Users' Group

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1. Max Import
2. Reminder Summer Outlook 2015
3. FB Results 20.08 – 22.09
4. Context and market results 22.09 – 23.09

Max Import

Reduction of Belgian maximum import (1/2)

Communication 25.08.2015 (>BD 26.08)

Currently, infrastructure works are being executed on important assets in the Belgian transmission grid for the purpose of reinforcing the network for the winter period to come. In combination with high wind infeeds in the North of Europe and additional unplanned unavailabilities of transmission and generation infrastructure in the Central-Western Europe region, Elia had to limit the maximum import value for Belgium from 4500 MW to 3250 MW.

Elia will closely follow up the situation and will re-assess on daily basis the maximum import levels that can be given without jeopardizing system security. This situation is however likely to continue for the next days but will gradually normalize before the start of winter. For the most recent information please consult the Elia website in combination with the daily publication of Flow-Based data.

Update 27.08 (>BD 28.08) = 3500MW, update 21.09 (>BD 22.09) = 4000MW

Reduction of Belgian maximum import (2/2)

Even though the most recent information regarding the maximum import levels, can always be consulted via the daily publication of Flow-Based data

available here: http://www.casc.eu/en/Market-data/Implicit-Allocation/Market-Coupling

Elia decided the 25th of August to communicate additionally, in order to be fully transparent about this decision:

- Via our web-site
- With Power Exchange
- Via e-mail to all contact persons in the ARP contract

Please note that the majority of time (+/- 90%) of last month it was not the external constraint limiting the exchanges.

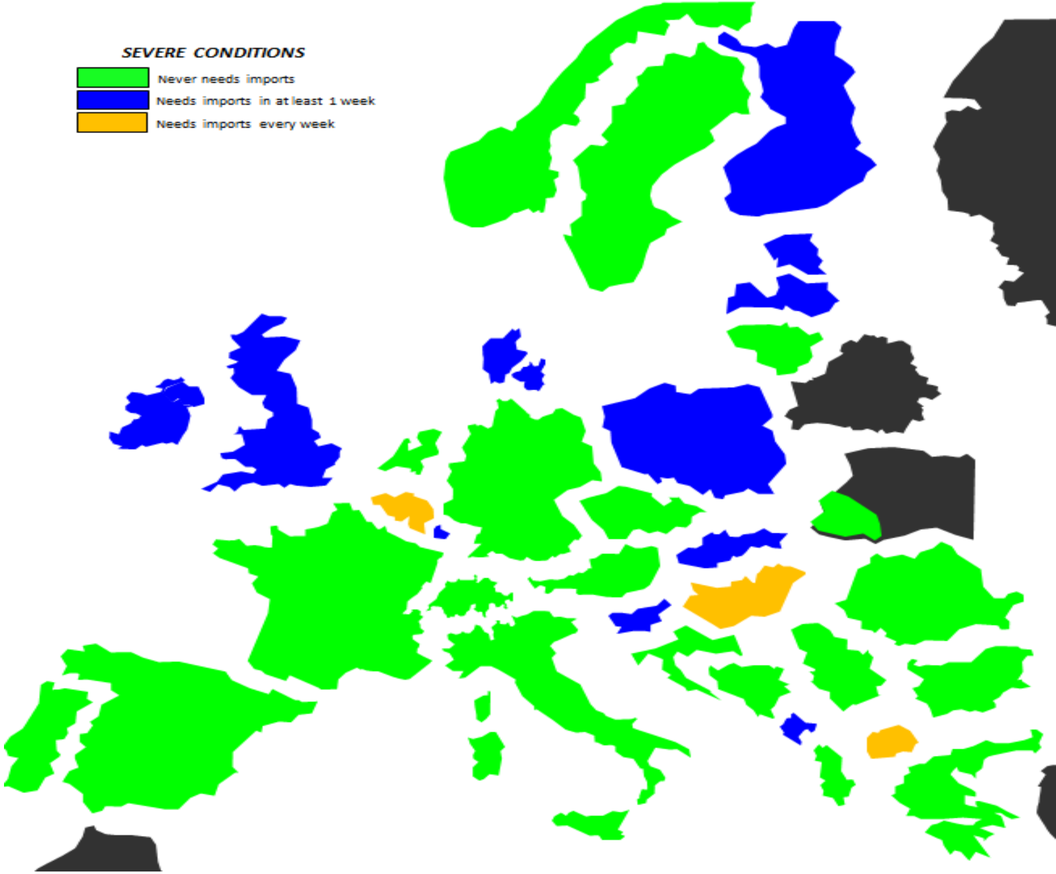
Reminder Summer Outlook 2015

Summer Outlook 2015 *Overview*

- In general, Europe has sufficient generation in both normal and severe conditions

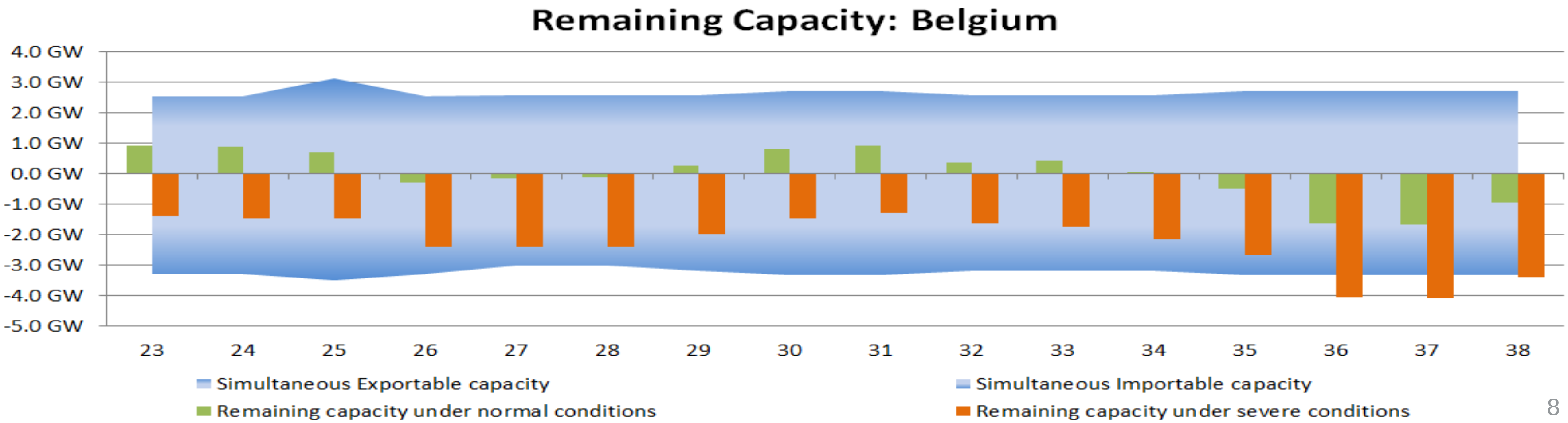
- The methodology includes a regional analysis (taking into account cross-border exchanges)

- Consistent input scenarios are used for the renewables infeed and temperatures (influencing demand) (Pan-European Climate Database)



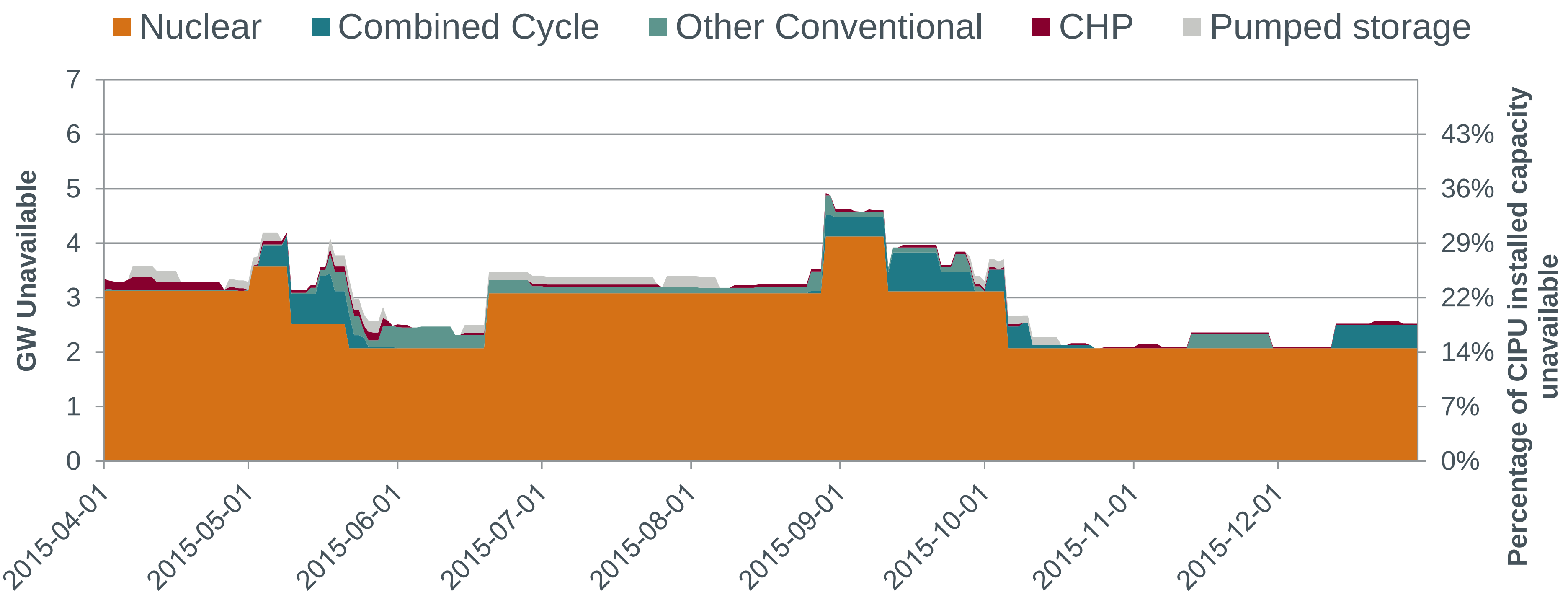
Summer Outlook 2015 *Situation for Belgium*

- For the first time a potentially increased risk of encountering adequacy issues might occur at the end of the summer period;
- This situation is mainly due to high maintenance levels of conventional generation and could arise when situations of low renewables infeed coincide with a significant number of conventional units that are unplanned unavailable;
- The graph below depicts the Belgian situation at noon under normal and severe conditions: the latter reflects increased demand, Forced Outages of generation, low renewable infeed.



Conventional Generation planned unavailability

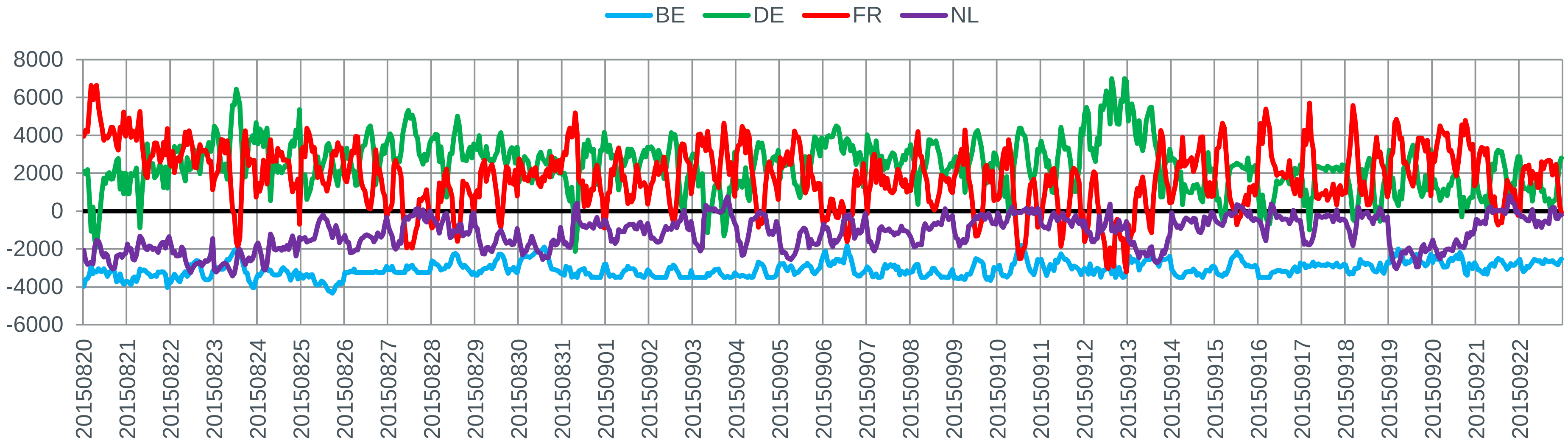
for Belgium, *per generation type*

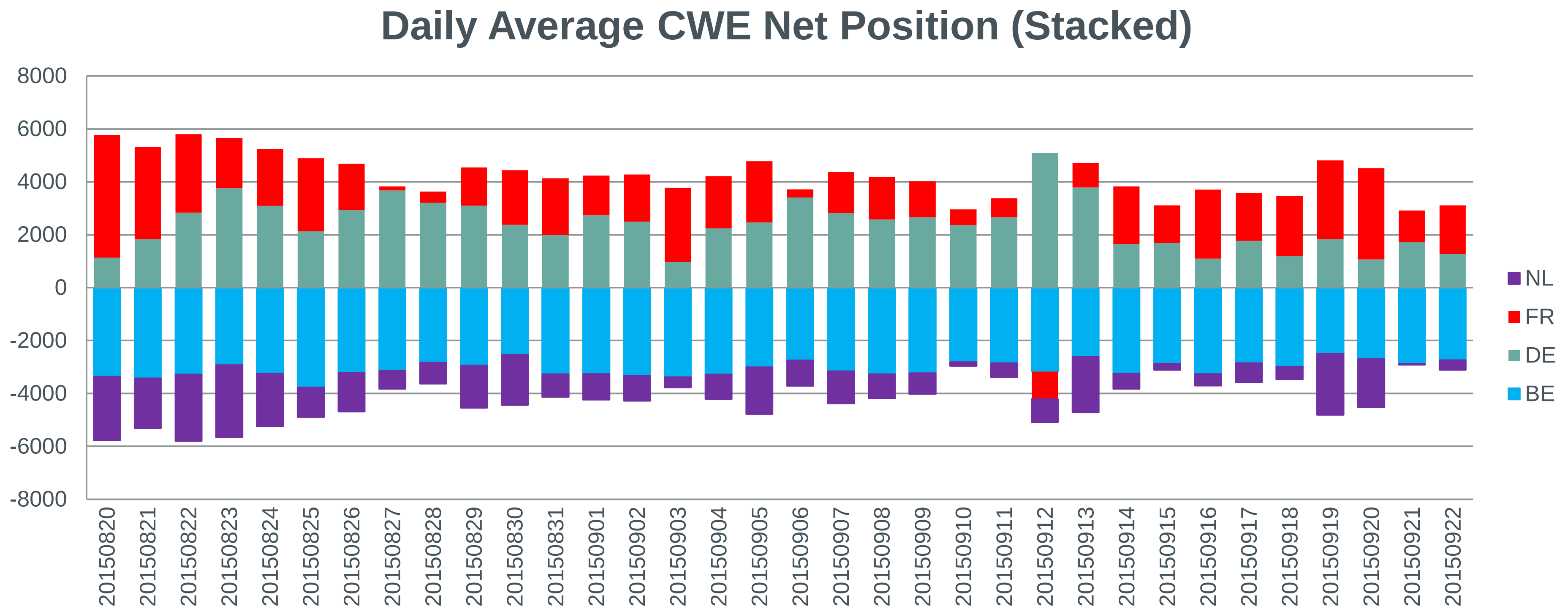


For reference: total installed ca. 13.8 GW

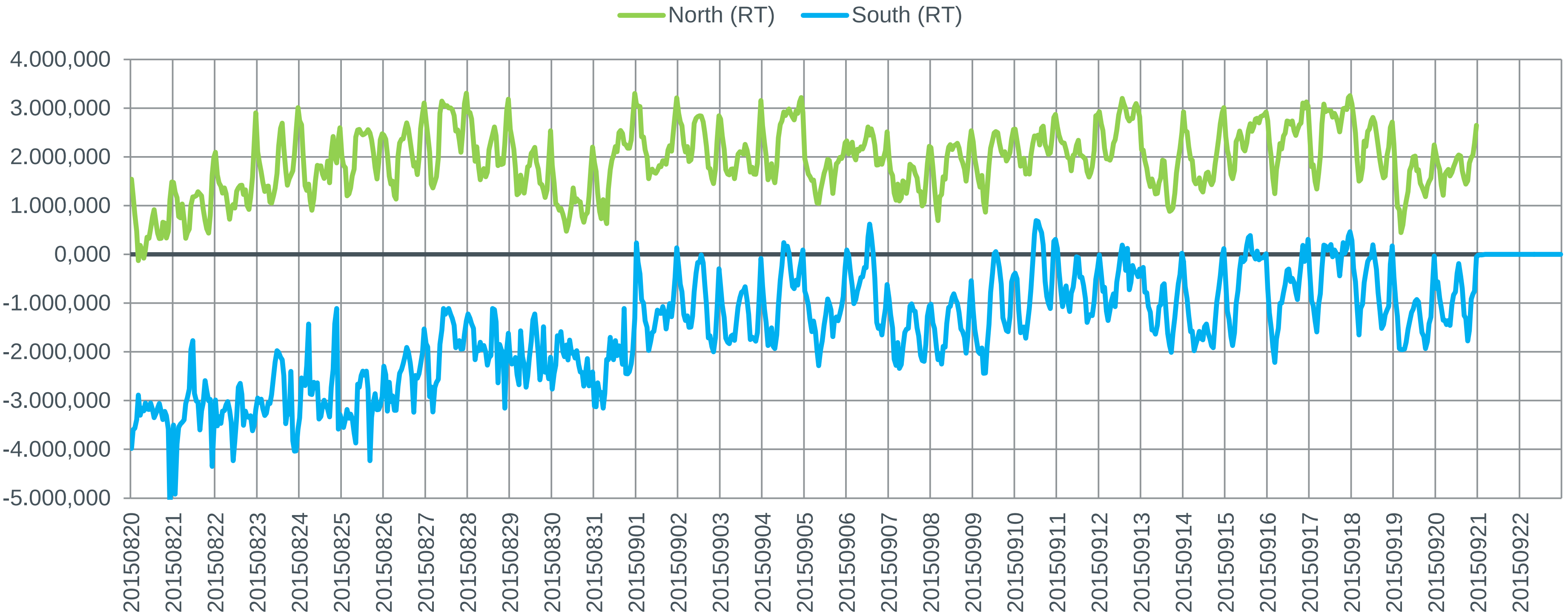
FB Results 20.08 – 22.09

CWE Net Positions




Daily Average CWE Net Position (Stacked)
8000
6000
4000
2000
0
-2000
-4000
-6000
-8000
20150820
20150821
20150822
20150823
20150824
20150825
20150826
20150827
20150828
20150829
20150830
20150831
20150901
20150902
20150903
20150904
20150905
20150906
20150907
20150908
20150909
20150910
20150911
20150912
20150913
20150914
20150915
20150916
20150917
20150918
20150919
20150920
20150921
20150922
NL
FR
DE
BE

RT flux


North (RT)
South (RT)
4.000,000
3.000,000
2.000,000
1.000,000
0,000
-1.000,000
-2.000,000
-3.000,000
-4.000,000
-5.000,000
20150820
20150821
20150822
20150823
20150824
20150825
20150826
20150827
20150828
20150829
20150830
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20150901
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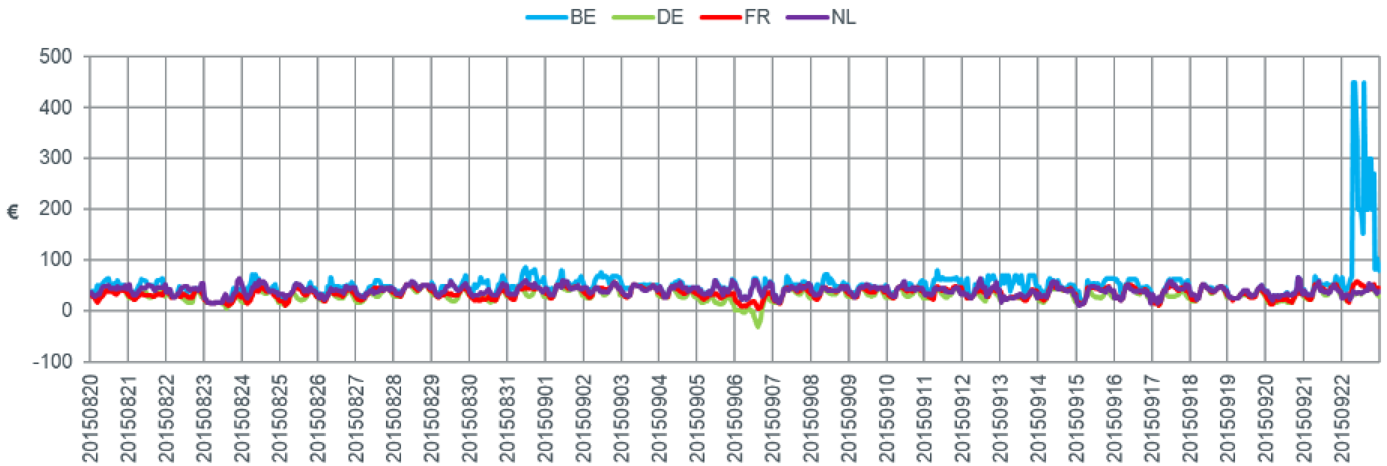
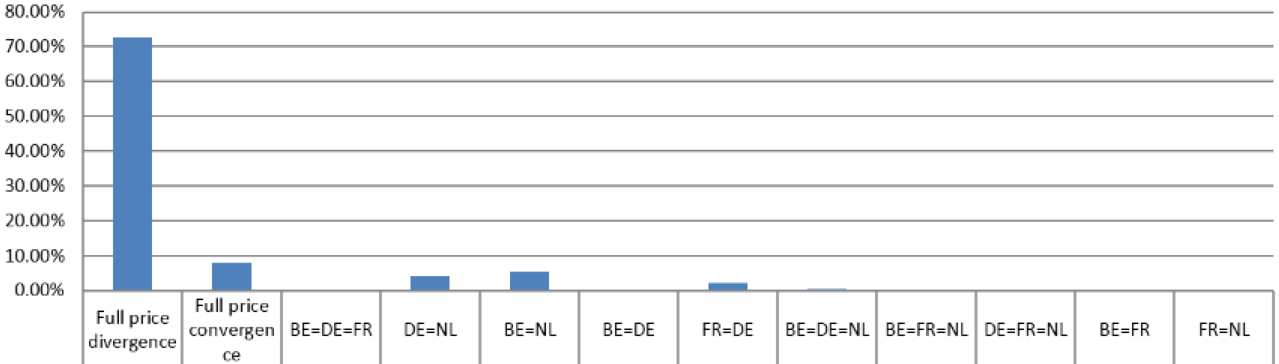
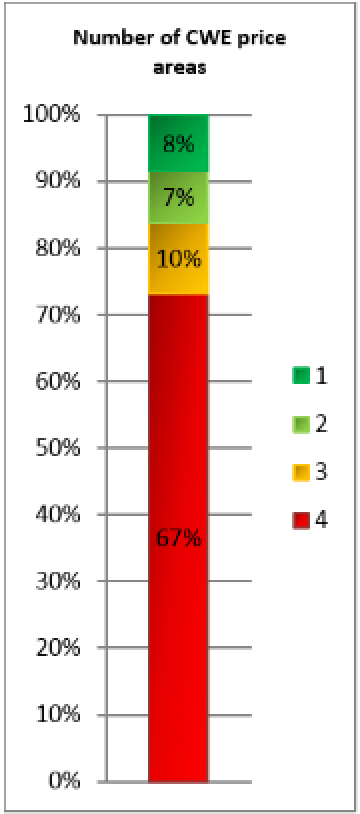
20150922

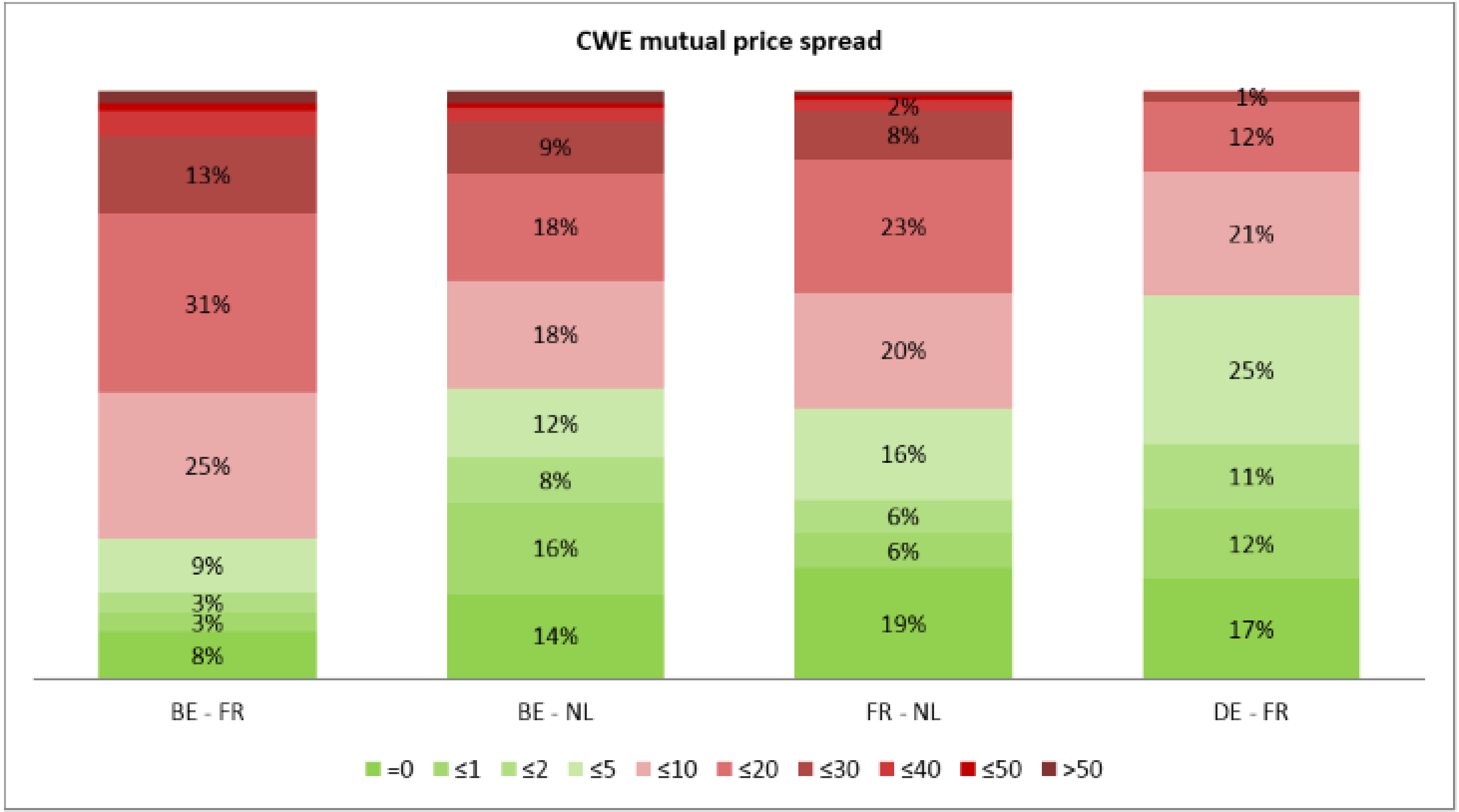
Price convergence



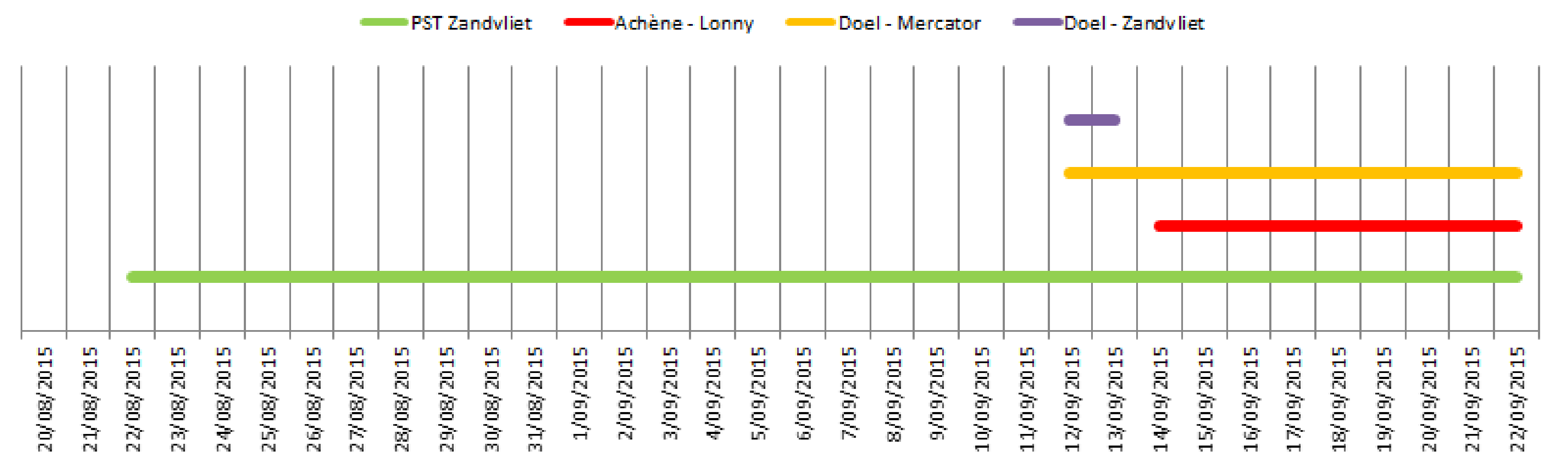
Price	BE	DE	FR	NL	All
Average	€ 50.51	€ 30.73	€ 34.56	€ 39.39	€ 38.80
Min	€ 12.09	€ -29.93	€ 4.17	€ 10.25	€ -29.93
Max	€ 448.70	€ 55.10	€ 58.00	€ 65.00	€ 448.70




Number of CWE price areas
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
8%
7%
10%
67%
1
2
3
4


CWE mutual price spread
13%
31%
25%
9%
3%
3%
8%
9%
18%
18%
12%
8%
16%
14%
2%
8%
23%
20%
16%
6%
6%
19%
1%
12%
21%
25%
11%
12%
17%
BE - FR
BE - NL
FR - NL
DE - FR
=0
≤1
≤2
≤5
≤10
≤20
≤30
≤40
≤50
>50

Important Outages



Context & market results 22.09 – 23.09

Context

- Tihange 1NS communicated as being unavailable until 30/09.

- Elia foresaw no immediate adequacy issues if no additional outages would occur; situation comparable to last week.

- Situation to be followed-up closely.

Day-Ahead Market Coupling Session for 22/09

- During the first run, a market price > 500€/MWh was reached for the Belgian hub during one hour (hour 16)

- As foreseen, this triggers a Second Auction: orderbooks are reopened for 10 minutes at 12:45. Market parties had the opportunity to update their order books for all hours (not only hour 16). Afterwards a second run of the Market Coupling Algorithm is executed.

- At 13:38 the Market Coupling session ended successfully. Thresholds are not reached anymore.

Day-Ahead Market Coupling Results for 22/09

Date: 22-09-2015

Hours	BE	DE	FR	NL
00 -> 01	65.74	27.19	32.49	23.75
01 -> 02	41.80	25.74	29.18	26.00
02 -> 03	39.31	23.58	27.80	29.47
03 -> 04	41.80	18.56	19.95	31.30
04 -> 05	49.94	20.45	16.15	28.38
05 -> 06	60.00	24.25	29.64	23.00
06 -> 07	66.66	34.11	39.28	30.40
07 -> 08	448.70	32.53	50.79	38.00
08 -> 09	448.70	32.57	53.75	36.96
09 -> 10	334.72	34.22	58.00	34.42
10 -> 11	200.00	35.90	55.33	36.65
11 -> 12	200.00	36.07	53.00	36.61
12 -> 13	199.00	32.75	49.92	34.39
13 -> 14	151.46	36.73	49.02	36.73
14 -> 15	448.70	38.25	48.01	37.86
15 -> 16	200.00	40.37	43.86	40.37
16 -> 17	200.00	40.82	42.53	40.82
17 -> 18	300.00	41.70	41.67	54.68
18 -> 19	300.00	42.06	41.75	44.94
19 -> 20	200.00	44.99	46.88	49.94
20 -> 21	270.00	40.81	52.04	41.15
21 -> 22	81.30	37.25	44.68	39.96
22 -> 23	102.02	33.10	44.16	34.96
23 -> 24	80.00	28.51	43.13	37.95
Average 00 -> 24	188.74	33.44	42.21	36.20

Analysis of the situation for 22/09

- NL=>BE is a limiting element all day long (direction North-South). However NL-DE border also limiting on some hours.
- Outage of 380.19 since more than one week. This did not cause any issues until now. Last week it was mainly DE that was exporting.
- There was no change in the Elia grid compared to previous days/week. Nor concerning available remedial actions in Flow-Based.
- Therefore, high prices for 22.09 must mainly be caused by differences in order books (less renewable, Tihange 1, etc…)

Actions taken for business dates 23.09 and 24.09

- Topology in Doel & Mercator have been preventively changed to reduced N=>S flows (coordinated with neighboring TSOs and Coreso).
- Works on Achene – Lonny (380.10 & 380.19) have been cancelled, 380.19 has been taken back into service the evening of 22.09.
- The maximum import (as external constraint) has been increased from 3500MW towards 4000MW.
- Forecasts and analysis for coming days has been made (see next slides)

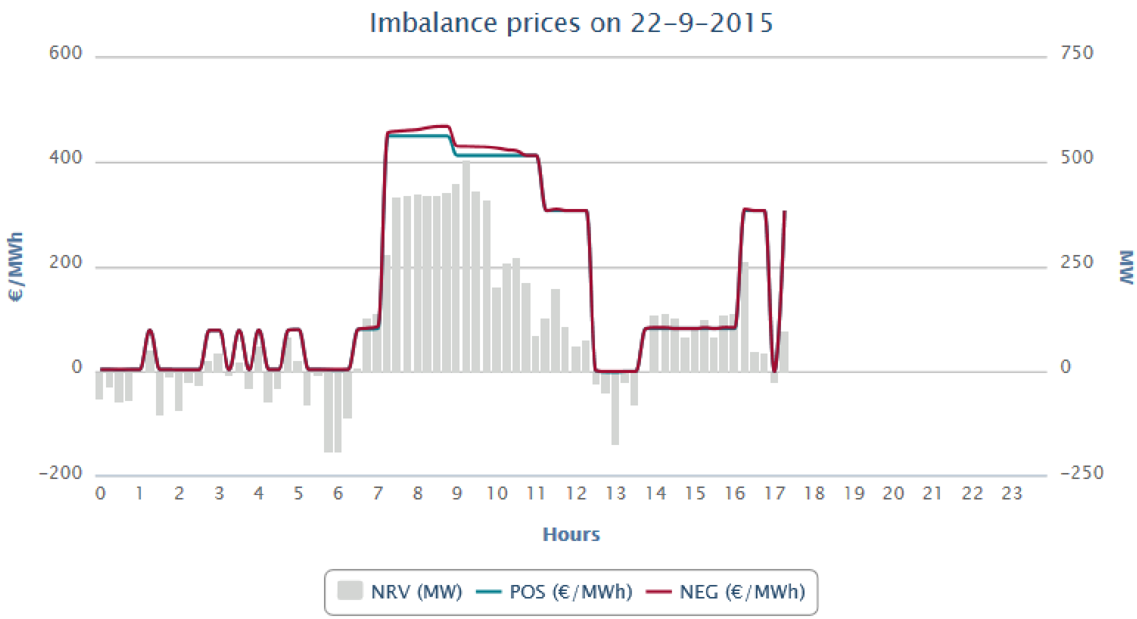
Day-Ahead Market Coupling Results for 23/09

Date: 23-09-2015

Hours	BE	DE	FR	NL
00 -> 01	49.32	30.96	41.52	30.96
01 -> 02	36.10	28.55	32.47	32.07
02 -> 03	33.99	28.33	30.07	33.40
03 -> 04	**27.71**	**27.71**	**27.71**	**27.71**
04 -> 05	28.53	28.53	28.53	28.53
05 -> 06	33.20	33.20	33.20	33.20
06 -> 07	49.29	45.47	47.87	43.20
07 -> 08	65.61	47.98	55.50	41.13
08 -> 09	70.43	**59.39**	**63.72**	**55.60**
09 -> 10	**120.00**	55.55	63.13	55.55
10 -> 11	64.46	54.90	58.57	51.67
11 -> 12	57.54	55.61	56.32	54.99
12 -> 13	55.28	51.30	52.56	50.00
13 -> 14	49.91	49.91	49.91	49.91
14 -> 15	51.54	48.81	50.20	47.50
15 -> 16	51.86	46.96	49.87	44.13
16 -> 17	52.45	47.03	50.10	44.17
17 -> 18	51.48	47.92	50.10	45.85
18 -> 19	53.08	46.81	51.19	42.51
19 -> 20	60.61	50.07	56.98	43.03
20 -> 21	70.33	46.80	57.49	36.80
21 -> 22	49.70	43.99	48.32	42.18
22 -> 23	56.90	33.94	44.64	39.96
23 -> 24	48.00	28.26	44.53	34.94
Average 00 -> 24	53.64	43.25	47.69	42.04

Imbalance prices on 22-09-2015

- All morning Elia had to activate tertiary reserves (R3+R3DP)
- Imbalance prices have reached €466,91/MWh.
- During afternoon situation has stabilized.
- N-1 on generation was still covered.



Forecasts for the coming days

Forecasts for the coming days

Elia Total Load

- Is expected to remain +/- stable for weekdays around 11400MW

Solar Forecasting

- A decrease is expected for 23.09 (-200MW) and 24.09 (-200MW) increasing back again on Friday 25.09 (+800MW)

Wind Forecasting

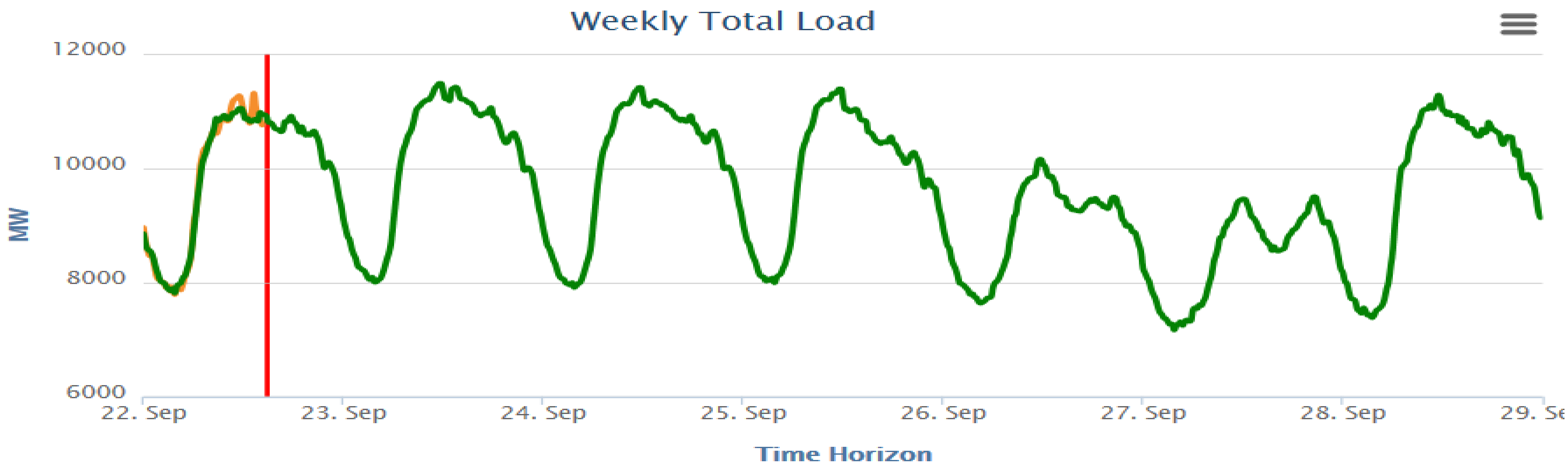
- On average +400-500MW is expected for 23.09 and 24.09, however for Friday very little wind expected (-800MW)

Conclusion (based on actual forecasts!): Load remaining stable and more wind being compensated by less solar a status quo is expected for the next days

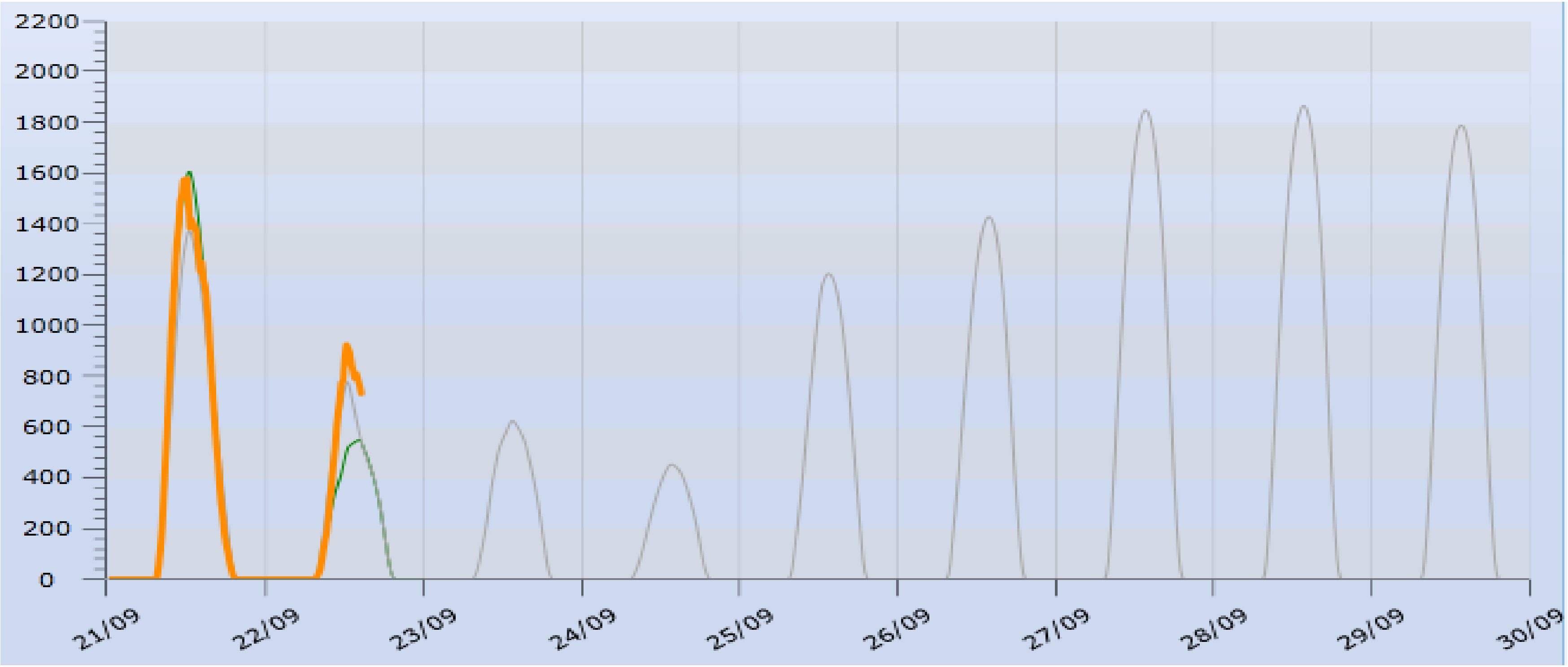
Total load

Total Load: weekly view

Begin date: 2015-09-22 End date: 2015-09-29 GO



Solar



2200
2000
1800
1600
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600
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0
21/09
22/09
23/09
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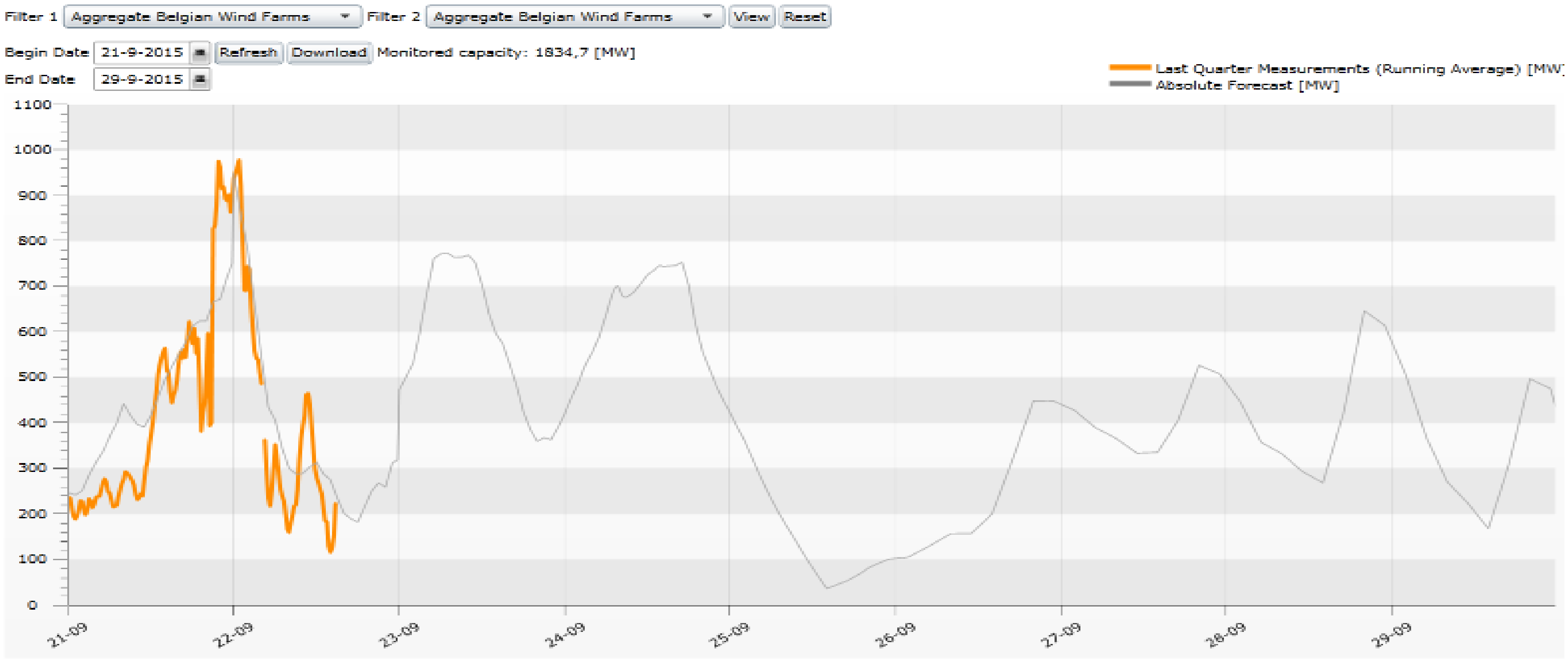
26/09
27/09
28/09
29/09
30/09

Wind


Filter 1 Aggregate Belgian Wind Farms
Filter 2 Aggregate Belgian Wind Farms
View
Reset
Begin Date 21-9-2015
Refresh
Download
Monitored capacity: 1834,7 [MW]
End Date 29-9-2015
Last Quarter Measurements (Running Average) [MW]
Absolute Forecast [MW]
1100
1000
900
800
700
600
500
400
300
200
100
0
21-09
22-09
23-09
24-09
25-09
26-09
27-09
28-09
29-09