

JAO Publication Handbook

Market Coupling

Version	1.7	
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Status	<input type="checkbox"/> Draft	<input checked="" type="checkbox"/> Final

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1 Pre-coupling operational data (D-1)

1.1. Graphical views

1.1.1. Market View

Please note that all data presented in this document is available through one single platform which is the JAO Utility Tool. In the last section you will find information on how to get access through the web service.

Publication day or time is also indicated for each item: please consider that “D” stands for the delivery day; therefore, “D-1” stands for the Day-Ahead on which most of the data is provided as part of the market coupling process and finally “D+2” represents the second day after the delivery day.

Reference time:	1) Check volume (interactive module)				2) Max volume (information module)			
date: 2018-10-28 hour: 1	Here you can check the simultaneous execution of trading volumes of the markets involved in the CWE Market Coupling				Here you can find the maximal trade volumes (MWh/h) which can be physically transported between two Hubs under the condition that no other trade is executed between other Hubs.			
HUB TO HUB EXCHANGES		Hub-to-Hub trade in MWh/h (please insert values)	Test 1: hub to hub inside FB space			direction →	direction ←	
	DE→AT	0	Trades feasible		DE→AT	5356	4908	
	DE→BE	0			DE→BE	3063	4194	
	DE→NL	0			DE→NL	2353	3451	
	DE→FR	0			DE→FR	5591	4217	
	NL→BE	0			NL→BE	2240	3432	
	NL→FR	0			NL→FR	2982	2881	
BE→FR	0	BE→FR			2581	5246		
HUB POSITION		Hub Positions trade in MWh/h (please insert values)	Test 1: sum hub positions = 0	Test 2: hub positions inside FB space		export	import	
	AT	0	OK	Trades feasible	AT	4910	-5518	
	DE	0			DE	10786	-9915	
	BE	0			BE	5081	-5500	
	FR	0			FR	7974	-6626	
	NL	0			NL	3639	-3955	

Figure 1: Screenshot of the “Market View” tab

The “Market View” tab is split into 2 sections:

- Check volume: the 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. Please note that those feasibility checks are performed on all 24 hours. This implies that if Test 2 indicates ‘Constrained Transmission System’, at least in one of the 24 hours a constraint was violated.
- Max volume: this section gathers the information of the tabs “Max net pos” and “Max exchanges (Maxbex)”.

Please note that if one changes the value of the date picker, it will update the figures of all the tabs of the excel file according to the chosen date.

Publication time: 10.30 am (D-1)

1.1.2. Market graphs

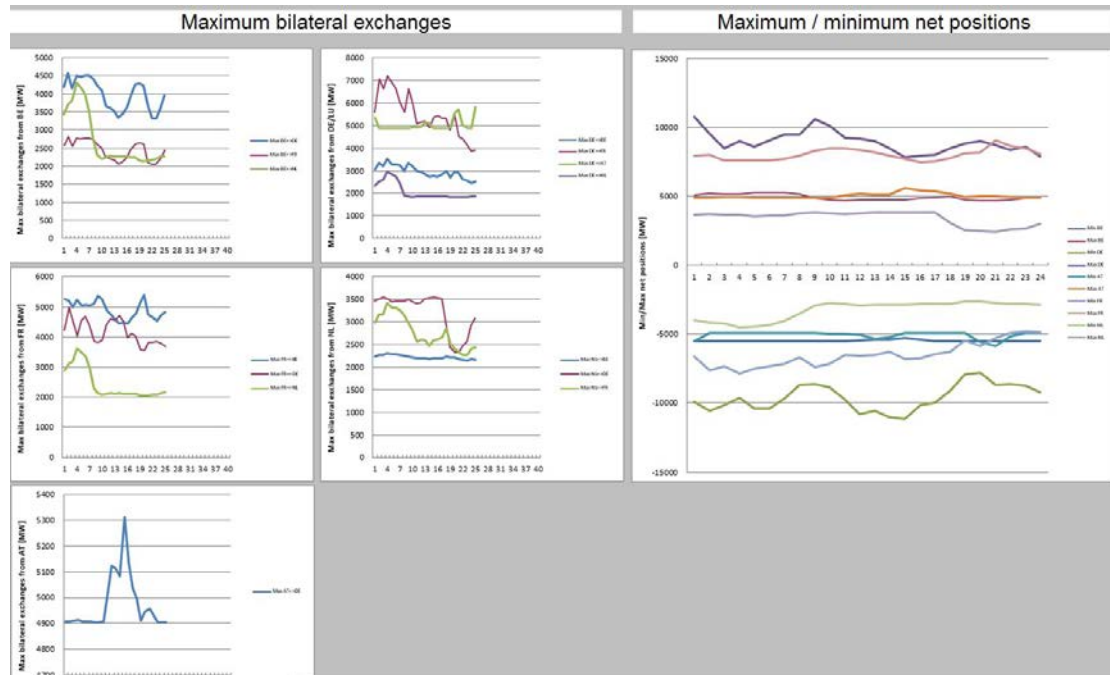


Figure 2: Screenshot of the “Market graphs” tab

The “Market graphs” tab gathers the graphs representing the Flow-Based indicators of the tabs “Max net pos” and “Max exchanges (Maxbex)” for the 24 hours of the selected day.

Publication time: 10.30 am (D-1)

1.1.3. CWE map

data shown for hour:
1

CWE max net positions and bilateral exchanges

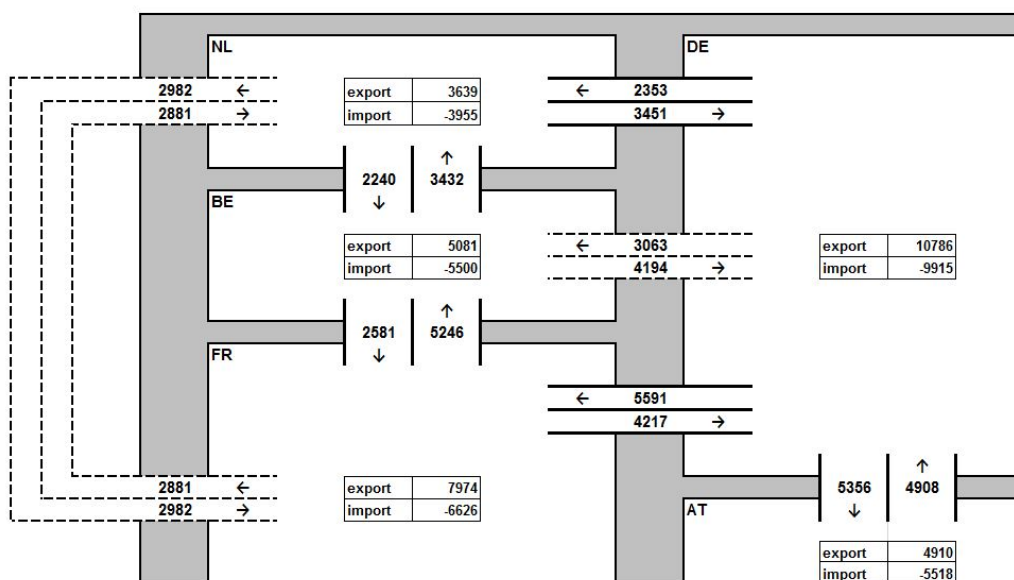


Figure 3: Screenshot of the “CWE map” tab

The “CWE map” tab displays the indicators of the final Flow-Based matrix in a different manner: it shows the maximum bilateral exchanges of each border and the min/max net positions of each hub on a map representing the CWE configuration.

Publication time: 10.30 am (D-1)

1.1.4. Border Data Overview

Date:	2015-11-01						
Border:	NL-DE/AT						
Choosing another Business Day on this sheet will also update the following sheets: ATCs, Allocated Capacities, Price spread, Congestion Income, LTN, Shadow Auction ATC and ID ATC							
Hour	ATC (MW)	BEC (MW)	Price Spread (€/MWh)	Congestion Income (€)	LTN (MW)	Shadow Auction ATC (MW)	Intraday ATC (MW)
1	#N/A	0	-14.69	#N/A	0	1484	231
2	#N/A	0	-12.98	#N/A	0	1493	1068
3	#N/A	0	0	#N/A	0	1768	2053
4	#N/A	0	0	#N/A	0	1715	2951
5	#N/A	0	-2.19	#N/A	0	1750	3444
6	#N/A	0	-1.76	#N/A	0	1719	3290
7	#N/A	0	-4.91	#N/A	0	1734	3460
8	#N/A	0	-4.28	#N/A	0	1487	3192
9	#N/A	0	0	#N/A	0	1486	3904
10	#N/A	0	0	#N/A	0	1515	4376
11	#N/A	0	-2.47	#N/A	0	1693	5046
12	#N/A	0	-0.51	#N/A	0	1760	5229
13	#N/A	0	-6.99	#N/A	0	1614	3429
14	#N/A	0	-2.86	#N/A	0	1662	4446
15	#N/A	0	-0.04	#N/A	0	1553	4874
16	#N/A	0	-2.4	#N/A	0	1488	4584
17	#N/A	0	-0.07	#N/A	0	1486	3984
18	#N/A	0	0	#N/A	0	1484	2482
19	#N/A	0	0	#N/A	0	1485	2159
20	#N/A	0	0	#N/A	0	1547	1924
21	#N/A	0	0	#N/A	0	1683	1498
22	#N/A	0	0	#N/A	0	1781	1477
23	#N/A	0	0	#N/A	0	1518	811
24	#N/A	0	0	#N/A	0	1569	483

Figure 4: Screenshot of the “Border Data Overview” tab with a CWE border

This tab gathers the general pieces of information for a selected border for each hour of a market coupling date:

- The ATC in MW offered for the Day-ahead market coupling (for the non-CWE borders);
- The allocated capacity (or BEC¹) in MW after market coupling;
- The Price Spread in €/MWh;
- The Congestion Income in €;
- The nominated volume of the long term allocated product (LTN) in MW;
- The Shadow Auction ATC, being the ATC that would be provided to a shadow auction mechanism, in MW;
- The Intraday ATC, being the left-over capacity after the FBMC expressed as **initial** ATC, in MW.

Please note that for the CWE internal borders, the ATCs and Congestion Income are not available on a border basis (see Figure 4) and for the other borders, the long term nominations, the Shadow Auction ATCs and the intraday ATCs will not be available (see Figure 5).

¹ Bilateral Exchange Computation

Date:	2015-11-01							
Border:	DE/AT-IT							
Choosing another Business Day on this sheet will also update the following sheets: ATCs, Allocated Capacities, Price spread, Congestion Income, LTN, Shadow Auction ATC and ID ATC								
Hour	ATC (MW)	BEC (MW)	Price Spread (€/MWh)	Congestion Income (€)	LTN (MW)	Shadow Auction ATC (MW)	Intraday ATC (MW)	
1	119	119	15.29	1819.51	#N/A	#N/A	#N/A	#N/A
2	119	119	14.5	1725.5	#N/A	#N/A	#N/A	#N/A
3	119	119	7.7	916.3	#N/A	#N/A	#N/A	#N/A
4	119	119	10.22	1216.18	#N/A	#N/A	#N/A	#N/A
5	119	119	6.58	783.02	#N/A	#N/A	#N/A	#N/A
6	119	119	6.15	731.85	#N/A	#N/A	#N/A	#N/A
7	119	119	6.14	730.66	#N/A	#N/A	#N/A	#N/A
8	119	119	1.42	168.98	#N/A	#N/A	#N/A	#N/A
9	119	119	0	0	#N/A	#N/A	#N/A	#N/A
10	119	119	0	0	#N/A	#N/A	#N/A	#N/A
11	82	82	0.49	40.18	#N/A	#N/A	#N/A	#N/A
12	82	82	0.18	14.76	#N/A	#N/A	#N/A	#N/A
13	82	82	2.43	199.26	#N/A	#N/A	#N/A	#N/A
14	82	82	0.55	45.1	#N/A	#N/A	#N/A	#N/A
15	82	82	0.01	0.82	#N/A	#N/A	#N/A	#N/A
16	82	82	4.53	371.46	#N/A	#N/A	#N/A	#N/A
17	82	82	6.67	546.94	#N/A	#N/A	#N/A	#N/A
18	142	142	2.36	335.12	#N/A	#N/A	#N/A	#N/A
19	202	0	-1.54	0	#N/A	#N/A	#N/A	#N/A
20	262	262	0	0	#N/A	#N/A	#N/A	#N/A
21	265	265	0	0	#N/A	#N/A	#N/A	#N/A
22	265	265	1.81	479.65	#N/A	#N/A	#N/A	#N/A
23	239	239	4.1	979.9	#N/A	#N/A	#N/A	#N/A
24	179	179	4.36	780.44	#N/A	#N/A	#N/A	#N/A

Figure 5: Screenshot of the “Border Data Overview” tab with a non-CWE border

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

1.2. Raw network data

1.2.1. Virgin domain (initial computation)

Date:	2019-07-04									
The data for 2019-07-04 has been retrieved successfully.										
FileID	DeliveryDate	Period	Row	OutageName	EIC_Code	CriticalBranchName	EIC_Code	Presolved	RemainingAvailableMargin	
185	04/07/2019	1	8080	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [DIR] [D2]	10T-AT-DE-000029	FALSE	667	
185	04/07/2019	1	8259	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [OPP] [D2]	10T-AT-DE-000029	FALSE	495	
185	04/07/2019	1	14987	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [DIR] [D2]	10T-AT-DE-000037	FALSE	475	
185	04/07/2019	1	9676	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [OPP] [D2]	10T-AT-DE-000037	FALSE	687	
185	04/07/2019	2	16344	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [DIR] [D2]	10T-AT-DE-000029	FALSE	660	
185	04/07/2019	2	15887	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [OPP] [D2]	10T-AT-DE-000029	FALSE	512	
185	04/07/2019	2	17106	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [DIR] [D2]	10T-AT-DE-000037	FALSE	468	
185	04/07/2019	2	21202	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [OPP] [D2]	10T-AT-DE-000037	FALSE	704	
185	04/07/2019	3	147296	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [DIR] [D2]	10T-AT-DE-000029	FALSE	660	
185	04/07/2019	3	151548	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [OPP] [D2]	10T-AT-DE-000029	FALSE	512	
185	04/07/2019	3	147639	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [DIR] [D2]	10T-AT-DE-000037	FALSE	474	
185	04/07/2019	3	150240	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [OPP] [D2]	10T-AT-DE-000037	FALSE	698	
185	04/07/2019	4	183034	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [DIR] [D2]	10T-AT-DE-000029	FALSE	659	
185	04/07/2019	4	179382	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [OPP] [D2]	10T-AT-DE-000029	FALSE	523	
185	04/07/2019	4	177168	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [DIR] [D2]	10T-AT-DE-000037	FALSE	469	
185	04/07/2019	4	181099	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [OPP] [D2]	10T-AT-DE-000037	FALSE	713	
185	04/07/2019	5	173536	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [DIR] [D2]	10T-AT-DE-000029	FALSE	660	
185	04/07/2019	5	169192	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pirach - St. Peter 256 [OPP] [D2]	10T-AT-DE-000029	FALSE	522	
185	04/07/2019	5	170565	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [DIR] [D2]	10T-AT-DE-000037	FALSE	474	
185	04/07/2019	5	172804	[AT-AT] Duernrohr - Kronsdorf 433	14T-380-0-00433L	[D2-AT] Pleinting - St. Peter 258 [OPP] [D2]	10T-AT-DE-000037	FALSE	708	

Description:

This tab contains the Flow-Based matrices (virgin domains, before LTA inclusion and before MinRAM application) of the selected day of the **initial Flow-based computation** (24 FB matrices). In each FB matrix, one can find:

- FileID
- DeliveryDate
- Period (hour of the business day)
- Row
- OutageName: readable identification of the CO indicating its location
- EIC_Code of the Outage
- CriticalBranchName: readable identification of the CB indicating its location
- EIC_Code of the Critical Branch
- Presolved: if the value is TRUE then the corresponding CBCO constrains the FB domain
- Remaining Available Margin of the corresponding CBCO in MW
- Fmax: the maximum allowable power flow of the corresponding CBCO
- Fref: the reference flow of the corresponding CBCO, in MW

- FRM: the flow reliability margin of the corresponding CBCO, in MW
- FAV: the final adjustment value of the corresponding CBCO, in MW
- AMR: Adjustment value to ensure a minimum RAM of the corresponding CBCO, in MW
- AMR_Exclusion: Justifications for MinRAM exclusions
- BiddingArea_Shortname: the bidding area of the following ptdf (Factor)
- Factor: the ptdf of the previous hub (BiddingArea_Shortname)

These are the Flowbased parameters of the first Flowbased computation. The values represent the status before the qualification and verification phase in CWE.

Details about the nomenclature of CBCOs:

CB publication name: [hubFrom-hubTo] CB name [Direction] (+ [TSO] if a tie-line)

- HubFrom, HubTo and TSO can be BE, NL, FR, AT, D2 (Tennet Germany), D4 (TransnetBW), D7 (Amprion), D8 (50Hertz).
- In order to use a consistent naming for the CB name the following rules are considered: CB name = substation_FROM_name - substation_TO_name elementID
 - substation_FROM_name and substation_TO_name are stable
 - the elementID indicates an element number (e.g. 380.19 for BE elements) or a specific indicator (e.g. "White/Grey/Black/..." for NL elements) to differentiate between parallel elements
 - The CB name always has to include the human readable connected substation names divided by a hyphen.
 - If there is a hyphen in a substation name, no spaces are used.
 - Since element IDs are not always equal over different TSOs, the IDs are harmonized between TSOs to guarantee consistent naming
- Direction can be DIR or OPP. DIR means that the CB is monitored from firstly mentioned hub/substation to the secondly mentioned hub/substation. OPP inverts the order.
- TSOs use DIR and OPP to indicate the direction and are stable.

Examples:

- [BE-FR] Achene - Lonny 380.19 [DIR] [BE]
- [BE-BE] Avelgem - Horta 380.101 [DIR]

Tripods publication name: [hubFrom-hubTo] Y - substation (- substation 2 - substation 3) [Direction] (+ [TSO] if a tie-line)

- 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. If it is monitored from the Y-node to the substation the direction is DIR. Otherwise it is OPP.
- [hubFrom] and [hubTo] refer to the Y-node and the first substation mentioned.
- TSOs use DIR and OPP to indicate the direction and do not change the order of substations.
- If there is a hyphen in a substation name, no spaces are used.

Example: [D4-D4] Y - Engstlatt (- Oberjettingen - Pulverdingen) rot [DIR]

PSTs publication name: [hubFrom-hubTo] PST name [Direction] (+ [TSO] if a tie-line)

- There was no rule defined how the direction of a PST is chosen
- If there is a hyphen in a substation name, no spaces are used.

Outage publication name: The naming of the outages is harmonized among the different TSOs and is based on the nomenclature of CBs. No direction and TSO is indicated for COs.

Temporary limit parameter

- If the TSO is using temporary limit leading to different Fmax for the same CNE of the same hour, the timing will be included in the CNE naming.
- Currently used by RTE.

Example:

[D7-FR] Ensdorf - Vigy 2 [DIR] [FR] - 1'

- [D7-FR]: Control area in which the CNEC is located
- Ensdorf - Vigy 2: CNE name
- [DIR]: Direction of the CNE
 - [DIR]: Current order from the CNE name (here from Ensdorf to Vigy)
 - [OPP]: Opposite order from the CNE name (here from Vigy to Ensdorf)
- [FR]: TSO monitoring the line only applicable for cross-border lines.
- – 1': Temporary limit (leading to different FMax)

Please note that there are some minor issues that will somewhat deviate from the nomenclature.

- Elia will not be able to indicate the full name of a line for contingencies but only the substations (i.e. the element ID will be missing) until their tool is adapted end 2019/beginning 2020 (of which MPs will be informed via a market message). This issue is mitigated by the fact that the EIC code provide the full information.
- Elia will only use the Direction [DIR] until their tool is adapted, with the same timing as indicated above.
- hubFrom-hubTo may be inconsistent for the CNECs provided by Elia until their tool is adapted, with the same timing as indicated above.

Publication time: 02.30 am (D-1)

1.2.2. PTFDs (Early Publication)

Date: 2018-10-28 The data for 2018-10-28 has been retrieved successfully.											
	AT-hub (MW)	BE-hub (MW)	DE-hub (MW)	FR-hub (MW)	NL-hub (MW)	Sum					
Test Hub to Hub	0	0	0	0	0	0					
Test Hub Positions	0	0	0	0	0	0					
ID	Critical Branch	EIC code	Critical Outage	EIC code	AT-hub	BE-hub	DE-hub	FR-hub	NL-hub	RAM (MW)	
2147	[D4-D7] Daxlan	11T-D4-D7-000	[D4-D7] Daxlar	11T-D4-D7-000	-0.03191	0.04641	0.00756		-0.00521	0.06716	377
2148	[NL-NL] Lelysta	49T000000000	[NL-NL] Lelyst	49T000000000	0.11096	0	0.14131	0.06423	0	0	485
2149	Westtirol TO (V 14T-38220-WT	Westtirol - Ker	10T1001C-000		-0.14389	0.06018	0.02734	0.06527	0.05532	0	1040
2150	[D2-CZ] Etzenri	10T-CZ-DE-000	[D2-CZ] Etzenri	10T-CZ-DE-000	0.09696	0.03017	0.04545	0.03918	0	0	342
2151	[D2-AT] Y - St.	10T-AT-DE-000	[D2-AT] Y - St.	10T-AT-DE-000	0.058	-0.00161	-0.00449	-0.00449	0	0	314
2152	[D2-CZ] Etzenri	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TLJ-V432--	0.02299	-0.03987	-0.04925	-0.03987	0	0	451
2153	[NL-NL] Lelysta	49T000000000	[NL-NL] Lelyst	49T000000000	0.12321	0	0.14956	0.06798	0	0	486
2154	[D2-CZ] Etzenri	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TLJ-V432--	0.07544	0	-0.00707	0.00948	0	0	451
2155	Westtirol TO (V 14T-38220-WT	BASECASE	27T-TLJ-V432--		0.17627	-0.00838	0.02532	-0.01138	0	0	812
2156	380.28 MAASE	10T-BE-NL-000	[BZANDV_NGE	10T-BE-NL-000	-0.04982	-0.3697	-0.01759	-0.1552	0	0	926
2157	[D2-CZ] Etzenri	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TLJ-V432--	0.08704	0	0.00202	0.01015	0	0	447

Figure 6: Screenshot of the “PTDFs Early Implementation” tab

Description:

This tab contains the presolved Flow-Based matrices of the selected day **before long term nominations** (24 FB matrices). In each FB matrix, one can find:

- one line per presolved CBCO² with the fixed ID
- one column per hub with the PTFDF³_{hub} value per CBCO
- one column with the Remaining Available Margin (RAM) per CBCO

These **FB matrices are not the final values** used as input network data for the market coupling process.

² Critical Branch Critical Outage

³ Power Transfer Distribution Factor

In addition, the two columns “Test Hub to Hub” and “Test Hub positions” indicate whether a CBCO is constrained with the respective set of “Hub to Hub exchanges” or ”Hub positions” (0 means no violation and 1 means violation).

Publication time: 08.00 am (D-1)

1.2.3. Long Term Nominations (LTN)

Date:	2018-10-28 The data for 2018-10-28 has been retrieved successfully.										
Hour	LT Nominations (in MW)										
	AT-DE	DE-AT	BE-NL	NL-BE	DE-NL	NL-DE	BE-FR	FR-BE	FR-DE	DE-FR	
1	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	0	0	
12	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	0	0	0	
16	0	0	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	
21	0	0	0	0	0	0	0	0	0	0	
22	0	0	0	0	0	0	0	0	0	0	
23	0	0	0	0	0	0	0	0	0	0	
24	0	0	0	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	0	0	0	

Figure 7: Screenshot of the “LTN” tab

Description:

The first column indicates the hour of the nomination (24 lines overall). The next ten columns represent the nominated capacity in MW per border in the two directions.

Publication time: 10.30 am (D-1)

1.2.4. PTDFs

ID	Critical Branch	EIC code	Critical Outage	EIC code	AT.hub	BE.hub	DE.hub	FR.hub	NL.hub	RAM (MW)	Test Hub to H	constraints	Test Hub posi
205783	[D2-CZ] Elzem	10T-CZ-DE-000	[D2-CZ] Elzem	10T-CZ-DE-000	0.06844	-0.00067	0	-0.00067	0	337	0	0	0
205795	Westrol TO (I	14T-38220-WT	BASECASE		0.17591	-0.00394	0.02278	-0.0085	0	811	0	0	0
205869	[D4-AT] Biers-	10T-AT-DE-000	[AT-DA] Westli	14T-38220-WT	0.08957	-0.01021	0.003	-0.02835	0	468	0	0	0
206096	[NL-NL] Eemst	49T000000000	[NL-NL] Eemst	49T000000000	0.00241	0.01507	-0.00253	0.00895	-0.1974	792	0	0	0
206208	380.80 AVLGA	10T-BE-FR-000	BAVLGM_FM	10T-BE-FR-10t	0.01496	-0.23496	-0.01321	0.12345	-0.10241	2142	0	0	0
206279	380.28 MAAS	10T-BE-NL-000	BZANDV_NGE	10T-BE-NL-000	-0.04982	-0.3697	-0.01759	-0.1552	0	923	0	0	0
206348	[NL-NL] Lelyst	49T000000000	[NL-NL] Lelyst	49T000000000	0.15289	0.06095	0.18643	0.10679	0	558	0	0	0
206367	Westrol TO (I	14T-38220-WT	BASECASE		0.17627	-0.00838	0.02532	-0.01138	0	811	0	0	0
206605	Westrol TO (I	14T-38220-WT	BASECASE		0.17551	-0.00546	0.02543	-0.01477	0	811	0	0	0
206734	[D2-CZ] Elzem	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TL-V432-	0.0996	0.00838	0.01516	0.01516	0	447	0	0	0
206752	[NL-NL] Lelyst	49T000000000	[NL-NL] Lelyst	49T000000000	0.13462	0	0.16678	0.08342	0	558	0	0	0
206771	[D2-CZ] Elzem	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TL-V432-	0.08084	0.00219	-0.00294	0.01258	0	454	0	0	0
206855	[D4-FR] Eichat	10T-DE-FR-000	[FR-FR] Muhib	17T-FR-000000	-0.00681	0.09696	0.00108	0.12887	0.05399	358	0	0	0

Figure 8: Screenshot of the “PTDFs” tab

Description:

This tab contains the presolved Flow-Based matrices of the selected day following long term nominations (24 FB matrices). In each FB matrix, one can find:

- one line per presolved CBCO with fixed ID label
- one column per hub with the $PTDF_{hub}$ value per CBCO
- one column with the Remaining Available Margin (RAM) per CBCO

These **FB matrices are the final values** used as input network data for the market coupling process.

In addition, the two columns “Test Hub to Hub” and “Test Hub positions” indicate whether a CBCO is constrained with the respective set of “Hub to Hub exchanges” or ”Hub positions” (0 means no violation and 1 means violation).

Publication time: 10.30 am (D-1)

1.2.5. Virgin domain (final computation)

Date: 2019-07-04 The data for 2019-07-04 has been retrieved successfully.															
FileId	DeliveryDate	Period	Row	OutageName	EIC Code	icalBranchName	EIC Code	Presolved	RemainingA	Fmax	Fref	FRM	FAV	AMR	
185	04/07/2019	1	4359	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	667	651	-86	70	0	0	
185	04/07/2019	1	1639	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	495	651	86	70	0	0	
185	04/07/2019	1	3500	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	475	651	106	70	0	0	
185	04/07/2019	1	4635	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	687	651	-106	70	0	0	
185	04/07/2019	2	116803	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	660	656	-74	70	0	0	
185	04/07/2019	2	119373	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	512	656	74	70	0	0	
185	04/07/2019	2	115026	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	468	656	118	70	0	0	
185	04/07/2019	2	118348	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	704	656	-118	70	0	0	
185	04/07/2019	3	149396	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	660	656	-74	70	0	0	
185	04/07/2019	3	146450	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	512	656	74	70	0	0	
185	04/07/2019	3	151837	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	474	656	112	70	0	0	
185	04/07/2019	3	149481	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	698	656	-112	70	0	0	
185	04/07/2019	4	111402	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	659	661	-68	70	0	0	
185	04/07/2019	4	113751	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	523	661	68	70	0	0	
185	04/07/2019	4	111960	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	469	661	122	70	0	0	
185	04/07/2019	4	114279	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	713	661	-122	70	0	0	
185	04/07/2019	5	180214	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	660	661	-69	70	0	0	
185	04/07/2019	5	177417	[AT-AT] Duen 14T-380-0-00	[D2-AT] Pirac 10T-AT-DE-00			FALSE	522	661	69	70	0	0	
185	04/07/2019	5	178426	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	474	661	117	70	0	0	
185	04/07/2019	5	177504	[AT-AT] Duen 14T-380-0-00	[D2-AT] Plein 10T-AT-DE-00			FALSE	708	661	-117	70	0	0	

Figure 9: Screenshot of the “Virgin domain final computation” tab

Description:

This tab contains the Flow-Based matrices (virgin domains, before LTA inclusion and before MinRAM application) of the selected day of the **final Flow-based computation** (24 FB matrices). In each FB matrix, one can find:

- FileID
- DeliveryDate
- Period (hour of the business day)
- Row
- OutageName: readable identification of the CO indicating its location
- EIC_Code of the Outage
- CriticalBranchName: readable identification of the CB indicating its location
- EIC_Code of the Critical Branch
- Presolved: if the value is TRUE then the corresponding CBCO constrains the FB domain
- Remaining Available Margin of the corresponding CBCO in MW
- Fmax: the maximum allowable power flow of the corresponding CBCO
- Fref: the reference flow of the corresponding CBCO, in MW
- FRM: the flow reliability margin of the corresponding CBCO, in MW
- FAV: the final adjustment value of the corresponding CBCO, in MW
- AMR: Adjustment value to ensure a minimum RAM of the corresponding CBCO, in MW
- AMR_Exclusion: Justifications for MinRAM exclusions
- BiddingArea_Shortname: the bidding area of the following ptdf (Factor)
- Factor: the ptdf of the previous hub (BiddingArea_Shortname)

These are the Flowbased parameters of the final Flowbased computation. The values represent the status after the qualification and verification phase in CWE.

Details about the nomenclature of CBCOs:

CB publication name: [hubFrom-hubTo] CB name [Direction] (+ [TSO] if a tie-line)

- HubFrom, HubTo and TSO can be BE, NL, FR, AT, D2 (Tennet Germany), D4 (TransnetBW), D7 (Amprion), D8 (50Hertz).
- In order to use a consistent naming for the CB name the following rules are considered: CB name = substation_FROM_name - substation_TO_name elementID

- substation_FROM_name and substation_TO_name are stable
- the elementID indicates an element number (e.g. 380.19 for BE elements) or a specific indicator (e.g. “White/Grey/Black/...” for NL elements) to differentiate between parallel elements
- The CB name always has to include the human readable connected substation names divided by a hyphen.
- If there is a hyphen in a substation name, no spaces are used.
- Since element IDs are not always equal over different TSOs, the IDs are harmonized between TSOs to guarantee consistent naming
- Direction can be DIR or OPP. DIR means that the CB is monitored from firstly mentioned hub/substation to the secondly mentioned hub/substation. OPP inverts the order.
- TSOs use DIR and OPP to indicate the direction and are stable.

Examples:

- [BE-FR] Achene - Lonny 380.19 [DIR] [BE]
- [BE-BE] Avelgem - Horta 380.101 [DIR]

Tripods publication name: [hubFrom-hubTo] Y - substation (- substation 2 - substation 3) [Direction] (+ [TSO] if a tie-line)

- 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. If it is monitored from the Y-node to the substation the direction is DIR. Otherwise it is OPP.
- [hubFrom] and [hubTo] refer to the Y-node and the first substation mentioned.
- TSOs use DIR and OPP to indicate the direction and do not change the order of substations.
- If there is a hyphen in a substation name, no spaces are used.

Example: [D4-D4] Y - Engstlatt (- Oberjettingen - Pulverdingen) rot [DIR]

PSTs publication name: [hubFrom-hubTo] PST name [Direction] (+ [TSO] if a tie-line)

- There was no rule defined how the direction of a PST is chosen
- If there is a hyphen in a substation name, no spaces are used.

Outage publication name: The naming of the outages is harmonized among the different TSOs and is based on the nomenclature of CBs. No direction and TSO is indicated for COs.

Temporary limit parameter

- If the TSO is using temporary limit leading to different Fmax for the same CNE of the same hour, the timing will be included in the CNE naming.
- Currently used by RTE.

Example:

[D7-FR] Ensdorf - Vigy 2 [DIR] [FR] - 1'

- [D7-FR]: Control area in which the CNEC is located
- Ensdorf - Vigy 2: CNE name
- [DIR]: Direction of the CNE
 - [DIR]: Current order from the CNE name (here from Ensdorf to Vigy)
 - [OPP]: Opposite order from the CNE name (here from Vigy to Ensdorf)
- [FR]: TSO monitoring the line only applicable for cross-border lines.
- - 1': Temporary limit (leading to different FMax)

Please note that there are some minor issues that will somewhat deviate from the nomenclature.

- Elia will not be able to indicate the full name of a line for contingencies but only the substations (i.e. the element ID will be missing) until their tool is adapted end

2019/beginning 2020 (of which MPs will be informed via a market message). This issue is mitigated by the fact that the EIC code provide the full information.

- Elia will only use the Direction [DIR] until their tool is adapted, with the same timing as indicated above.
- hubFrom-hubTo may be inconsistent for the CNECs provided by Elia until their tool is adapted, with the same timing as indicated above.

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1.2.6. ATCs

Date: 2018-10-28 The data for 2018-10-28 has been retrieved successfully.														
Hour	ATC (in MW)													
	FR-ES	ES-FR	DK1-DE	DE-DK1	FR-IT	IT-FR	AT-IT	IT-AT	SI-T	IT-SI	SI-AT	AT-SI	SI-HR	HR-SI
1	2200	1900	1220	1500	2142	1259	224	145			1123	777	1033	1767
2	1950	2200	1210	1500	2142	1259	224	145			1123	777	1032	1768
3	1950	2200	1200	1500	2142	1259	224	145			1123	777	1035	1765
4	1950	2200	1190	1500	2142	1259	224	145			1123	777	1034	1766
5	1950	2200	1190	1500	2142	1259	224	145			1123	777	1031	1769
6	1950	2200	1180	1500	2142	1259	224	145			1123	777	1027	1773
7	1950	2200	1160	1500	1768	1259	187	145			1123	777	1026	1774
8	1950	2200	1120	1500	1768	1259	187	145			1123	777	1034	1766
9	1950	2200	1110	1500	1768	1259	187	145			1123	777	1011	1789
10	1950	2200	1100	1500	1768	1259	187	145			1123	777	1082	1718
11	1950	2200	1090	1500	1581	1259	172	145			1123	777	1086	1714
12	1950	2200	1060	1500	1021	1259	112	145			1123	777	1084	1716
13	1950	2200	950	1500	1021	1259	112	145			1123	777	1014	1786
14	1950	2200	850	1500	1021	1259	112	145			1123	777	1018	1782
15	1950	2200	700	1500	1021	1259	112	145			1123	777	1010	1790
16	1950	2200	700	1500	1021	1259	112	145			1123	777	1012	1788
17	1950	2200	700	1500	1021	1259	112	145			1123	777	1003	1797
18	1950	2200	700	1500	1021	1259	112	145			1123	777	1034	1766
19	1950	2200	700	1500	1581	1259	172	145			1123	777	1070	1730
20	2200	1900	700	1500	2141	1259	232	145			1123	777	1070	1730
21	2200	1900	700	1500	2701	1259	292	145			1123	777	1069	1731
22	2200	1900	700	1500	2896	1259	295	145			1123	777	1075	1725
23	2200	1900	700	1500	2896	1259	295	145			1123	777	1033	1767
24	2200	1900	700	1500	2896	1259	295	145			1123	777	1005	1795
25	2200	1900	700	1500	2702	1259	284	145			1123	777	1031	1769

Figure 10: Screenshot of the “ATCs” tab

Description:

Each row represents one market coupling hour (24 rows). After the first column “hour”, the next fourteen columns gather the ATC values in MW for the two directions of the following borders made available for the day-ahead market coupling:

- FR-ES
- DK1-DE
- FR-IT
- AT-IT
- SI-IT
- AT-SI
- SI-HR

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1.2.7. Max net pos

	Prog	AT	BE	DE	FR	NL	hour	Min AT	Max AT	Min BE	Max BE	Min DE	Max DE	Min FR	Max FR	Min NL	Max NL
hour 1	MinAT	-5518					1	-5518	4910	-5500	5081	-9915	10786	-6626	7974	-3955	3639
	MaxAT	4910					2	-4898	4907	-5500	5231	-10537	9557	-7619	8025	-4160	3692
	MinBE		-5500				3	-4898	4924	-5500	5142	-10174	8456	-7305	7591	-4237	3657
	MaxBE		5081				4	-4898	4936	-5500	5133	-9631	9013	-7868	7619	-4486	3636
	MinDE			-9915			5	-4898	4907	-5500	5268	-10404	8608	-7523	7570	-4463	3559
	MaxDE			10786			6	-4898	4907	-5500	5269	-10402	9090	-7353	7618	-4368	3580
	MinFR				-6626		7	-4898	4907	-5500	5248	-9651	9492	-7182	7696	-4039	3672
	MaxFR				7974		8	-4909	4906	-5500	5160	-8701	9458	-6672	7923	-3497	3789
	MinNL					-3955	9	-4900	4906	-5500	4878	-8612	10572	-7366	8285	-2897	3822
	MaxNL					3639	10	-4961	4907	-5500	4763	-8837	10145	-7148	8466	-2859	3764
hour 2	MinAT	-4898					11	-4951	5059	-5495	4684	-9747	9263	-6490	8504	-2817	3715
	MaxAT	4907					12	-5062	5171	-5441	4730	-10794	9178	-6577	8363	-2896	3750
	MinBE		-5500				13	-5333	5136	-5300	4750	-10569	8975	-6485	8195	-2853	3845
	MaxBE		5231				14	-5193	5132	-5367	4764	-11029	8449	-6272	7961	-2881	3846
	MinDE			-10537			15	-4898	5603	-5290	4768	-11176	7853	-8801	7722	-2858	3855
	MaxDE			9557			16	-4898	5428	-5371	4865	-10174	7970	-6741	7481	-2830	3834
	MinFR				-7619		17	-4898	5340	-5500	4939	-9944	7982	-6452	7551	-2799	3829
	MaxFR				8025		18	-4898	5192	-5500	4957	-9080	8466	-6257	7773	-2780	3085
	MinNL					-4160	19	-4909	4943	-5500	4755	-7894	8844	-5443	8133	-2780	3085
	MaxNL					3692	20	-5591	4984	-5500	4658	-7785	9024	-5867	8159	-2608	2462
hour 3	MinAT	-4898					21	-5832	4987	-5500	4661	-8670	8729	-5275	9046	-2723	2443
	MaxAT	4924					22	-5127	4973	-5500	4732	-8639	8352	-4893	8670	-2782	2583
	MinBE		-5500				23	-4900	4906	-5500	4882	-8724	8601	-4802	8480	-2833	2678
	MaxBE		5142				24	-4899	4906	-5500	4933	-9182	7898	-4888	8048	-2856	3003
	MinDE			-10174			25	-6203	4906	-5489	4862	-8800	8754	-5259	7294	-2794	3162

Figure 11: Screenshot of the “Max net pos” tab

Description:

These tables describe the minimum and maximum CWE net positions in MW of each hub for each hour of the day. These indicators are extracted from the vertices of the final Flow-Based domain given for market coupling. Please note that these min/max net positions depend on the net positions of the other hubs i.e. they are not simultaneously feasible.

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1.2.8. Max exchanges (Maxbex)

hour	Max AT->BE	Max AT->DE	Max AT->FR	Max AT->NL	Max DE->AT	Max DE->BE	Max DE->FR	Max DE->NL	Max FR->AT	Max FR->DE	Max FR->NL	Max NL->AT	Max NL->BE	Max NL->DE
1	2912	4908	4341	2437	3701	4194	2581	3432	5356	3063	5591	2353	4354	5246
2	3665	4907	4651	2612	4041	4580	2820	3697	4898	3336	7054	2521	4533	5199
3	3608	4911	4790	2696	3669	4158	2556	3811	4898	3215	6635	3829	4978	4487
4	3938	4914	4902	2999	3889	4521	2779	4315	4898	3523	7214	2935	4246	5240
5	3605	4907	4795	2938	3938	4462	2744	4163	4898	3259	6914	2835	3880	5035
6	3479	4907	4456	2918	3986	4515	2775	3993	4898	3274	6658	2720	3992	5078
7	3188	4907	4592	2493	3981	4512	2773	3628	4898	3254	6082	2406	4192	5052
8	2753	4906	4453	1907	3909	4429	2723	2755	4903	2983	5569	1907	4541	5107
9	3742	4906	4429	1898	3732	4230	2603	2316	4900	3335	6625	1882	4680	5364
10	3586	4907	4412	1871	3582	4073	2505	2211	4924	3195	5973	1851	4853	5255
11	3331	5014	4417	1879	3228	3660	2250	2239	4921	2969	5100	1960	4809	4886
12	3293	5125	4424	1884	3184	3610	2218	2293	4955	2935	5172	1876	4700	4745
13	3187	5111	4380	1887	3188	3524	2165	2259	5150	2642	5177	1867	4487	4596
14	3055	5082	4425	1887	2944	3338	2048	2276	5087	2736	4921	1871	3952	4441
15	3105	5313	5169	1886	3044	3452	2120	2273	4898	2770	5383	1869	3779	4465
16	3074	5136	5040	1885	3208	3638	2239	2265	4898	2745	5439	1865	3329	4448
17	3167	5037	5270	1879	3512	3982	2452	2247	4898	2824	5343	1859	3427	4628
18	3355	4995	5178	1880	3764	4268	2627	2238	4898	2991	5329	1859	4116	4773
19	2495	4912	4303	1855	3788	4295	2646	2165	4904	4799	5837	1837	4574	5132
20	2721	4945	4410	1849	3880	4244	2610	2145	5330	2947	5450	1833	4632	5384
21	2914	4958	4365	1858	3924	3654	2096	2158	5710	2910	4494	1840	5382	4709
22	2436	4929	4176	1865	2940	3332	2047	2184	5026	2633	4386	1846	4746	4635
23	2399	4906	3882	1873	2928	3318	2046	2200	4900	2564	4160	1853	4557	4523
24	2348	4906	3953	1881	3172	3595	2214	2264	4899	2452	3846	1881	4135	4724
25	2382	4906	4164	1882	3493	3958	2432	2275	5831	2505	3895	1882	3456	4839

Figure 12: Screenshot of the “Max exchanges (Maxbex)” tab

Description:

Each row represents one market coupling hour (24 rows). After the first column “hour”, the next columns gather the maximum bilateral exchanges between two CWE hubs in MW with the assumption that the other net positions are null. These indicators are calculated from the final Flow-Based domain given to the day-ahead market coupling.

For instance: Max BE=> NL is the maximum exchange feasible from BE to NL within the Flow-Based domain given to the power exchanges, with $NP_{FR} = NP_{DE} = NP_{AT} = 0MW$.

Publication time: 10.30 am (D-1)

1.2.9. Shadow Auction ATC

Date:	2018-10-28 <input type="button" value="v"/> The data for 2018-10-28 has been retrieved successfully.									
Hour	Shadow Auction ATC (in MW)									
	AT-DE	DE-AT	BE-NL	NL-BE	DE-NL	NL-DE	BE-FR	FR-BE	FR-DE	DE-FR
1	4902	4899	624	692	1084	1139	401	1650	1379	1001
2	4904	4896	624	692	1084	1139	381	1650	1374	1001
3	4904	4895	630	692	1081	1141	375	1653	1363	1000
4	4902	4895	623	696	1084	1142	387	1664	1357	1008
5	4903	4896	622	692	1083	1139	383	1651	1364	1001
6	4902	4896	625	692	1085	1140	385	1651	1367	1001
7	4903	4896	621	692	1082	1140	383	1652	1364	1002
8	4901	4896	620	692	1083	1139	389	1650	1349	1001
9	4902	4896	620	692	1082	1140	423	1651	1350	1001
10	4903	4897	620	692	1081	1139	432	1650	1351	1000
11	4902	4897	620	692	1082	1139	393	1650	1372	1001
12	4904	4897	620	692	1082	1139	394	1650	1403	1000
13	4904	4897	621	692	1082	1139	379	1650	1395	1000
14	4904	4898	621	692	1082	1139	385	1651	1399	1001
15	4908	4895	619	693	1081	1141	389	1650	1369	1000
16	4900	4896	619	692	1081	1140	386	1650	1349	1000
17	4900	4895	619	692	1081	1139	375	1650	1351	1000
18	4906	4896	621	692	1082	1140	386	1651	1362	1001
19	4900	4897	619	692	1081	1139	375	1650	1349	1001
20	4902	4895	619	692	1081	1140	431	1651	1349	1001
21	4900	4895	619	692	1081	1140	384	1650	1353	1000
22	4900	4897	619	692	1081	1139	384	1650	1349	1000
23	4902	4896	620	692	1081	1139	386	1651	1349	1000
24	4903	4895	619	693	1081	1141	381	1650	1352	1000
25	4903	4895	619	692	1081	1139	375	1650	1351	1000

Figure 13: Screenshot of the “Shadow Auction ATC” tab

Description:

Each row represents one market coupling hour. The ten next columns represent the ATC for Shadow Auctions in MW per border in the two directions. These ATCs are calculated from the Final Flow-Based domain and may be used as fallback in case of a market decoupling situation.

Publication time: 10.30 am (D-1)

2 Post-coupling operational data (D-1)

2.1. Net Position

Date:	2019-06-28					The data for 2019-06-28 has been retrieved successfully.	
Hour	Internal CWE Net Position (in MW)					Import (-)	Export (+)
	AT	BE	DE	FR	NL		
1	-4862.1	2602.1	-547.3	-637.3	3444.6		
2	-2671.2	-5468.4	8017	2293.5	-2170.9		
3	-4299.5	3404.2	-179.1	-2655.4	3729.8		
4	-3869.4	3098.2	-1171.6	-1640.8	3583.6		
5	-4259.7	2651.9	-1229.5	-631.6	3468.9		
6	-3956.9	3300.6	-574.1	-2129.6	3360		
7	-3429.8	3034.7	615	-2962.7	2742.8		
8	628.7	-2592.6	4289.9	2210.8	-4536.8		
9	370.4	-2386.5	3688.7	1682.4	-3355		
10	519.5	-2861.5	4746.1	2171.9	-4576		
11	269.2	-2384.1	4503.8	2347.6	-4736.5		
12	315.4	-3427.9	4801.6	2030.1	-3719.2		
13	0	-3435.3	4575.6	2001.8	-3142.1		
14	-289.7	-2927	4010.1	2468.7	-3262.1		
15	0	-2999.7	3597.7	2700.9	-3298.9		
16	0	-2664.5	3432.5	2856.1	-3624.1		
17	-342.5	-2809.7	3243.4	3002.7	-3093.9		
18	-21.1	-2532.9	4297.6	2307.8	-4051.4		
19	-2783.4	3148.4	944.8	-3148.4	1838.6		
20	-3743.8	3774.3	1347.9	-3529.7	2151.3		
21	-3455.6	2923.5	1402	-2923.5	2053.6		
22	-2274.9	3857.2	176.5	-3813.9	2055.1		
23	-3548	3784.8	949.6	-3169.6	1983.2		
24	-4628.5	3869.6	1462.7	-2306.6	1602.8		

Figure 14: Screenshot of the “Net Position” tab

Description:

Each row represents one market coupling hour. After the first column “hour”, the next five columns indicate the CWE net positions in MW which were computed by the market coupling algorithm. In other words: the CWE net positions respecting the FB domain.

Publication time: 1.00 pm (D-1)

2.2. Allocated Capacities

Date:	2019-10-26																			The data for 2019-10-26 has been retrieved successfully.					
Hour	Bilateral Exchanges (in MW)																			SI-IT	IT-SI	SI-AT	AT-SI	SI-GR	GR-SI
	DE-AT	FR-BE	ES-FR	DK-DE	DE-UK	BE-NL	NL-BE	DE-NL	NL-DE	DE-FR	FR-BE	FR-DE	DE-FR	FR-IT	IT-FR	AT-IT	IT-AT	SI-IT	IT-SI						
1	3758.5	0	1183	1202.5	0	0	1420.3	1731.1	0	0	679.9	0	2271.5	0	1259	224	0	519	0	14	0	60	0	279	
2	3918.8	0	1367.5	621.1	0	0	1462.1	2033.1	0	0	436	0	2989.2	0	6	224	0	519	0	245	0	0	0	279	
3	2652.2	0	2316	0	153.1	0	1361.1	2071.3	0	0	278.1	0	3179.2	0	874	224	0	519	0	344	0	0	0	337	
4	2776.3	284.1	0	0	531.7	0	1558.2	2351.1	0	0	402.7	0	3804.6	0	111	224	0	519	0	437	0	0	0	450	
5	3782.2	959.0	0	0	1500	0	1348.8	1882.9	0	0	599.9	0	2521.9	72	0	224	0	519	0	177	0	0	0	574	
6	3610.7	576.5	0	0	1500	0	1361.9	2033.2	0	0	751.5	0	2907.7	511	0	224	0	519	0	561	0	0	0	593	
7	3303.8	221.5	0	0	1500	0	1429.3	1897.9	0	0	543.1	0	2994.1	1046	0	197	0	433	0	624	0	0	0	564	
8	3908.9	0	1427	0	659.8	0	1426.9	1733.9	0	0	134.3	0	3026.5	1422	0	197	0	433	0	315	0	0	0	394	
9	3966.7	93.8	0	0	325.3	0	1187	1559.2	0	0	0	0	3963.6	1768	0	197	0	433	0	8	0	0	0	7	
10	3653	0	336.9	254.8	0	0	1367.5	1541.5	0	0	0	0	3332.2	1768	0	197	0	433	0	15	0	0	0	47	
11	3295	258.6	0	1251.3	0	0	1201.9	1485.3	0	0	0	0	3309.6	1681	0	172	0	390	0	0	228	187	0	0	
12	2977	1183.5	0	1160	0	0	1043.4	1349.2	0	0	0	0	3653.1	1021	0	112	0	260	0	0	185	246	0	0	
13	2991.6	1128.9	0	953.2	0	0	1065.9	1352.9	0	0	0	0	3324.1	1021	0	112	0	260	0	0	327	396	0	0	
14	3018.8	0	896.8	46.1	0	0	955.6	1225.5	0	0	0	0	3318.2	1021	0	112	0	260	0	0	391	496	0	0	
15	2768.3	1003.9	0	0	356.8	0	791.8	997.3	0	0	0	0	3863.5	1021	0	112	0	260	0	0	227	333	0	0	
16	2468.5	1960	0	0	739.7	0	1258.3	1561.6	0	0	65.8	0	2754.1	1021	0	112	0	260	0	0	74	222	0	0	
17	2620	1857.7	0	0	0	0	1241.8	1573.4	0	0	738.4	0	2075.8	1021	0	112	0	260	0	0	83	252	0	0	
18	3177.3	1587.1	0	0	0	0	0	627.1	0	0	2019	0	2405.2	1021	0	112	0	260	0	0	299	464	0	0	
19	3916.5	0	2203	821.4	0	0	0	1043.9	0	0	2076.2	0	1923.2	1581	0	172	0	390	0	0	606	576	0	0	
20	4378.7	0	978.1	375.9	0	0	0	517	0	0	2113.7	0	2388.1	1245	0	232	0	620	0	0	644	452	0	0	
21	3766.7	489.6	0	0	0	0	1245.2	1552.3	0	0	648.1	0	1965.5	1188	0	292	0	620	0	0	542	282	0	0	
22	3334.4	2200	0	0	845.1	0	1260.6	1603.3	0	0	391.1	0	2462.6	1533	0	296	0	620	0	0	719	542	0	0	
23	3446.6	2200	0	0	1052.7	0	1190.6	1491.4	0	0	447.2	0	2234.8	1465	0	295	0	620	0	0	476	324	0	0	
24	3501.3	2200	0	0	1591.1	0	1291.1	1251	0	0	358.6	0	2165.6	0	197	295	0	620	0	0	249	151	0	0	
25	2988.3	1094.2	0	0	1500	0	1442.5	1141.8	0	0	92.8	0	2491.6	0	93	294	0	620	0	0	122	34	0	0	

Figure 15: Screenshot of the “Allocated Capacities” tab

Description:

Each row represents one market coupling hour. After the first column “hour”, the next columns indicate the capacity allocated by the market coupling algorithm in MW in the two directions for the following borders:

- AT-DE
- FR-ES
- DK1-DE
- BE-NL
- DE-NL
- BE-FR
- FR-DE
- FR-IT
- AT-IT
- SI-IT
- AT-SI
- SI-HR

For the exchanges in the CWE region, those allocated capacities are computed from the CWE net positions with the so-called ‘bilateral exchange computation’ (BEC) under the constraint of remaining intuitive. For the other borders, they come from the post-processing of the Euphemia algorithm (flow calculation).

Publication time: 1.00 pm (D-1)

2.3. Price Spread

Date: 2018-10-29		The data for 2018-10-29 has been retrieved successfully.																						
		Price Spread (€/MWh)																						
hour	AT-DE	DE-AT	FR-ES	ES-FR	DK1-DE	DE-DK1	BE-NL	NL-BE	DE-NL	NL-DE	DE-FR	FR-DE	FR-DE	DE-FR	FR-IT	IT-FR	AT-IT	IT-AT	SI-IT	IT-SI	SI-AT	AT-SI	SI-HR	HR-SI
1	3.3	3.5	0	0	0	41.89	41.89	1.47	1.47	-22.42	22.42	-19.94	19.94	-9.45	9.45	15.99	-15.99	15.99	-15.99	0	0	0	0	0
2	-2.79	2.79	0	0	0	-23.83	23.83	1.32	-1.32	-13.7	13.7	-11.25	11.25	0	0	8.48	-8.48	8.48	-8.48	0	0	0	0	0
3	8.4	8.4	0	0	0	-12.48	12.48	1.38	-1.38	-3.88	3.88	-19.78	19.78	0	0	2.38	-2.38	2.38	-2.38	0	0	0	0	0
4	-8.28	8.28	0	0	0	-9.17	9.17	1.84	-1.84	-1.88	1.88	-8.53	8.53	0	0	0.25	-0.25	0.25	-0.25	0	0	0	0	0
5	-2.77	2.77	0	0	0	-10.48	10.48	0.4	-0.4	-5.88	5.88	-6.8	6.8	0	0	3.03	-3.03	3.03	-3.03	0	0	0	0	0
6	-1.23	1.23	0	0	0	-8.95	8.95	-0.9	0.9	0.95	-0.95	-5.9	5.9	-4.95	4.95	0	0	3.72	-3.72	3.72	-3.72	0	0	0
7	-1.1	1.1	0	0	0	-6.59	6.59	-7.62	7.62	1.94	-1.94	-5.11	5.11	-4.45	4.45	0	0	3.35	-3.35	3.35	-3.35	0	0	0
8	-0.36	0.36	0	0	0	-11.75	11.75	3.39	-3.39	-7.82	7.82	-7.32	7.32	0	0	6.96	-6.96	6.96	-6.96	0	0	0	0	0
9	-1.39	1.39	0	0	0	-10.84	10.84	2.35	-2.35	-7.03	7.03	-6.16	6.16	1.28	-1.28	0.05	-0.05	0.05	-0.05	0	0	0	0	0
10	-0.94	0.94	0	0	0	-5.14	5.14	3.92	-3.92	-4.79	4.79	-4.27	4.27	11.42	-11.42	14.75	-14.75	14.75	-14.75	0	0	0	0	0
11	-0.68	0.68	0	0	0	-2.95	2.95	4.23	-4.23	-3.46	3.46	-3.53	3.53	11.49	-11.49	13.94	-13.94	13.94	-13.94	0	0	0	0	0
12	0.73	-0.73	0	0	0	6.55	-6.55	-4.32	4.32	0.5	-0.5	-3.72	3.72	-3.1	3.1	17.56	-17.56	19.83	-19.83	0	0	0	0	0
13	-0.91	0.91	0	0	0	-8.12	8.12	8.28	-8.28	-4.65	4.65	-3.75	3.75	17.38	-17.38	20.22	-20.22	20.22	-20.22	0	0	0	0	0
14	1.65	-1.65	0	0	0	12.95	-12.95	8.57	-8.57	-7.17	7.17	-6.36	6.36	16.43	-16.43	20.23	-20.23	20.23	-20.23	0	0	0	0	0
15	2.27	-2.27	0	0	0	16.52	-16.52	3.64	-3.64	-10.9	10.9	-9.26	9.26	13.92	-13.92	20.91	-20.91	20.91	-20.91	0	0	0	0	0
16	1.43	-1.43	2.53	-2.53	0	-5.3	5.3	6.69	-6.69	-6.15	6.15	-5.84	5.84	17.87	-17.87	22.28	-22.28	22.28	-22.28	0	0	0	0	0
17	0.34	-0.34	0	0	0	-9.95	9.95	1.92	-1.92	-1.46	1.46	-1.41	1.41	18	-18	19.07	-19.07	19.07	-19.07	0	0	0	0	0
18	0.04	-0.04	0	0	0	8.08	-8.08	8.30	-8.30	-8.14	8.14	-9.16	9.16	19.43	-19.43	19.55	-19.55	19.55	-19.55	0	0	0	0	0
19	-1.76	1.76	-0.69	0.69	0	3.43	-3.43	18.97	-18.97	-6.3	6.3	-7.04	7.04	9.41	-9.41	14.89	-14.89	14.89	-14.89	0	0	0	0	0
20	4.11	-4.11	0	0	0	8.13	-8.13	49.91	-49.91	-14.8	14.8	-17.88	17.88	0	0	12.97	-12.97	12.97	-12.97	0	0	0	0	0
21	-5.54	5.54	0	0	0	-11.99	11.99	33.6	-33.6	-22.75	22.75	-22.84	22.84	0	0	17.3	-17.3	17.3	-17.3	0	0	0	0	0
22	-5.14	5.14	3.97	-3.97	0	-38.28	38.28	7.3	-7.3	-24.55	24.55	-21.03	21.03	0	0	15.89	-15.89	15.89	-15.89	0	0	0	0	0
23	-4.78	4.78	5.98	-5.98	0	-42.57	42.57	1.46	-1.46	-24.88	24.88	-19.75	19.75	0	0	14.99	-14.99	14.99	-14.99	0	0	0	0	0
24	-2.09	2.09	4.91	-4.91	0	-26.38	26.38	7.52	-7.52	-22.89	22.89	-21.42	21.42	0	0	19.34	-19.34	19.34	-19.34	0	0	0	0	0
25	-0.81	0.81	0	0	0	-7.06	7.06	-43.95	43.95	19.07	-19.07	-39.95	39.95	-32.07	32.07	0	0	31.26	-31.26	31.26	-31.26	0	0	0

Figure 16: Screenshot of the “Price Spread” tab

Description:

Each row represents one market coupling hour. After the first column “hour”, the next columns indicate the market price spread in €/MWh for the two directions of the following borders:

- AT-DE
- FR-ES
- DK1-DE
- BE-NL
- DE-NL
- BE-FR
- FR-DE
- FR-IT
- AT-IT
- SI-IT
- AT-SI
- SI-HR

Publication time: 1.00 pm (D-1)

3 Additional data publication

3.1. Aggregated D2CF data

Date: 2019-10-29 The data for 2019-10-29 has been retrieved successfully.

Time/Stamp	D2CF per Hub (in MW)															D2CF per TSO (in MW)														
	Vertical load					Generation					Best Forecast Net Positions					Vert.Load			Gen			BF NP			Vert.Load			Gen		
	AT	FR	DE	FR	NL	AT	DE	FR	NL	AT	DE	FR	NL	Vert.Load	Gen	BF NP	Vert.Load	Gen	BF NP	Vert.Load	Gen	BF NP	Vert.Load	Gen	BF NP	Vert.Load	Gen	BF NP		
1	5651	7141	24598	44596	8227	6834	3937	26940	49877	8464	-918	-3020	4536	4562	47	5653	4804	-916	5920	8177	2138	4561	1086	-2661	10338	13364	2628	4763	7090	
2	6359	7117	23345	35743	7878	4730	3998	28323	41923	7841	-1674	-3002	4047	5470	-408	6360	4730	-1674	5310	7564	2239	4900	1849	-3230	9420	12555	2762	4426	5538	
3	6469	6495	27140	48140	7848	4629	3474	26320	47367	7465	-1899	-3053	3278	6480	-229	6469	4629	-1906	4882	7363	2379	4988	1514	-3645	8671	12278	3222	4381	4546	
4	6461	6456	29487	49140	7848	4653	3474	26340	47367	7465	-1897	-3053	4591	6480	-229	6461	4653	-1897	4819	7294	2364	3870	1694	-2132	8514	10117	3019	4077	4447	
5	6297	7858	21938	37291	7852	4515	3520	29445	47913	7312	-1829	-3025	2954	5983	-699	6297	4515	-1829	4852	7141	2380	5403	1694	-3948	8858	11981	2894	3860	4823	
6	6292	7426	21664	39198	7936	4484	3969	28911	46535	6915	-1845	-3068	2408	19002	-1020	6292	4484	-1845	4784	7277	2281	5256	1520	-4144	8986	11983	2937	3429	4538	
7	6410	7376	20270	35878	7833	4510	4149	25462	46526	7911	-1948	-3315	4320	5830	-571	6410	4510	-1948	4437	7119	2568	4870	1392	-3621	8568	11464	2534	3314	5439	
8	6643	7773	18611	36584	7996	4566	4596	27462	46569	7457	-2122	-3083	7917	9164	-490	6643	4566	-2122	4291	7854	2949	3977	1648	-3458	9448	12959	3273	3187	6596	
9	7831	7550	29878	37798	8309	4727	4682	28658	46746	7582	-2305	-3057	6899	8212	-600	7831	4727	-2305	4516	7175	2543	4153	1657	-2394	9468	11764	1953	3023	7698	
10	7326	7730	22716	38238	8664	5041	4683	29100	47168	7746	-2347	-3235	6912	8170	-1643	7326	5041	-2347	5847	8003	2308	4226	1646	-2672	9663	11928	1284	3314	7737	
11	7383	7703	22676	39176	8632	5314	4693	28918	46846	7913	-2113	-3000	6414	8242	-911	7383	5314	-2113	5884	8338	2484	4908	1699	-2998	9914	11895	1648	2921	8690	
12	6643	7333	22836	41638	8428	5887	4538	29256	49151	7965	-959	-2916	5761	7480	-413	6643	5887	-959	5865	8355	2568	4641	1855	-2900	10231	12434	1992	2846	6416	
13	6693	7129	21286	42676	7996	5086	4492	28471	49165	7842	-991	-2712	7257	6396	-298	6693	5086	-991	5082	8154	2900	4804	1784	-3107	10728	12898	1982	1546	6490	
14	6923	6921	20743	42631	7860	6112	4470	29017	46577	7926	-884	-2521	7448	5298	-71	6923	6112	-884	4275	7743	3305	5993	1596	-1157	10009	12943	2166	566	6074	
15	7359	6362	18871	40613	7813	6167	3973	27084	47115	7880	-1257	-2459	6919	5709	-30	7359	6167	-1257	3847	7521	3451	6028	1778	-4218	9846	11962	1755	-182	5291	
16	7246	6796	19251	38037	8018	6297	3968	28634	46803	7905	-1923	-2965	6507	7154	-277	7246	6297	-1923	4865	7719	3017	6275	1127	-4603	9456	11314	1469	-300	5230	
17	7233	7396	19950	39894	8041	6434	4322	28424	48240	7474	-876	-3155	8837	8463	-710	7233	6434	-876	4292	7918	3495	3835	1648	-4322	9721	11897	1915	-165	6111	
18	7301	7622	20184	39677	8164	6625	4032	30270	46935	7794	-806	-3116	9116	10145	-1131	7301	6625	-806	4914	8447	3385	5913	1694	-3313	10028	11548	1164	-382	7649	
19	6974	8517	22189	37484	8673	6890	5086	31158	46217	5370	-377	-3537	10083	11924	-482	6974	6890	-482	6974	6990	3276	5226	3184	-2133	10005	11218	559	1131	8951	
20	6989	8398	23722	40984	8669	7262	5687	36385	53964	10047	-205	-3962	10729	11202	-231	6989	7262	-205	5741	8343	3610	5250	4090	-1248	11470	11804	-170	1182	9237	
21	7117	8011	24056	46676	10018	7137	5511	34301	56465	10345	-86	-3795	9014	7951	-152	7117	7137	-86	5412	8206	3637	6007	2442	-3203	12503	12507	-659	754	9626	
22	7083	8844	22384	44891	9738	6384	5276	33461	53960	10205	-885	-3683	10116	8299	-275	7083	6384	-886	4682	8638	3912	6457	2096	-3055	11650	12982	160	298	9476	
23	7148	8633	22913	43713	9644	6169	5271	32385	52765	10148	-1151	-3021	9175	8748	-414	7148	6169	-1151	3897	8166	4140	6076	1796	-4107	11590	11877	43	472	9194	
24	7144	8513	22840	42831	9112	6018	5210	31803	52129	9381	-1597	-3409	8714	8446	-86	7144	6018	-1597	3998	8262	4123	6278	1646	-4398	11180	11991	417	96	8291	
25	7111	8349	22616	43355	9199	5076	1428	29567	51981	8999	-4962	-2953	8458	7627	-277	7111	5076	-4962	3254	7949	4460	6340	1726	-4392	10012	11650	819	-78	7683	

Figure 19: Screenshot of the “D2CF” tab

Description:

For capacity calculation purposes, each CWE TSO generates one individual grid model per hour. This tab publishes the aggregated assumptions that are taken in individual grid models for each market coupling hour on TSO and Hub level:

- “Vertical load” is the load as seen from the transmission grid in MW in the Individual Grid Model (this may be different from national consumption as RES infeeds are included in the vertical load);
- “Generation” is the generation in MW in the Individual Grid Model (Generation units connected to the TSO grid thus RES infeeds are mostly not included in these figures);
- “Best forecast net position” is the forecast of the overall balance of the countries in MW in the Individual Grid Models (please note that DE contains the information of Germany, Denmark West “DK1” and Luxembourg) before merging into the Common Grid Model.

Please note that we have the following relationship between the figures:

$$\text{Generation} = \text{Vertical Load} + \text{Net Positions} + \text{Losses}$$

Publication time: D-1

3.2. Refprog

Date: 2019-07-02											
Refprog Bilateral Exchanges (in MW)											
Hour	BE-NL	DE-NL	FR-BE	FR-DE	FR-ES	FR-IT	CH-DE	CH-FR	DE-CZ	DE-PL	APG-CZ
1	-97	-278	396	582	850	2776	1825	-1525	51	0	
2	605	-1040	705	2354	1100	2776	1702	-2162	135	0	
3	419	-1414	621	2454	1100	2776	1661	-2274	-45	0	
4	316	-1450	544	2310	1100	2776	1799	-2400	-38	0	
5	54	-1312	692	2058	1100	2776	1864	-2400	-359	0	
6	-215	-1229	851	1864	1100	2776	1758	-2400	-216	0	
7	-28	-338	647	954	1100	2776	2575	-2400	467	135	
8	4	429	1204	779	850	2734	2575	-2187	371	231	
9	28	836	1170	364	850	2734	2574	-1910	439	570	
10	327	863	1311	775	850	2552	2175	-1389	834	550	
11	-81	770	920	69	850	2552	1944	-1485	775	539	
12	-386	474	411	-439	850	2552	1270	-1503	785	450	
13	-152	977	292	-825	850	2552	430	-1418	571	229	
14	-259	1276	0	-1192	850	2552	197	-1551	471	129	
15	-381	1344	-194	-1907	850	2552	98	-1628	471	129	
16	-563	1636	-75	-2262	850	2552	52	-1647	471	129	
17	0	1415	521	-2496	850	2552	54	-1802	496	104	
18	11	1919	941	-956	850	2552	122	-1427	496	104	
19	-511	1950	924	-1524	850	2734	1250	-1696	496	104	
20	-379	1952	1132	-1186	850	2734	1641	-1557	760	384	
21	51	1921	1881	23	850	2734	1972	-1737	521	179	
22	450	1571	2402	1293	850	2734	1544	-1532	671	329	
23	0	1912	2145	-260	850	2734	1826	-1357	686	470	
24	-246	1644	1561	-329	850	2776	1376	-1084	527	495	

Figure 20: Screenshot of the “Refprog” tab

Description:

- ▶ Refprog refers to AC market exchanges per border. The sum of AC market exchanges for all borders of one country is equal to the AC export or AC import of this country;
- ▶ Refprog is used during merging of D2CF files with DACF files to ensure the whole continent is balanced, by respecting AC net positions of all continental countries, for D2CF and DACF files. During this process D2CF best forecasts may not match with the reference day Net Positions (extracted from one realized market coupling day in the past). D2CF are adapted by using GSK, in order not to alternate the FB results and to reach reference day AC Net Positions. This allows CWE TSOs to provide their best assumptions, and to merge with the whole continent.

Publication time: D+2 (ex-post)

3.3. Final flow based domain

Date: 2018-10-28																			
The data for 2018-10-28 has been retrieved successfully.																			
Fileid	DeliveryDate	Period	Row	OutageName	EC_Code	CriticalBranchName	EC_Code	Presolved	RemainingAvailableMargin (MW)	Emax	Frel	FBM	FAV	AMR	AMR	Exclusion	AMR	Exclusion	Justification
301	2018-10-28	1	214978	BAVLGM_FM	10T-BE-FR	300 80 AVLGM_AVEL	10T-BE-FR	TRUE	993	1740	601	246	0	0	FALSE	null			
301	2018-10-28	1	206208	BAVLGM_FM	10T-BE-FR	300 80 AVLGM_AVEL	10T-BE-FR	TRUE	2142	1740	-601	199	0	0	FALSE	null			
301	2018-10-28	1	208103	BACHEN_FLO	10T-BE-FR	300 28 MAASB_VAN	10T-BE-NL	TRUE	937	1599	468	194	0	0	FALSE	null			
301	2018-10-28	1	210614	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	1961	1599	-551	189	0	0	FALSE	null			
301	2018-10-28	1	210052	BGRAMM_BAU	22T-BE-NL	300 74 MERCA_HOR	22T-BE-NL	TRUE	965	1599	446	188	0	0	FALSE	null			
301	2018-10-28	1	214299	EMERCA_BHK	22T-BE-NL	300 10 GRAMM_ACH	22T-BE-NL	TRUE	1716	1468	-442	194	0	0	FALSE	null			
301	2018-10-28	1	208275	B_PST_ZANDV	22T-BE-PE	PST_ZANDV_2	22T201610	TRUE	876	1508	376	256	0	0	FALSE	null			
301	2018-10-28	1	209832	B_PST_ZANDV	22T-BE-PE	PST_ZANDV_2	22T201610	TRUE	1638	1608	-376	245	0	0	FALSE	null			
301	2018-10-28	1	207812	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	924	1599	550	194	0	0	FALSE	null			
301	2018-10-28	1	211670	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	210503	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	214615	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	206279	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	215313	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	211546	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	215808	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	213670	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	212701	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	209677	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	214971	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	215547	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	213069	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	212558	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	207277	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	209677	BZANDV_NGE	10T-BE-NL	300 28 MAASB_VAN	10T-BE-NL	TRUE	923	1599	551	194	0	0	FALSE	null			
301	2018-10-28	1	208460	BaseCase	basecase	300 19 ACHEIN_LOA	10T-BE-FR	FALSE	1148	1599	280	171	0	0	FALSE	null			
301	2018-10-28	1	214016	BaseCase	basecase	300 26 ZANDV_DOEL	22T201705	FALSE	1216	1599	99	284	0	0	FALSE	null			
301	2018-10-28	1	210320	BaseCase	basecase	300 30 MONITOR_NLI	10T-BE-NL	FALSE	18350964	#####	-16	0	0	0	FALSE	null			
301	2018-10-28	1	213261	BaseCase	basecase	300 29 MONITOR_NLI	10T-BE-NL	FALSE	18350511	#####	437	0	0	0	FALSE	null			
301	2018-10-28	1	211045	BaseCase	basecase	300 28 MONITOR_NLI	10T-BE-NL	FALSE	15989124	#####	546	0	0	0	FALSE	null			
301	2018-10-28	1	212905	BaseCase	basecase	300 80 MONITOR_BE	10T-BE-FR	FALSE	17048100	#####	478	0	0	0	FALSE	null			
301	2018-10-28	1	211337	BaseCase	basecase	300 79 MONITOR_BE	10T-BE-FR	FALSE	14686128	#####	172	0	0	0	FALSE	null			
301	2018-10-28	1	206220	BaseCase	basecase	220 513 MONITOR_BR	10T-BE-FR	FALSE	4792334	#####	3	0	0	0	FALSE	null			
301	2018-10-28	1	216110	BaseCase	basecase	220 514 MONITOR_BR	10T-BE-FR	FALSE	4792926	#####	11	0	0	0	FALSE	null			
301	2018-10-28	1	209535	BaseCase	basecase	300 19 MONITOR_BE	10T-BE-FR	FALSE	14686020	#####	280	0	0	0	FALSE	null			
301	2018-10-28	1	212414	BaseCase	basecase	300 53 DOEL_MERCA	22T201801	FALSE	1206	1605	320	79	0	0	FALSE	null			
301	2018-10-28	1	210029	BaseCase	basecase	300 30 GEERT_ZAND	10T-BE-NL	FALSE	1627	1835	-16	224	0	0	FALSE	null			
301	2018-10-28	1	212678	BaseCase	basecase	300 29 BONISS_ZANC	10T-BE-NL	FALSE	1139	1835	437	259	0	0	FALSE	null			
301	2018-10-28	1	215688	BaseCase	basecase	300 25 ZANDV_DOEL	22T-BE-NL	FALSE	1212	1599	103	284	0	0	FALSE	null			
301	2018-10-28	1	206545	BaseCase	basecase	300 28 MAASB_VAN	10T-BE-NL	FALSE	859	1599	546	194	0	0	FALSE	null			
301	2018-10-28	1	207439	BaseCase	basecase	300 74 MERCA_HOR	22T-BE-NL	FALSE	1078	1599	333	188	0	0	FALSE	null			
301	2018-10-28	1	205892	BaseCase	basecase	300 101 HORTA_AVL	22T201610	FALSE	1000	1599	444	155	0	0	FALSE	null			
301	2018-10-28	1	207705	BaseCase	basecase	300 102 HORTA_AVL	22T201610	FALSE	1116	1749	445	188	0	0	FALSE	null			
301	2018-10-28	1	211605	BaseCase	basecase	300 12 VAIYK_GRAA	22T201610	FALSE	1296	1599	153	150	0	0	FALSE	null			
301	2018-10-28	1	216071	BaseCase	basecase	300 12 VAIYK_GRAA	22T201610	FALSE	1374	1469	-65	150	0	0	FALSE	null			
301	2018-10-28	1	211187	BaseCase	basecase	300 80 AVLGM_AVEL	10T-BE-FR	FALSE	1016	1740	478	246	0	0	FALSE	null			

Description

This tab contains the Flow-Based matrices (final domains, after LTA inclusion and after MinRAM application) of the selected day of the **final Flow-based computation** (24 FB matrices). In each FB matrix, one can find:

- FileID
- DeliveryDate
- Period (hour of the business day)
- Row
- OutageName: readable identification of the CO indicating its location
- EIC_Code of the Outage
- CriticalBranchName: readable identification of the CB indicating its location
- EIC_Code of the Critical Branch
- Presolved: if the value is TRUE then the corresponding CBCO constrains the FB domain
- Remaining Available Margin of the corresponding CBCO in MW
- Fmax: the maximum allowable power flow of the corresponding CBCO
- Fref: the reference flow of the corresponding CBCO, in MW
- FRM: the flow reliability margin of the corresponding CBCO, in MW
- FAV: the final adjustment value of the corresponding CBCO, in MW
- AMR: Adjustment value to ensure a minimum RAM of the corresponding CBCO, in MW
- AMR_Exclusion: Justifications for MinRAM exclusions
- BiddingArea_Shortname: the bidding area of the following ptdf (Factor)
- Factor: the ptdf of the previous hub (BiddingArea_Shortname)

These are the Flowbasedparameters of the final Flowbased computation. The values represent the status after the qualification and verification phase in CWE and are used as input for the market coupling process.

CB publication name: [hubFrom-hubTo] CB name [Direction] (+ [TSO] if a tie-line)

- HubFrom, HubTo and TSO can be BE, NL, FR, AT, D2 (Tennet Germany), D4 (TransnetBW), D7 (Amprion), D8 (50Hertz).
- In order to use a consistent naming for the CB name the following rules are considered: CB name = substation_FROM_name - substation_TO_name elementID
 - substation_FROM_name and substation_TO_name are stable
 - the elementID indicates an element number (e.g. 380.19 for BE elements) or a specific indicator (e.g. "White/Grey/Black/..." for NL elements) to differentiate between parallel elements
 - The CB name always has to include the human readable connected substation names divided by a hyphen.
 - If there is a hyphen in a substation name, no spaces are used.
 - Since element IDs are not always equal over different TSOs, the IDs are harmonized between TSOs to guarantee consistent naming
- Direction can be DIR or OPP. DIR means that the CB is monitored from firstly mentioned hub/substation to the secondly mentioned hub/substation. OPP inverts the order.
- TSOs use DIR and OPP to indicate the direction and are stable.

Examples:

- [BE-FR] Achene - Lonny 380.19 [DIR] [BE]
- [BE-BE] Avelgem - Horta 380.101 [DIR]

Tripods publication name: [hubFrom-hubTo] Y - substation (- substation 2 - substation 3) [Direction] (+ [TSO] if a tie-line)

- 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. If it is monitored from the Y-node to the substation the direction is DIR. Otherwise it is OPP.
- [hubFrom] and [hubTo] refer to the Y-node and the first substation mentioned.

- TSOs use DIR and OPP to indicate the direction and do not change the order of substations.
- If there is a hyphen in a substation name, no spaces are used.

Example: [D4-D4] Y - Engstlatt (- Oberjettingen - Pulverdingen) rot [DIR]

PSTs publication name: [hubFrom-hubTo] PST name [Direction] (+ [TSO] if a tie-line)

- There was no rule defined how the direction of a PST is chosen
- If there is a hyphen in a substation name, no spaces are used.

Outage publication name: The naming of the outages is harmonized among the different TSOs and is based on the nomenclature of CBs. No direction and TSO is indicated for COs.

Temporary limit parameter

- If the TSO is using temporary limit leading to different Fmax for the same CNE of the same hour, the timing will be included in the CNE naming.
- Currently used by RTE.

Example:

[D7-FR] Enseldorf - Vigy 2 [DIR] [FR] - 1'

- [D7-FR]: Control area in which the CNEC is located
- Enseldorf - Vigy 2: CNE name
- [DIR]: Direction of the CNE
 - [DIR]: Current order from the CNE name (here from Enseldorf to Vigy)
 - [OPP]: Opposite order from the CNE name (here from Vigy to Enseldorf)
- [FR]: TSO monitoring the line only applicable for cross-border lines.
- – 1': Temporary limit (leading to different FMax)

Please note that there are some minor issues that will somewhat deviate from the nomenclature.

- Elia will not be able to indicate the full name of a line for contingencies but only the substations (i.e. the element ID will be missing) until their tool is adapted end 2019/beginning 2020 (of which MPs will be informed via a market message). This issue is mitigated by the fact that the EIC code provide the full information.
- Elia will only use the Direction [DIR] until their tool is adapted, with the same timing as indicated above.
- hubFrom-hubTo may be inconsistent for the CNECs provided by Elia until their tool is adapted, with the same timing as indicated above.

Publication time: 10.30 am (D)

4 JAO Utility Tool Web Service

The web service can be accessed by 2 different URLs, each one with a different technology. The same methods with the same results can be called on each URL. The next section will explain each URL further.

4.1. ASMX Service

URL: <http://utilitytool.jao.eu/CascUtilityWebService.asmx>

WSDL: <http://utilitytool.jao.eu/CascUtilityWebService.asmx?WSDL>

This web service can be accessed by the following protocols: SOAP 1.1, SOAP 1.2, HTTP GET and HTTP POST.

For more information on using the ASMX, please visit the URL. This URL can also be used to query the data with a web browser for testing purposes.

4.2. SVC Service

URL: <http://utilitytool.jao.eu/CascUtilityWCF.svc>

WSDL: <http://utilitytool.jao.eu/CascUtilityWCF.svc?singlewsdl>

This web service can be accessed by the following protocols: SOAP 1.1 and SOAP 1.2.