JAO Publication Handbook

Market Coupling

Version	1.7
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Status	☐ Draft ☒ Final

JAO Publication Handbook

Market Coupling

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)
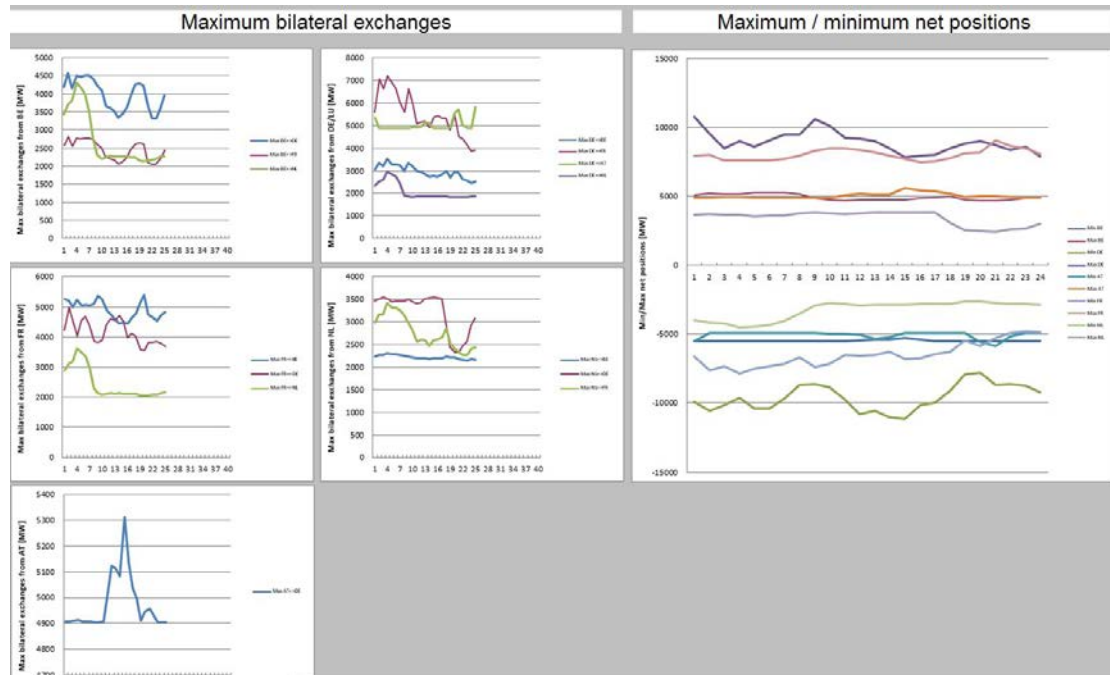
1.1.2. Market graphs

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.

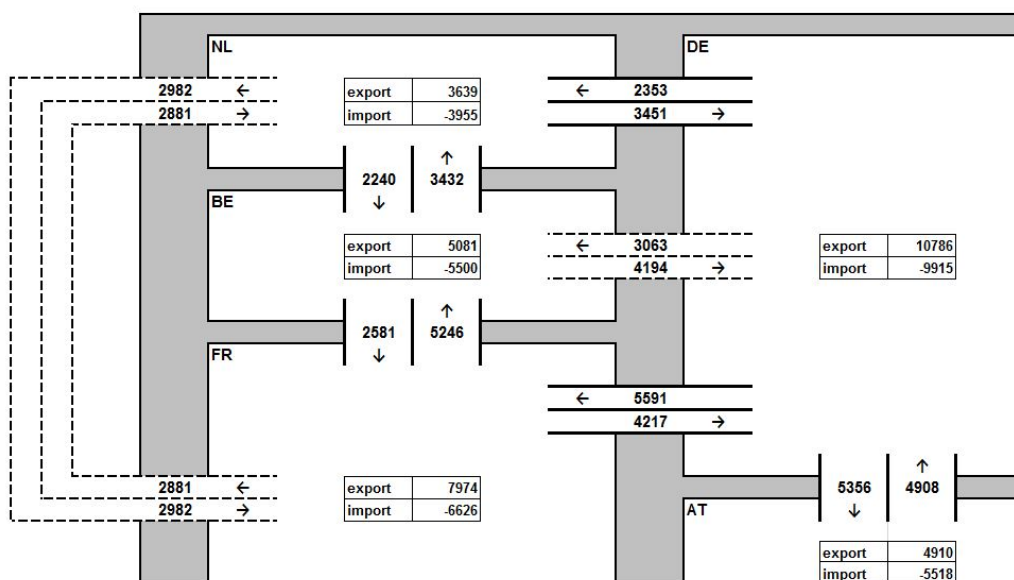**Publication time:** 10.30 am (D-1)

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).

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[1] Bilateral Exchange Computation

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)

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
  - o [DIR]: Current order from the CNE name (here from Ensdorf to Vigy)
  - o [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)

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.

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[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)

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

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	icalBranchNa	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-0(	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-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 (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:
- o [BE-FR] Achene - Lonny 380.19 [DIR] [BE]
- o [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
  - o [DIR]: Current order from the CNE name (here from Ensdorf to Vigy)
  - o [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-1)

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

Publication time: 10.30 am (D-1)

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	-10402	9013	-7868	7619	-4486	3636
5	-4898	4907	-5500	5268	-10404	8608	-7523	7570	-4463	3559
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	-8701	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.

Publication time: 10.30 am (D-1)

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	7054	3336	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	3880	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	4562	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	3336	6625	1882	4660	5364	3817	2146	3629	2236	
10	3586	4907	4412	1871	3592	4073	2505	2211	4924	3195	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	3355	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	4968	4355	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	2505	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 $NP_{FR} = NP_{DE} = NP_{AT} = 0MW$.

Publication time: 10.30 am (D-1)

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

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 the day ahead flow based domain 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: 1.00 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 TSO (in
		D2CF per Hub (in MW)													VertLoad	Gen	BFNP	VertLoad	Gen	BFNP	VertLoad	Gen	BFNP	VertLoad	Gen	BFNP	VertLoad	Gen
		Vertical load					Generation					Best Forecast Net Positions				APG			TenneT GmbH			Transnet BW			Amprion			50Hertz	
TimeStamps	AT	BE	DE	FR	NL	AT	BE	DE	FR	NL	AT	BE	DE	FR	NL														
1	5663	7348	24988	44696	8237	4804	3937	30840	49877	8464	-918	-3499	4936	4592	47	5663	4804	-918	5923	8177	2138	4581	1696	-2661	10338	13364	2628	4743	7069
2	6350	7117	23345	35743	7878	4730	3998	28323	41823	7941	-1674	-3202	4047	5470	-408	6350	4730	-1674	5310	7964	2239	4900	9420	-3230	12595	2762	4426	5938
3	6469	6456	22140	40140	7848	4629	3474	26320	47367	7486	-1890	-3063	3278	6490	-529	6469	4629	-1890	4892	7383	2379	4988	1614	-3645	8671	12279	3222	4381	4948
4	6451	6456	23487	40140	7848	4603	3474	25948	47367	7486	-1897	-3063	4591	6480	-529	6451	4603	-1897	4819	7294	2364	3870	1894	-2132	8514	12157	3219	4077	4447
5	6297	7058	21938	37291	7852	4515	3520	25446	47013	7312	-1829	-3625	2684	8983	-699	6297	4515	-1829	4882	7141	2380	5403	1634	-3948	8856	11901	2894	3840	4623
6	6282	7436	21664	35788	7856	4484	3959	24911	46536	6975	-1845	-3568	2426	10002	-1032	6282	4484	-1845	4784	7277	2381	5525	1520	-4144	8884	11583	2367	3429	4508
7	6410	7376	20278	35678	7833	4510	4149	25462	46536	7011	-1948	-3315	4330	9089	-571	6410	4510	-1948	4437	7116	2568	4870	1392	-3621	8568	11464	2534	3314	5430
8	6643	7773	18911	36684	7596	4560	4586	27465	46568	7457	-2132	-3282	7677	9164	-690	6643	4560	-2132	4291	7054	2649	3977	1649	-2458	8440	12050	3273	3107	6600
9	7031	7560	20678	37796	8359	4727	4582	28658	46746	7582	-2356	-3057	6899	9215	-900	7031	4727	-2356	4616	7175	2543	4153	1657	-2394	9466	11764	1993	3623	7686
10	7326	7735	22318	38238	8664	5041	4593	29100	47168	7746	-2342	-3235	6012	8170	-1043	7326	5041	-2342	5647	8003	2328	4226	1646	-2672	9953	11529	1284	3314	7737
11	7363	7703	22676	39715	8832	5314	4593	28818	48585	7973	-2113	-3203	5474	8242	-991	7363	5314	-2113	5804	8338	2404	4598	1699	-2996	9914	11866	1648	2921	6690
12	6563	7333	22836	41036	8428	5687	4598	29256	49161	7965	-969	-2816	5761	7459	-613	6563	5687	-959	5665	8355	2568	4641	1856	-2500	10231	12434	1892	2846	6416
13	6893	7129	21398	42075	7990	5986	4492	29471	49185	7842	-991	-2712	7257	6390	-298	6893	5986	-991	5002	8134	3060	4804	1784	-3137	10726	12868	1862	1546	6499
14	6923	6921	20743	42501	7846	6112	4470	29017	48577	7926	-894	-2521	7448	5296	-74	6923	6112	-894	4275	7743	3336	5993	1596	-4157	10409	12943	2166	566	6074
15	7359	6365	19317	40643	7813	6167	3973	27084	47116	7890	-1267	-2450	6918	5709	-90	7359	6167	-1267	3947	7531	3451	6028	1778	-4218	9845	11965	1755	-182	5291
16	7246	6794	19251	38037	8018	6297	3958	26634	46003	7905	-1023	-2906	6507	7154	-272	7246	6297	-1023	4065	7719	3517	6275	1737	-4603	9456	11314	1468	-320	5230
17	7233	7396	19660	36694	8041	6434	4322	28424	46240	7474	-876	-3155	8037	9453	-710	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	1894	-3313	10028	11548	1164	362	7649
19	6974	8517	22169	37484	9673	6690	5086	33158	50217	9370	-377	-3637	10083	11924	-482	6974	6690	-377	5599	9039	3276	5228	3184	-2133	10305	11216	559	1131	8951
20	6989	9398	23722	40544	9849	7383	5667	36346	53004	10247	205	-3862	10729	11292	231	6989	7383	205	5734	9343	3450	5250	4090	-1248	11470	11694	-115	1192	9297
21	7117	9211	24696	46676	10018	7137	5551	34391	50405	10345	-86	-3785	9614	7961	153	7117	7137	-86	5412	9206	3637	5607	2442	-3233	12553	12207	-668	754	9625
22	7283	8844	22384	44691	9738	6384	5276	33461	53960	10265	-986	-3683	10116	8268	275	7283	6384	-986	4682	8638	3812	5457	2006	-3655	11560	12992	168	299	9475
23	7546	8633	22513	43213	9554	6139	5221	32381	52765	10158	-1511	-3621	9175	8748	414	7546	6109	-1511	3887	8166	4140	6076	1756	-4157	11263	11677	43	472	9194
24	7544	8513	22440	42831	9112	6018	5210	31803	52120	9381	-1597	-3409	8714	8446	86	7544	6018	-1597	3998	8262	4123	6278	1646	-4398	11183	11391	417	96	8291
25	7111	4349	20616	43355	8799	3076	1428	29657	51881	8699	-4062	-2953	8458	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

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

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] 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.

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.