21310	6882	663	1961	-3989	1073.2
2022-11-16 12:00:00	8343	7664	8248	29474	39180	2259	5428	9314	21467	7279	1544	2512	4455	8201	9344	34142	38332	1714	3563	8590	21368	6795	662	1961	-3889	1111.6
2022-11-16 13:00:00	8325	7717	8229	30327	37890	2208	5398	9537	21639	7206	1599	2500	4252	8118	9102	34518	37718	1705	3397	8612	21471	6718	662	1959	-4073	916.6

Note: in the Core day-ahead capacity calculation, the aggregated assumptions from each TSO / Hub are taken from individual grid models, which are dedicatedly created for the Core day-ahead capacity calculation process. For the intraday capacity calculation purpose, these individual models are not directly available, and thus the assumptions from the common Grid Model are taken.

During the merging process of combining all individual grid models to one common grid model, it may be required to alter either load or generation, which are then also reflected in the aggregated assumptions reported.

5.10   RefProg

The RefProg page displays 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, Core Hub between non-Core Hub and between non-Core hub and non-Core hub are all derived from the Day-Ahead scheduled exchanges, as published by TSOs on their common scheduling 'Verification Platform'.
-    Exchanges on DC links are taken over from the set points modelled in the CGMs;
-    AT-DE redispatch when applicable, as provided by TTG

RefProg

Date	AT>CZ	AT>HU	AT>SI	BA>HR	BE>DE	BE>NL	BE>UK	BG>TR	CH>AT	CH>DE+	CH>FR	CH>IT	CZ>SK	DE>AT	DE>BE	DE>CZ
2022-11-16 00:00:00	-1756	-3	309	-114	-892.1	-1561	105.2	-92	-243	-800	-3790	2806	445	2700	892.1	945
2022-11-16 01:00:00	-1776	-205	108	-114	-823.1	-1123	72.9	125	-376	-800	-3790	2025	305	2961	823.1	1204
2022-11-16 02:00:00	-1834	-114	338	-112	-889.9	-1248	159.9	199	-490	-800	-3790	1660	363	2948	889.9	1114
2022-11-16 03:00:00	-1821	-203	-13	-74	-764.4	-656	446.2	264	-514	-800	-3699	1892	400	2960	764.4	1139
2022-11-16 04:00:00	-1753	-99	152	-86	-561.7	-51	261.1	315	-431	-800	-3790	1876	439	2951	581.7	1199
2022-11-16 05:00:00	-1739	64	104	-84	-598	-151	-2	-100	34	-800	-3790	2818	575	2835	598	1096
2022-11-16 06:00:00	-1446	47	47	234	-308.3	-668	-815.2	0	171	-800	-3790	3904	581	2478	308.3	1031
2022-11-16 07:00:00	-1439	89	4	240	-541.3	-467	-999.99	-100	388	-800	-3790	4120	609	2557	541.3	1119
2022-11-16 08:00:00	-1380	185	140	318	-433.2	-474	-999.99	-100	482	-800	-3790	4120	710	2322	433.2	942
2022-11-16 09:00:00	-1462	141	246	342	-37.1	-369	-999.99	-100	284	-800	-3790	4120	704	2516	37.1	1054
2022-11-16 10:00:00	-1499	34	304	378	605.1	-454	-999.99	-100	370	-800	-3790	4120	873	2554	-605.1	1055
2022-11-16 11:00:00	-1586	43	422	419	571.2	-338	-999.99	-100	469	-800	-3790	4033	718	2870	-571.2	1684
2022-11-16 12:00:00	-1608	52	396	292	574.6	-338	-950.6	-100	270	-800	-3790	3970	745	2735	-574.6	1128
2022-11-16 13:00:00	-1545	26	256	334	515.6	-170	-939.7	0	304	-800	-3790	3995	704	2786	-515.6	1241
2022-11-16 14:00:00	-1557	113	209	342	128.5	-14	-999.99	0	105	-800	-3790	4120	717	2729	-128.5	1172

5.11   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
2022-11-16 00:00:00	-309	307	1985	-1908	1471	4110	-1209	-7925	-45	-212	-1332	-13	-168	-199
2022-11-16 01:00:00	-310	342	2109	-2841	1507	3998	-860	-6982	-7	-207	-1207	-25	-522	-195
2022-11-16 02:00:00	-308	365	1858	-3312	1579	4084	-829	-6743	18	-208	-1308	-23	-674	-177
2022-11-16 03:00:00	-308	366	1740	-3099	1625	3922	-1176	-6894	32	-215	-1133	-67	-560	-168
2022-11-16 04:00:00	-307	353	1928	-3039	1639	3884	-1174	-6563	38	-113	-1132	-14	-682	-182
2022-11-16 05:00:00	-304	301	1376	-1635	1541	3821	-1781	-6864	32	-16	-1061	-26	-158	-236
2022-11-16 06:00:00	-240	319	1115	-400	1521	2781	-1239	-6156	-1	-18	-435	-31	-244	-329
2022-11-16 07:00:00	-235	306	1094	80	1292	1980	-551	-6298	18	-114	386	-37	-127	-396
2022-11-16 08:00:00	-212	262	1294	189	1216	1403	-454	-6553	20	-127	1048	-10	-100	-386
2022-11-16 09:00:00	-211	261	1562	-1	1242	2239	467	-7600	16	-118	282	-68	-87	-386
2022-11-16 10:00:00	-206	275	1703	107	1407	3176	94	-7995	-70	-104	-568	-21	-83	-374
2022-11-16 11:00:00	-200	272	1810	120	1337	3190	-63	-8104	-61	-92	-472	-13	-73	-370
2022-11-16 12:00:00	-202	198	1788	-154	1519	3449	461	-7665	-57	-106	-724	-44	-74	-360
2022-11-16 13:00:00	-199	200	1741	-98	1935	3263	765	-7172	-45	-110	-554	-67	-201	-355
2022-11-16 14:00:00	-238	198	1474	-186	1914	3221	129	-6610	-38	-118	-461	-35	-194	-352
2022-11-16 15:00:00	-163	227	1004	383	1862	3394	-564	-6300	18	-110	-570	-100	-88	-348

5.12   ATCs for SIDC

This page displays the available transmission capacity extracted from the Final FB domain in both directions for defined borders in MW.

ATCs for SIDC

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►NL	DE►PL	FR►BE	FR►DE	HR►HU	HR►SI	HU►AT	H
2022-11-16 00:00:00	282	4759	450	550	961	132	-272	25	342	-142	228	172	-74	178	-66	-378	-232	1474	6245	779	532	409	
2022-11-16 00:15:00	282	4759	450	550	961		-272	25				172	-74			-378						409	
2022-11-16 00:30:00	282	4759	450	550	961	132	-272	25				172	-74		-66	-378		1474	6245			409	
2022-11-16 00:45:00	282	4759	450	550	961		-272	25				172	-74			-378						409	
2022-11-16 01:00:00	95	6416	370	438	553	189	-613	189	546	-125	320	150	-165	60	-149	-853	-204	3760	1098	564	593	288	
2022-11-16 01:15:00	95	6416	370	438	553		-613	189				150	-165			-853						288	
2022-11-16 01:30:00	95	6416	370	438	553	189	-613	189				150	-165		-149	-853		3760	1098			288	
2022-11-16 01:45:00	95	6416	370	438	553		-613	189				150	-165			-853						288	
2022-11-16 02:00:00	121	5399	368	460	305	180	-512	119	559	-113	207	126	-135	76	-121	-706	-186	4073	998	551	516	264	
2022-11-16 02:15:00	121	5399	368	460	305		-512	119				126	-135			-706						264	
2022-11-16 02:30:00	121	5399	368	460	305	180	-512	119				126	-135		-121	-706		4073	998			264	
2022-11-16 02:45:00	121	5399	368	460	305		-512	119				126	-135			-706						264	
2022-11-16 03:00:00	373	6149	427	605	619	531	-760	126	295	-545	210	178	-213	-68	-192	-1069	-907	3926	1167	733	480	255	
2022-11-16 03:15:00	373	6149	427	605	619		-760	126				178	-213			-1069						255	
2022-11-16 03:30:00	373	6149	427	605	619	531	-760	126				178	-213		-192	-1069		3926	1167			255	

5.13 NTCs for SIDC

This page displays the nominal transmission capacity as calculated from the ATCs for SIDC and the already allocated capacities for both directions for defined borders in MW.

NTCs for SIDC

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►NL	DE►PL	FR►BE	FR►DE	HR►HU	HR►SI	HU►AT	H
2022-11-16 00:00:00	-1474	2059	447	859	69	2003	-1833	1781	-603	-557	673	2872	818	1123	4214	471	298	-397	1965	318	328	412	
2022-11-16 00:15:00	-1474	2059	447	859	69		-1833	1781				2872	818			471						412	
2022-11-16 00:30:00	-1474	2059	447	859	69	2003	-1833	1781				2872	818		4214	471		-397	1965			412	
2022-11-16 00:45:00	-1474	2059	447	859	69		-1833	1781				2872	818			471						412	
2022-11-16 01:00:00	-1681	3435	165	546	-271	1989	-1736	1965	-658	-692	625	3131	658	1264	3608	-19	433	1960	-2659	197	482	493	
2022-11-16 01:15:00	-1681	3435	165	546	-271		-1736	1965				3131	658			-19						493	
2022-11-16 01:30:00	-1681	3435	165	546	-271	1989	-1736	1965				3131	658		3608	-19		1960	-2659			493	
2022-11-16 01:45:00	-1681	3435	165	546	-271		-1736	1965				3131	658			-19						493	
2022-11-16 02:00:00	-1713	2451	254	798	-585	2365	-1760	1953	-555	-654	570	3074	755	1190	4109	92	388	1888	-3232	179	518	378	
2022-11-16 02:15:00	-1713	2451	254	798	-585		-1760	1953				3074	755			92						378	
2022-11-16 02:30:00	-1713	2451	254	798	-585	2365	-1760	1953				3074	755		4109	92		1888	-3232			378	
2022-11-16 02:45:00	-1713	2451	254	798	-585		-1760	1953				3074	755			92						378	
2022-11-16 03:00:00	-1448	3189	224	592	-145	1807	-1416	1947	-844	-1021	610	3138	551	1071	2649	-160	-243	2650	-1674	484	339	458	
2022-11-16 03:15:00	-1448	3189	224	592	-145		-1416	1947				3138	551			-160						458	
2022-11-16 03:30:00	-1448	3189	224	592	-145	1807	-1416	1947				3138	551		2649	-160		2650	-1674			458	

5.14 Applied Fallbacks

This page displays hours in which a fallback was applied during capacity calculation due to technical or other issues in the daily process.

Applied Fallbacks

Date	computation	type
2022-11-19 00:00:00	Final	Zero Capacity Fallback
2022-11-19 00:00:00	Initial	Zero Capacity Fallback
2022-11-19 01:00:00	Final	Zero Capacity Fallback
2022-11-19 01:00:00	Initial	Zero Capacity Fallback
2022-11-19 02:00:00	Final	Zero Capacity Fallback
2022-11-19 02:00:00	Initial	Zero Capacity Fallback
2022-11-19 03:00:00	Final	Zero Capacity Fallback
2022-11-19 03:00:00	Initial	Zero Capacity Fallback
2022-11-19 04:00:00	Final	Zero Capacity Fallback
2022-11-19 04:00:00	Initial	Zero Capacity Fallback
2022-11-19 05:00:00	Final	Zero Capacity Fallback
2022-11-19 05:00:00	Initial	Zero Capacity Fallback
2022-11-19 06:00:00	Final	Zero Capacity Fallback
2022-11-19 06:00:00	Initial	Zero Capacity Fallback
2022-11-19 07:00:00	Final	Zero Capacity Fallback

6   Web Service

On http://parallelrun-publicationtool.jao.eu/coreID/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.

Before using web services, please note the following:
- An authentication token will be required in the future to access web services
- All Timestamp and Date parameters are stored and used in UTC (Coordinated Universal Time)
- All parameter values should be encoded in UTF-8
- All endpoints should be called via the GET-method
- The RESTful-API should be called via HTTPS and returns JSON

API


```
ENDPOINT
Max Exchanges (MaxBex)                                        ▼
URL
GET   https://core-parallelrun-publicationtool.jao.eu/api/core/maxExchanges/index

[ Request ]  [ Response ]  [ Test ]  [ Curl ]

DATE (UTC)
2021-01-20T23:00:00.000Z        (you can change the date in the menu on the left)
REQUESTED URL (GET)
https://core-parallelrun-publicationtool.jao.eu/api/core/maxExchanges/index?date=2021-01-20T23%3A00%3A00.000Z
RESPONSE HEADERS
{
  "content-type": "application/json; charset=utf-8",
  "date": "Thu, 11 Feb 2021 02:13:16 GMT",
  "server": "Microsoft-IIS/10.0",
  "transfer-encoding": "chunked",
  "x-frame-options": "DENY",
  "x-powered-by": "ASP.NET"
}

RESPONSE CONTENT
{
  "maxExchanges": [
    {
      "id": 1009,
      "dateTimeUtc": "2021-01-20T23:00:00Z",
      "border_AT_BE": 5207,
      "border_AT_CZ": 7559,
      "border_AT_DE": 6369,
      "border_AT_FR": 4982,
      "border_AT_HR": 4132,
      "border_AT_HU": 3131,
      "border_AT_NL": 2983,
      "border_AT_PL": 2105,
      "border_AT_RO": 1339,
      "border_AT_SI": 2745,
```

7   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.

8   Annex

8.1   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-VOEHRINGEN 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 neighbours