JAO Publication Handbook

Market Coupling

Version	1.9	
Date	23-11-2021	
Status	☐ Draft	☒ Final

Contents

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.

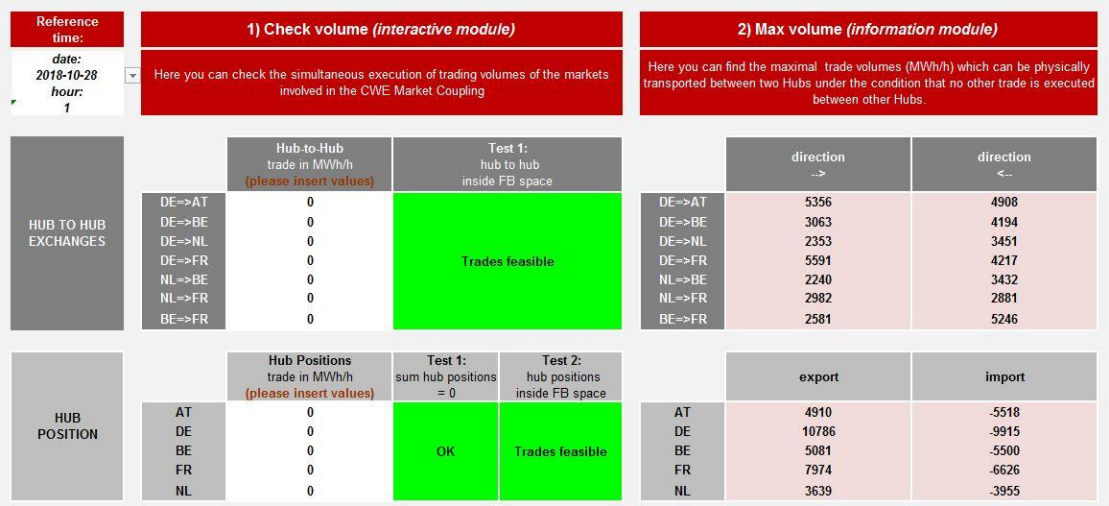

Figure 1: Screenshot of the "Market View" tab

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

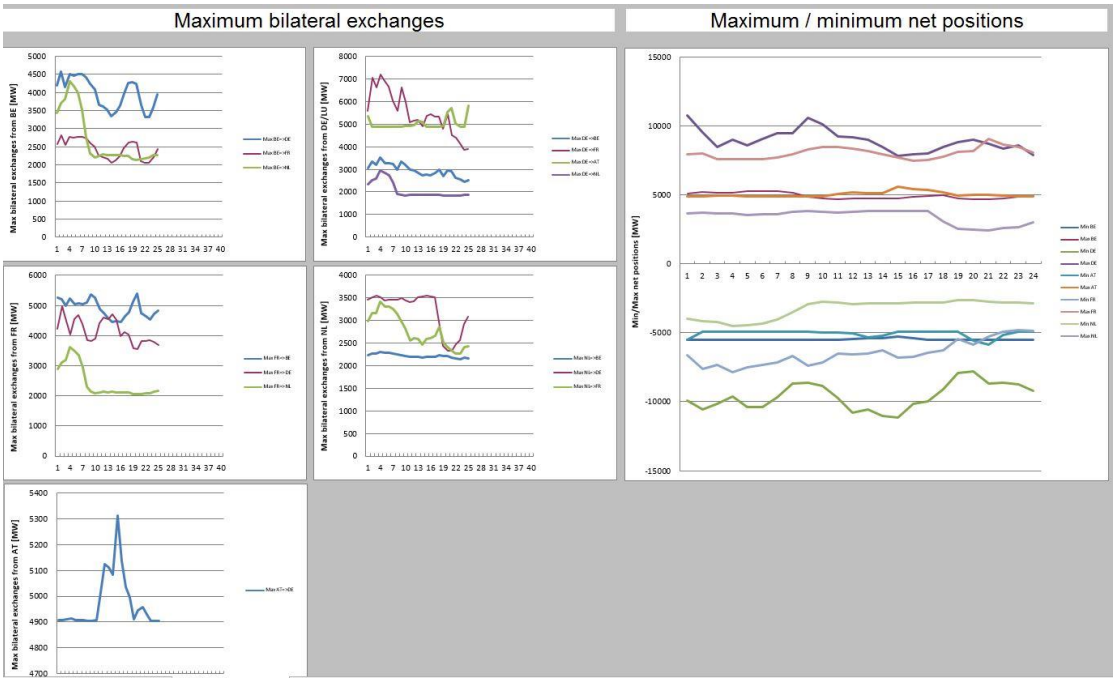

Figure 2: Screenshot of the "Market graphs" tab

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

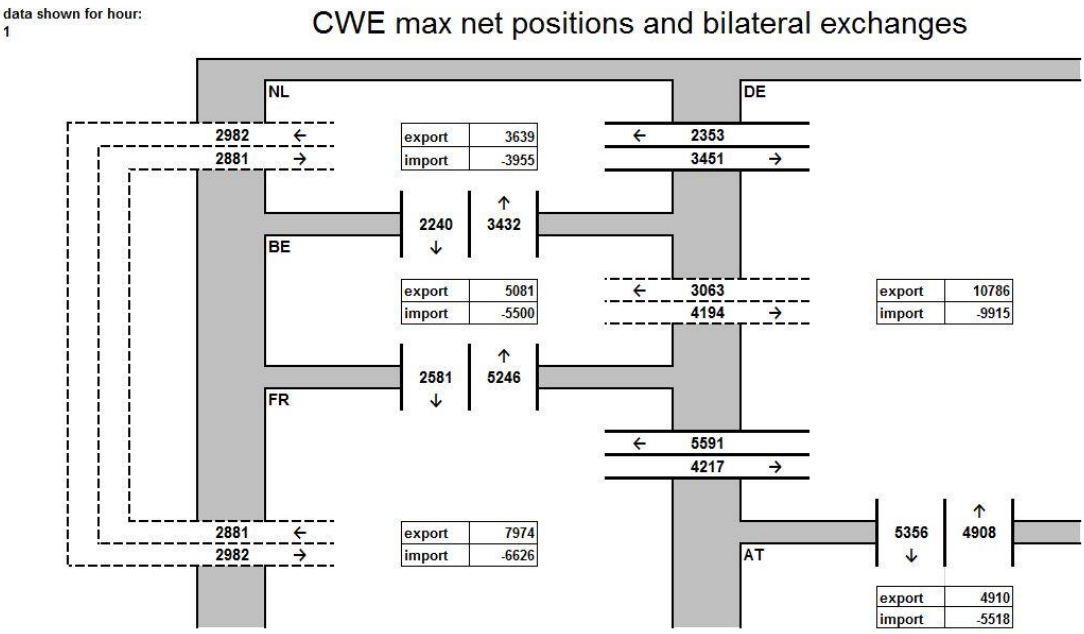

Figure 3: Screenshot of the "CWE map" tab

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 BEC[1]) 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
2	119	119	14.5	1725.5	#N/A	#N/A	#N/A
3	119	119	7.7	916.3	#N/A	#N/A	#N/A
4	119	119	10.22	1216.18	#N/A	#N/A	#N/A
5	119	119	6.58	783.02	#N/A	#N/A	#N/A
6	119	119	6.15	731.85	#N/A	#N/A	#N/A
7	119	119	6.14	730.66	#N/A	#N/A	#N/A
8	119	119	1.42	168.98	#N/A	#N/A	#N/A
9	119	119	0	0	#N/A	#N/A	#N/A
10	119	119	0	0	#N/A	#N/A	#N/A
11	82	82	0.49	40.18	#N/A	#N/A	#N/A
12	82	82	0.18	14.76	#N/A	#N/A	#N/A
13	82	82	2.43	199.26	#N/A	#N/A	#N/A
14	82	82	0.55	45.1	#N/A	#N/A	#N/A
15	82	82	0.01	0.82	#N/A	#N/A	#N/A
16	82	82	4.53	371.46	#N/A	#N/A	#N/A
17	82	82	6.67	546.94	#N/A	#N/A	#N/A
18	142	142	2.36	335.12	#N/A	#N/A	#N/A
19	202	0	-1.54	0	#N/A	#N/A	#N/A
20	262	262	0	0	#N/A	#N/A	#N/A
21	265	265	0	0	#N/A	#N/A	#N/A
22	265	265	1.81	479.65	#N/A	#N/A	#N/A
23	239	239	4.1	979.9	#N/A	#N/A	#N/A
24	179	179	4.36	780.44	#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
- minRAM factor: Percentage of Fmax that will be ensured as minimum RAM of the corresponding CBCO
- MinRAM justification: Justifications for MinRAM values
- 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. PTDFs (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 Branc	EIC code	Critical Outag	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] Lelysta	49T000000000	0.11096	0	0.14131	0.06423	0	485
2149	Westtirol TO (V	14T-38220-WT	Westtirol - Ker	10T1001C--000	-0.14389	0.06018	0.02734	0.06527	0.05532	1040
2150	[D2-CZ] Etzenri	10T-CZ-DE-000	[D2-CZ] Etzenr	10T-CZ-DE-000	0.09696	0.03017	0.04545	0.03918	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	314
2152	[D2-CZ] Etzenri	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TLI-V432--	0.02299	-0.03987	-0.04925	-0.03987	0	451
2153	[NL-NL] Lelysta	49T000000000	[NL-NL] Lelysta	49T000000000	0.12321	0	0.14956	0.06798	0	486
2154	[D2-CZ] Etzenri	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TLI-V432--	0.07544	0	-0.00707	0.00948	0	451
2155	Westtirol TO (V	14T-38220-WT	BASECASE	27T-TLI-V432--	0.17627	-0.00838	0.02532	-0.01138	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	926
2157	[D2-CZ] Etzenri	10T-CZ-DE-000	[CZ-CZ] Kocin	27T-TLI-V432--	0.08704	0	0.00202	0.01015	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 CBCO[2] with the fixed ID
- one column per hub with the $PTDF^{3}_{hub}$ 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.								
	LT Nominations (in MW)									
Hour	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

	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 Branc	EIC code	Critical Outag	EIC code	AT-hub	BE-hub	DE-hub	FR-hub	NL-hub	RAM (MW)	Test Hub to H	constraints	Test Hub posit
											0		0
206783	[D2-CZ] Etzenr	10T-CZ-DE-00(	[D2-CZ] Etzenr	10T-CZ-DE-00(	0.06844	-0.00067	0	-0.00067	0	337	0		0
206795	Westtirol TO (\	14T-38220-WT	BASECASE		0.17591	-0.00394	0.02278	-0.0085	0	811	0		0
206869	[D4-AT] Buers-	10T-AT-DE-00(	[AT-D4] Westti	14T-38220-WT	0.08857	-0.01021	0.003	-0.02835	0	468	0		0
206096	[NL-NL] Eemsl	49T000000000	[NL-NL] Eemsl	49T000000000	0.00241	0.01507	-0.00253	0.00895	0.1974	792	0		0
206208	380.80 AVLGN	10T-BE-FR-00(	BAVLGM_FM/	10T-BE-FR-10(	0.01496	-0.23496	-0.01321	0.12345	-0.10241	2142	0		0
206279	380.28 MAASE	10T-BE-NL-00(	BZANDV_NGE	10T-BE-NL-00(	-0.04982	-0.3697	-0.01759	-0.1552	0	923	0		0
206348	[NL-NL] Lelyst	49T000000000	[NL-NL] Lelyst	49T000000000	0.15289	0.06095	0.18643	0.10679	0	558	0		0
206367	Westtirol TO (\	14T-38220-WT	BASECASE		0.17627	-0.00838	0.02532	-0.01138	0	811	0		0
206605	Westtirol TO (\	14T-38220-WT	BASECASE		0.17551	-0.00646	0.02543	-0.01477	0	811	0		0
206734	[D2-CZ] Etzenr	10T-CZ-DE-00(	[CZ-CZ] Kocin	27T-TLI-V432--	0.0996	0.00838	0.01516	0.01516	0	447	0		0
206752	[NL-NL] Lelyst	49T000000000	[NL-NL] Lelyst	49T000000000	0.13462	0	0.16678	0.08342	0	558	0		0
206771	[D2-CZ] Etzenr	10T-CZ-DE-00(	[CZ-CZ] Kocin	27T-TLI-V432--	0.08084	0.00219	-0.00294	0.01258	0	454	0		0
206855	[D4-FR] Eichst	10T-DE-FR-00(	[FR-FR] Muhlb	17T-FR-00000(	-0.00681	0.09696	0.00108	0.12887	0.05399	358	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).

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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	icalBranchNa	EIC_Code	Presolved	RemainingAv	Fmax	Fref	FRM	FAV	AMR
185	04/07/2019	1	4359	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	667	651	-86	70	0	0
185	04/07/2019	1	1639	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	495	651	86	70	0	0
185	04/07/2019	1	3500	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	475	651	106	70	0	0
185	04/07/2019	1	4635	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	687	651	-106	70	0	0
185	04/07/2019	2	116803	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	660	656	-74	70	0	0
185	04/07/2019	2	119373	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	512	656	74	70	0	0
185	04/07/2019	2	115026	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	468	656	118	70	0	0
185	04/07/2019	2	118348	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	704	656	-118	70	0	0
185	04/07/2019	3	149396	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	660	656	-74	70	0	0
185	04/07/2019	3	146450	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	512	656	74	70	0	0
185	04/07/2019	3	151837	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	474	656	112	70	0	0
185	04/07/2019	3	149481	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	698	656	-112	70	0	0
185	04/07/2019	4	111402	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	659	661	-68	70	0	0
185	04/07/2019	4	113751	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	523	661	68	70	0	0
185	04/07/2019	4	111960	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	469	661	122	70	0	0
185	04/07/2019	4	114279	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	713	661	-122	70	0	0
185	04/07/2019	5	180214	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	660	661	-69	70	0	0
185	04/07/2019	5	177417	[AT-AT] Duer	14T-380-0-00	[D2-AT] Pirac	10T-AT-DE-0(	FALSE	522	661	69	70	0	0
185	04/07/2019	5	178426	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	FALSE	474	661	117	70	0	0
185	04/07/2019	5	177504	[AT-AT] Duer	14T-380-0-00	[D2-AT] Plein	10T-AT-DE-0(	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 (FB Domain without LTA inclusion, with AMR) 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. However, for this virgin FB domain, the presolved algorithm has not been performed, therefore all entries are FALSE
- 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
- minRAM factor: Percentage of Fmax that will be ensured as minimum RAM of the corresponding CBCO
- MinRAM justification: Justifications for MinRAM values
- 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.

	ATC (in MW)													
Hour	FR-ES	ES-FR	DK1-DE	DE-DK1	FR-IT	IT-FR	AT-IT	IT-AT	SI-IT	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 1	MinAT	-5518				
	MaxAT	4910				
	MinBE		-5500			
	MaxBE		5081			
	MinDE			-9915		
	MaxDE			10786		
	MinFR				-6626	
	MaxFR				7974	
	MinNL					-3955
	MaxNL					3639
hour 2	MinAT	-4898				
	MaxAT	4907				
	MinBE		-5500			
	MaxBE		5231			
	MinDE			-10537		
	MaxDE			9557		
	MinFR				-7619	
	MaxFR				8025	
	MinNL					-4160
	MaxNL					3692
	MinAT	-4898				
	MaxAT	4924				
	MinBE		-5500			
	MaxBE		5142			
	MinDE			-10174		

hour	Min AT	Max AT	Min BE	Max BE	Min DE	Max DE	Min FR	Max FR	Min NL	Max NL
1	-5518	4910	-5500	5081	-9915	10786	-6626	7974	-3955	3639
2	-4898	4907	-5500	5231	-10537	9557	-7619	8025	-4160	3692
3	-4898	4924	-5500	5142	-10174	8456	-7305	7591	-4237	3657
4	-4898	4936	-5500	5133	-9631	9013	-7868	7619	-4486	3636
5	-4898	4907	-5500	5268	-10404	8608	-7523	7570	-4463	3659
6	-4898	4907	-5500	5269	-10402	9090	-7353	7618	-4358	3580
7	-4898	4907	-5500	5248	-9651	9492	-7182	7696	-4039	3572
8	-4909	4906	-5500	5160	-8701	9458	-6672	7923	-3497	3789
9	-4900	4906	-5500	4878	-8612	10572	-7366	8285	-2897	3822
10	-4961	4907	-5500	4763	-8837	10145	-7148	8466	-2759	3764
11	-4951	5059	-5495	4684	-9747	9263	-6490	8504	-2817	3715
12	-5062	5171	-5441	4730	-10794	9178	-6577	8363	-2896	3750
13	-5333	5136	-5390	4750	-10569	8975	-6485	8195	-2853	3845
14	-5191	5132	-5367	4764	-11029	8449	-6272	7961	-2881	3846
15	-4898	5603	-5290	4768	-11176	7853	-6801	7722	-2858	3855
16	-4898	5428	-5371	4865	-10174	7970	-6741	7481	-2830	3834
17	-4898	5340	-5500	4939	-9944	7982	-6452	7551	-2799	3829
18	-4898	5192	-5500	4957	-9080	8466	-6257	7773	-2780	3085
19	-4909	4943	-5500	4755	-7894	8844	-5443	8133	-2653	2563
20	-5591	4984	-5500	4658	-7785	9024	-5867	8159	-2608	2462
21	-5832	4987	-5500	4661	-8670	8729	-5275	9046	-2723	2443
22	-5127	4973	-5500	4732	-8639	8352	-4893	8670	-2782	2583
23	-4900	4906	-5500	4882	-8724	8601	-4802	8480	-2833	2678
24	-4899	4906	-5500	4933	-9182	7898	-4888	8048	-2856	3003
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 BE->AT	Max BE->DE	Max BE->FR	Max BE->NL	Max DE->AT	Max DE->BE	Max DE->FR	Max DE->NL	Max FR->AT	Max FR->BE	Max FR->DE	Max FR->NL	Max NL->AT	Max NL->BE	M
1	2912	4908	4341	2437	3701	4194	2581	3432	5356	3063	5591	2353	4354	5246	4217	2881	3540	2240	
2	3665	4907	4651	2612	4041	4580	2820	3697	4898	3336	7054	2521	4533	5199	4970	3094	3601	2260	
3	3608	4911	4790	2686	3669	4158	2556	3811	4898	3215	6635	2593	3829	4978	4487	3187	3595	2261	
4	3938	4914	4902	2999	3989	4521	2779	4315	4898	3523	7214	2935	4246	5240	4024	3608	3541	2301	
5	3605	4907	4705	2938	3938	4462	2744	4163	4898	3259	6914	2835	3980	5035	4548	3483	3469	2277	
6	3479	4907	4456	2818	3986	4516	2775	3993	4898	3274	6658	2720	3992	5078	4677	3343	3491	2277	
7	3168	4907	4552	2493	3981	4512	2773	3528	4898	3254	6062	2406	4192	5052	4396	2956	3494	2273	
8	2753	4906	4453	1907	3909	4429	2723	2755	4903	2983	5569	1907	4541	5107	3846	2311	3585	2254	
9	3742	4906	4429	1886	3732	4230	2603	2316	4900	3335	6625	1882	4660	5364	3817	2146	3629	2235	
10	3586	4907	4412	1871	3592	4073	2505	2211	4924	3196	5973	1851	4853	5255	3890	2084	3569	2219	
11	3331	5014	4417	1879	3228	3660	2250	2239	4921	2969	5100	1860	4809	4886	4419	2101	3526	2194	
12	3293	5125	4424	1884	3184	3610	2218	2293	4955	2935	5172	1876	4700	4745	4585	2133	3561	2199	
13	3187	5111	4380	1887	3108	3524	2165	2259	5150	2842	5177	1867	4487	4596	4538	2115	3657	2194	
14	3055	5082	4425	1887	2944	3338	2048	2276	5087	2736	4921	1871	3952	4441	4719	2126	3672	2182	
15	3105	5313	5169	1886	3044	3452	2120	2273	4898	2770	5383	1869	3779	4465	4517	2123	3687	2194	
16	3074	5136	5040	1885	3208	3638	2239	2265	4898	2745	5439	1865	3329	4448	3985	2116	3668	2194	
17	3167	5037	5270	1879	3512	3982	2452	2247	4898	2824	5343	1859	3427	4628	4101	2105	3657	2200	
18	3365	4995	5178	1880	3764	4268	2627	2238	4898	2991	5329	1859	4116	4773	4039	2101	2993	2224	
19	2495	4912	4303	1855	3788	4295	2646	2165	4904	2703	4799	1837	4574	5132	3566	2056	2451	2215	
20	2721	4945	4410	1849	3880	4244	2610	2145	5530	2947	5450	1833	4632	5384	3553	2045	2346	2217	
21	2814	4958	4365	1858	3224	3654	2096	2158	5710	2910	4494	1840	5392	4759	3831	2056	2340	2174	
22	2436	4929	4176	1865	2940	3332	2047	2184	5026	2633	4386	1846	4746	4635	3808	2072	2486	2161	
23	2399	4906	3852	1873	2928	3318	2046	2200	4900	2564	4160	1853	4557	4523	3835	2085	2587	2151	
24	2348	4906	3853	1881	3172	3595	2214	2264	4899	2452	3846	1881	4135	4724	3805	2147	2949	2173	
25	2382	4906	4164	1882	3493	3958	2432	2275	5831	2585	3895	1882	3456	4839	3676	2155	3104	2162	

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 $NP_{FR} = NP_{DE} = NP_{AT} = 0MW$.

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1.2.9. Shadow Auction ATC

Date:	2018-10-28	The data for 2018-10-28 has been retrieved successfully.								
	Shadow Auction ATC (in MW)									
Hour	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.					
	Internal CWE Net Position (in MW)					Import (-)	Export (+)
Hour	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

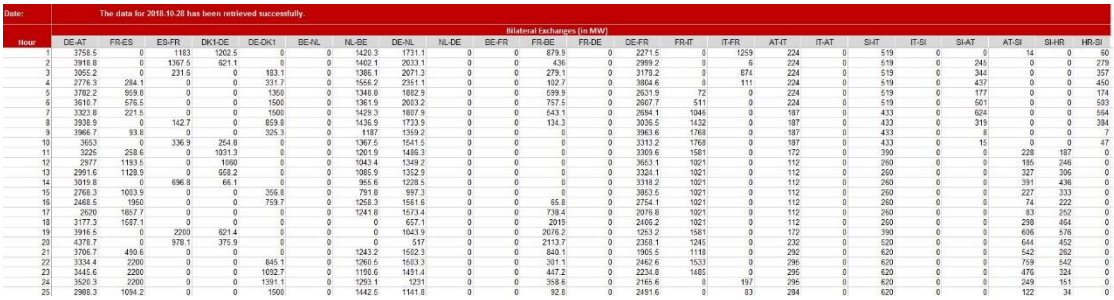


Figure 15: Screenshot of the "Allocated Capacities" tab

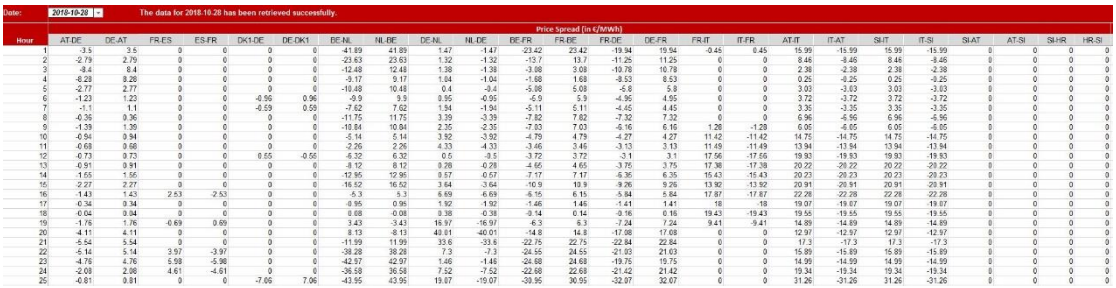
Description:
Each row represents one market coupling hour. After the first column "hour", the next columns indicate the capacity allocated by the market coupling algorithm in MW in the two directions for the following borders:

- 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: 2018-10-28 The data for 2018-10-28 has been retrieved successfully.

Price Spread (in €/MWh)

Hour	AT-DE	DE-AT	FR-ES	ES-FR	DK1-DE	DE-DK1	BE-NL	NL-BE	DE-NL	NL-DE	BE-FR	FR-BE	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	-3.5	3.5	0	0	0	0	-41.89	41.89	1.47	-1.47	-23.42	23.42	-19.94	19.94	-0.45	0.45	15.99	-15.99	15.99	-15.99	0	0	0	0
2	-2.79	2.79	0	0	0	0	-23.63	23.63	1.32	-1.32	-13.7	13.7	-11.25	11.25	0	0	8.46	-8.46	8.46	-8.46	0	0	0	0
3	-8.4	8.4	0	0	0	0	-12.48	12.48	1.38	-1.38	-3.08	3.08	-10.78	10.78	0	0	2.38	-2.38	2.38	-2.38	0	0	0	0
4	-8.28	8.28	0	0	0	0	-9.17	9.17	1.04	-1.04	-1.68	1.68	-8.53	8.53	0	0	0.25	-0.25	0.25	-0.25	0	0	0	0
5	-2.77	2.77	0	0	0	0	-10.48	10.48	0.4	-0.4	-5.08	5.08	-5.8	5.8	0	0	3.03	-3.03	3.03	-3.03	0	0	0	0
6	-1.23	1.23	0	0	-8.86	0.96	-9.9	9.9	0.95	-0.95	-6.9	5.9	-4.95	4.95	0	0	3.72	-3.72	3.72	-3.72	0	0	0	0
7	-1.1	1.1	0	0	-8.59	0.59	-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	0
8	-0.36	0.36	0	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
9	-1.39	1.39	0	0	0	0	-10.84	10.84	2.35	-2.35	-7.03	7.03	-6.16	6.16	1.28	-1.28	6.05	-6.05	6.05	-6.05	0	0	0	0
10	-0.94	0.94	0	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
11	-0.68	0.68	0	0	0	0	-2.26	2.26	4.33	-4.33	-3.46	3.46	-3.13	3.13	11.49	-11.49	13.94	-13.94	13.94	-13.94	0	0	0	0
12	-0.73	0.73	0	0	0.55	-0.55	-6.32	6.32	0.5	-0.5	-3.72	3.72	-3.1	3.1	17.56	-17.56	19.93	-19.93	19.93	-19.93	0	0	0	0
13	-0.91	0.91	0	0	0	0	-8.12	8.12	0.28	-0.28	-4.65	4.65	-3.75	3.75	17.38	-17.38	20.22	-20.22	20.22	-20.22	0	0	0	0
14	-1.55	1.55	0	0	0	0	-12.95	12.95	0.57	-0.57	-7.17	7.17	-6.35	6.35	15.43	-15.43	20.23	-20.23	20.23	-20.23	0	0	0	0
15	-2.27	2.27	0	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
16	-1.43	1.43	2.53	-2.53	0	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
17	-0.34	0.34	0	0	0	0	-0.95	0.95	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
18	-0.04	0.04	0	0	0	0	0.08	-0.08	0.38	-0.38	-0.14	0.14	-0.16	0.16	19.43	-19.43	19.55	-19.55	19.55	-19.55	0	0	0	0
19	-1.76	1.76	-0.69	0.69	0	0	3.43	-3.43	16.97	-16.97	6.3	6.3	-7.24	7.24	9.41	-9.41	14.89	-14.89	14.89	-14.89	0	0	0	0
20	-4.11	4.11	0	0	0	0	8.13	-8.13	40.81	-40.81	-14.8	14.8	-17.08	17.08	0	0	12.97	-12.97	12.97	-12.97	0	0	0	0
21	-5.54	5.54	0	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
22	-5.14	5.14	3.97	-3.97	0	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
23	-4.76	4.76	5.98	-5.98	0	0	-42.97	42.97	1.46	-1.46	-24.68	24.68	-19.75	19.75	0	0	14.99	-14.99	14.99	-14.99	0	0	0	0
24	-2.09	2.09	4.61	-4.61	0	0	-36.58	36.58	7.52	-7.52	-22.68	22.68	-21.42	21.42	0	0	19.34	-19.34	19.34	-19.34	0	0	0	0
25	-0.81	0.81	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	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)

2.4. Intraday ATC

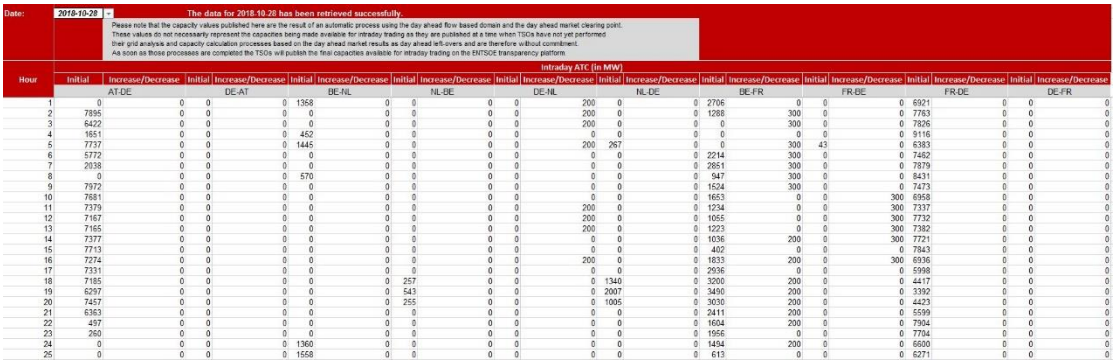


Figure 17: Screenshot of the "Intraday ATC" tab

Description:
Each row represents one market coupling hour. After the first column "hour", the columns B, D, F, H, J, L, N, P, R, T indicate the remaining capacity left after the day-ahead capacity allocation, expressed as **initial** ID ATCs in MW for the two directions of the CWE borders.

Please note that the capacity values published here are the result of an automatic process using a day ahead flow based domain (with updated minRAM Factor in comparison of the Final FB Domain for Day Ahead Market Coupling) and the day ahead market clearing point. These values do not necessarily represent the capacities being made available for intraday trading as they are published at a time when TSOs have not yet performed their grid analysis and capacity calculation processes based on the day ahead market results and day ahead left-over capacities and are therefore without commitment.

As soon as those processes are completed the TSOs will publish the final capacities available for intraday trading on the ENTSO-E transparency platform.

In addition, the final increase/decrease values of the ID ATC after FBMC are published on daily basis.

Publication time for initial ID ATC values: 1.30 pm (D-1)

Publication time for ID ATC increase/ decrease values: D+1

2.5. Congestion Income

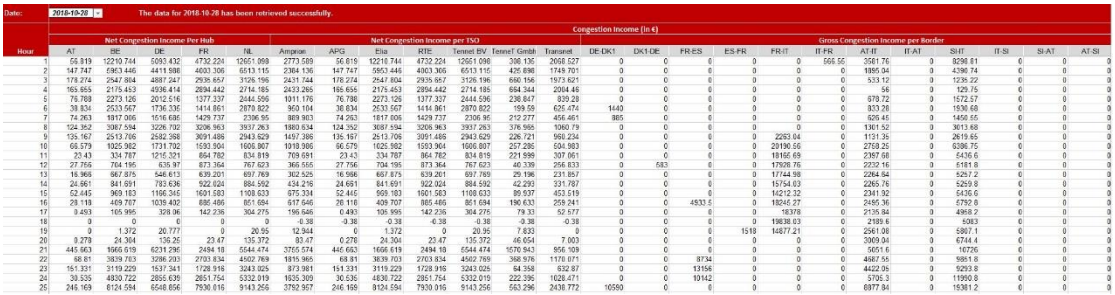


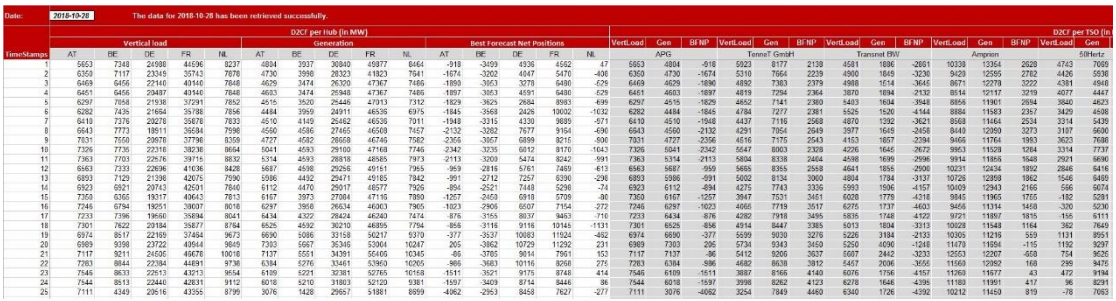
Figure 18: Screenshot of the "Congestion income" tab

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

Publication time: 10.00 am (D)

3 Additional data publication

3.1. Aggregated D2CF data



Date:	2018-10-28	The data for 2018-10-28 has been retrieved successfully.																														
	D2CF per Hub (in MW)																												D2CF per TSO (in	
	Vertical load					Generation					Best Forecast Net Positions					VertLoad	Gen	BFNP	VertLoad	Gen	BFNP	VertLoad	Gen	BFNP	VertLoad	Gen	BFNP	VertLoad	Gen		
TimeStamps	AT	BE	DE	FR	NL	AT	BE	DE	FR	NL	AT	BE	DE	FR	NL	APG			TenneT GmbH			Transnet BW			Amprion			50Hertz			
1	5653	7348	24998	44596	8237	4804	3937	36840	45877	8464	-918	-3499	4936	4662	47	5653	4804	-918	5923	8177	2138	4581	1686	-2651	10338	13364	2628	4743	7099		
2	6359	7117	23345	35743	7878	4730	3998	26323	41823	7641	-1674	-3202	4947	5470	-496	6359	4730	-1674	5310	7664	2239	4980	1645	-3236	9428	12595	2782	4426	5936		
3	6469	6456	22140	40140	7848	4629	3474	26320	47367	7486	-1890	-3053	3078	6480	-529	6469	4629	-1890	4892	7383	2379	4988	1614	-3645	8671	12279	3222	4381	4948		
4	6451	6456	20487	40140	7848	4683	3474	26948	47367	7486	-1897	-3053	4591	6480	-529	6451	4683	-1897	4819	7294	2364	3870	1694	-2132	8514	12117	3219	4077	4447		
5	6297	7058	21936	37291	7852	4515	3520	25448	47913	7312	-1829	-3625	2684	8983	-699	6297	4515	-1829	4652	7141	2389	5403	1634	-3948	8856	11901	2884	3940	4825		
6	6282	7435	21684	35788	7856	4484	3959	24911	46936	6975	-1845	-3568	2426	10002	-1032	6282	4484	-1845	4784	7277	2381	5525	1620	-4144	8884	11583	2357	3429	4598		
7	6419	7376	20278	35878	7833	4510	4149	25462	46936	7011	-1948	-3315	4330	9689	-971	6419	4510	-1948	4437	7116	2568	4870	1392	-3621	8568	11464	2534	3314	5439		
8	6643	7773	18511	39584	7596	4590	4586	27465	46508	7457	-2132	-3282	7677	9164	-696	6643	4590	-2132	4291	7054	2649	3977	1645	-2458	8449	12089	3273	3197	6090		
9	7631	7550	20878	37798	8359	4727	4582	28668	46746	7582	-2356	-3667	6899	8216	-696	7631	4727	-2356	4616	7175	2543	4153	1657	-2394	9466	11764	1993	3623	7686		
10	7326	7735	22318	39238	8664	5041	4593	29100	47168	7746	-2342	-3235	6812	8170	-1043	7326	5041	-2342	5647	8003	2329	4226	1646	-2672	9953	11528	1284	3314	7737		
11	7363	7703	22676	39715	8832	5314	4593	28818	48585	7973	-2113	-3209	5474	8242	-991	7363	5314	-2113	5804	8338	2464	4598	1699	-2996	9914	11866	1648	2921	6690		
12	6963	7333	22696	41036	8428	5687	4598	29256	49151	7965	-959	-2816	5761	7469	-613	6963	5687	-959	5665	8355	2568	4641	1855	-2906	10231	12434	1892	2946	6416		
13	6893	7129	21398	42675	7590	5986	4492	29471	49185	7842	-991	-2712	7257	6390	-298	6893	5986	-991	5902	8134	3060	4804	1784	-3137	10726	12858	1962	1646	6489		
14	6923	6921	20743	42501	7840	6112	4470	29017	48577	7926	-894	-2521	7448	5298	-74	6923	6112	-894	4275	7743	3336	5993	1936	-4157	10409	12943	2166	566	6074		
15	7359	6360	19317	43643	7813	6167	3973	27084	47116	7869	-1257	-2459	6918	5709	-96	7359	6167	-1257	3947	7531	3451	6028	1778	-4318	9845	11965	1705	-182	5291		
16	7246	6794	19251	39007	8018	6297	3958	26634	46003	7965	-1023	-2905	6507	7154	-272	7246	6297	-1023	4065	7719	3517	6275	1737	-4603	9456	11314	1458	-326	5230		
17	7233	7396	19690	35894	8041	6434	4322	28424	46240	7474	-876	-3155	8037	9453	-716	7233	6434	-876	4282	7918	3495	5835	1748	-4122	9721	11897	1815	-155	6111		
18	7301	7622	20184	35877	8764	6525	4592	30210	46895	7754	-856	-3116	9116	10145	-1131	7301	6525	-856	4914	8447	3385	5013	1834	-3313	10028	11548	1164	382	7649		
19	6974	8517	22165	37494	9673	6690	5086	33158	50217	9370	-377	-3537	10083	11924	-482	6974	6690	-377	5699	9039	3276	5226	3184	-2133	10305	11215	559	1131	8951		
20	6989	9398	23722	40644	9649	7303	5667	36346	53904	10247	205	-3962	10729	11292	231	6989	7303	205	5734	9343	3459	5250	4096	-1248	11478	11994	-115	1192	9297		
21	7117	9211	24506	40676	10018	7137	5551	34391	55406	10345	-86	-3785	9614	7961	153	7117	7137	-86	5412	9269	3637	5697	2442	-3233	12553	12267	-508	754	9626		
22	7283	8844	22384	44691	9738	6384	5276	33461	53960	10265	-986	-3683	10116	8258	275	7283	6384	-986	4682	8638	3812	5457	2036	-3655	11560	12982	168	299	9475		
23	7546	8633	22613	43213	9554	6109	5221	32381	52765	10158	-1511	-3521	9175	8748	414	7546	6109	-1511	3887	8166	4140	6076	1756	-4157	11263	11677	-43	472	9194		
24	7544	8513	22446	42831	9112	6018	5210	31803	52129	9381	-1597	-3409	8714	8446	96	7544	6018	-1597	3998	8262	4123	6278	1646	-4395	11189	11991	417	96	8291		
25	7111	4349	29616	43355	8799	3076	1428	29657	51981	8699	-4062	-2953	9458	7627	-277	7111	3076	-4062	3254	7849	4460	6340	1726	-4392	10212	11450	819	-78	7063		

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:
Generation = Vertical Load + Net Positions + 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: 2019-03-31 The data for 2019-03-31 has been retrieved successfully.

FileId	DeliveryDa	Perio	Row	OutageNam	EIC_Co	CriticalBranchNam	EIC_Co	Presolve	RemainingAvailableMargin (MW)	Fm	F	FR	F	Al	MinRAMFact	MinRAMFactorJustificatio
90	2019-03-31	1	66942	[BE-BE] PST_V	22T-BE-PS	[BE-NL] XVY_MB11 - B	10T-BE-NL-	TRUE	1.299	1599	106	194	0	0	70	N/A
90	2019-03-31	1	65100	[BE-BE] Doel -	22T201705	[BE-BE] PST_ZANDV_2	22T201610	TRUE	1056	1508	218	256	0	-22	70	N/A
90	2019-03-31	1	68330	[BE-BE] Doel -	22T201705	[BE-BE] BDOEL 1 - BZ	22T-BE-IN-I	TRUE	1326	1599	-2	275	0	0	70	N/A
90	2019-03-31	1	65159	[BE-BE] Maasbr	10T-BE-NL-	[BE-BE] BGRAMM1 - B	22T-BE-IN-I	TRUE	1027	1468	436	166	0	-161	70	N/A
90	2019-03-31	1	60143	[BE-BE] Aubang	10T-BE-FR-	[BE-FR] BAUBAN2 - XA	10T-BE-FR-	TRUE	366	523	186	73	0	-102	70	test
90	2019-03-31	1	63738	[BE-BE] Aubang	10T-BE-FR-	[BE-FR] XAU_M.21 - BA	10T-BE-FR-	TRUE	643	523	-186	66	0	0	70	test
90	2019-03-31	1	60571	[BE-BE] Aubang	10T-BE-FR-	[BE-BE] BGRAMM1 - B	22T-BE-IN-I	TRUE	1028	1468	456	166	0	-182	70	N/A
90	2019-03-31	1	63148	[BE-BE] Geertru	10T-BE-NL-	[BE-BE] BGRAMM1 - B	22T-BE-IN-I	TRUE	1028	1468	453	166	0	-179	70	N/A
90	2019-03-31	1	64235	[BE-BE] Achene	22T-BE-IN-I	[BE-NL] BVANYK1 - XV	10T-BE-NL-	TRUE	1290	1599	120	189	0	0	70	N/A
90	2019-03-31	1	65892	BASECASE	N/A	[BE-FR] BACHEN1 - XA	10T-BE-FR-	FALSE	1120	1599	400	171	0	-92	70	N/A
90	2019-03-31	1	61048	BASECASE	N/A	[BE-NL] XZA_GT11 - BZ	10T-BE-NL-	FALSE	18351048	#####	-100	0	0	0	70	N/A
90	2019-03-31	1	61369	BASECASE	N/A	[BE-BE] XZA_BS11 - B	10T-BE-NL-	FALSE	1835417	#####	531	0	0	0	70	N/A
90	2019-03-31	1	65238	BASECASE	N/A	[BE-NL] XVY_MB12 - B	10T-BE-NL-	FALSE	1605829	#####	189	0	0	0	70	N/A
90	2019-03-31	1	67817	BASECASE	N/A	[BE-NL] XVY_MB11 - B	10T-BE-NL-	FALSE	15988631	#####	39	0	0	0	70	N/A
90	2019-03-31	1	60131	BASECASE	N/A	[BE-FR] XAU_MO22 - FI	10T-BE-FR-	FALSE	4792847	#####	90	0	0	0	70	N/A
90	2019-03-31	1	67998	BASECASE	N/A	[BE-FR] XAU_M.21 - FN	10T-BE-FR-	FALSE	4792825	#####	112	0	0	0	70	N/A
90	2019-03-31	1	63785	BASECASE	N/A	[BE-FR] XAC_LO11 - FL	10T-BE-FR-	FALSE	14685900	#####	400	0	0	0	70	N/A
90	2019-03-31	1	65315	BASECASE	N/A	[BE-BE] BDOEL 1 - BM	22T201801	FALSE	1123	1605	767	79	0	-364	70	N/A
90	2019-03-31	1	65257	BASECASE	N/A	[BE-BE] PST_VANYK_1	22T-BE-PS	FALSE	1125	1508	189	194	0	0	70	N/A
90	2019-03-31	1	66968	BASECASE	N/A	[BE-BE] BZANDV1 - BD	22T-BE-IN-I	FALSE	1312	1599	3	284	0	0	70	N/A
90	2019-03-31	1	63997	BASECASE	N/A	[BE-BE] BMERCA1 - BK	22T201610	FALSE	2103	2720	462	155	0	0	70	test horta 2
90	2019-03-31	1	63081	BASECASE	N/A	[BE-BE] BMERCA1 - BF	22T-BE-IN-I	FALSE	1119	1599	489	188	0	-197	70	test horta
90	2019-03-31	1	66829	BASECASE	N/A	[BE-BE] BHORTA1 - BA	22T201610	FALSE	1141	1599	303	155	0	0	70	N/A
90	2019-03-31	1	64355	BASECASE	N/A	[BE-BE] BHORTA1 - BA	22T201610	FALSE	1258	1749	303	188	0	0	70	N/A
90	2019-03-31	1	66980	BASECASE	N/A	[BE-BE] BVANYK1 - BZ	22T201610	FALSE	1404	1599	45	150	0	0	70	N/A
90	2019-03-31	1	60780	BASECASE	N/A	[BE-BE] BZUTE+1 - BG	22T201610	FALSE	1517	1469	-198	150	0	0	70	N/A
90	2019-03-31	1	60559	BASECASE	N/A	[BE-FR] BAUBAN2 - XA	10T-BE-FR-	FALSE	366	523	90	70	0	-3	70	N/A
90	2019-03-31	1	66252	BASECASE	N/A	[BE-FR] BAUBAN2 - XA	10T-BE-FR-	FALSE	366	523	112	73	0	-28	70	test
90	2019-03-31	1	67480	BASECASE	N/A	[BE-BE] BLIXHE1 - BG	22T-BE-IN-I	FALSE	1442	1506	-147	211	0	0	70	N/A
90	2019-03-31	1	61520	BASECASE	N/A	[BE-BE] BVANYK1 - BL	22T201801	FALSE	1325	1468	-4	147	0	0	70	N/A
90	2019-03-31	1	66606	BASECASE	N/A	[BE-BE] BGRAMM1 - B	22T-BE-IN-I	FALSE	1028	1468	445	166	0	-171	70	N/A
90	2019-03-31	1	66542	BASECASE	N/A	[BE-BE] PST_ZANDV_2	22T201610	FALSE	1055	1508	219	256	0	-22	70	N/A
90	2019-03-31	1	66832	BASECASE	N/A	[BE-BE] BDOEL 1 - BM	22T-BE-IN-I	FALSE	1028	1468	701	68	0	-329	70	N/A
90	2019-03-31	1	64505	BASECASE	N/A	[BE-BE] BDOEL 1 - BM	22T-BE-IN-I	FALSE	1028	1468	701	73	0	-334	70	N/A
90	2019-03-31	1	65183	BASECASE	N/A	[BE-BE] BDOEL 1 - BM	22T-BE-IN-I	FALSE	1123	1605	767	79	0	-364	70	N/A
90	2019-03-31	1	65937	BASECASE	N/A	[BE-BE] BSTAM+1 - BG	22T-BE-IN-I	FALSE	1640	1496	-283	139	0	0	70	N/A
90	2019-03-31	1	62601	BASECASE	N/A	[BE-BE] BCHAMP1 - BC	22T-BE-IN-I	FALSE	1706	1605	-243	142	0	0	70	N/A
90	2019-03-31	1	64466	BASECASE	N/A	[BE-BE] BCOURC1 - BC	22T-BE-IN-I	FALSE	1679	1605	-204	130	0	0	70	N/A
90	2019-03-31	1	60291	BASECASE	N/A	[BE-FR] XAC_LO11 - BL	10T-BE-FR-	FALSE	1809	1599	-400	190	0	0	70	N/A
90	2019-03-31	1	66995	BASECASE	N/A	[BE-NL] BZANDV1 - XZ	10T-BE-NL-	FALSE	18350848	#####	100	0	0	0	70	N/A
90	2019-03-31	1	67241	BASECASE	N/A	[BE-BE] BZANDV1 - XZ	10T-BE-NL-	FALSE	18351479	#####	-531	0	0	0	70	N/A
90	2019-03-31	1	61186	BASECASE	N/A	[BE-NL] BVANYK1 - XV	10T-BE-NL-	FALSE	16051207	#####	-189	0	0	0	70	N/A

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
- minRAM factor: Percentage of Fmax that will be ensured as minimum RAM of the corresponding CBCO
- MinRAM justification: Justifications for MinRAM values
- 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] 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: 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.