



**Transelectrica®**  
Societate Administrată în Sistem Dualist

# **MARKET MONITORING REPORT**

## **Balancing Market**

### **August 2020**

ANRE - Romanian Energy Regulatory Authority  
HHI - Herfindahl-Hirschman Index  
BRP - Balance Responsible Party  
BM - Balancing Market  
DAM - Day Ahead Market  
TSO - Transmission System Operator  
DU – Dispatchable Unit  
PN – Physical Notification  
NDC - National Dispatching Center  
C1 – The market share of the largest market participant  
C3 – Total market share of top 3 market participants  
NPS – Minimum number of residual generators  
TTC – Total Transfer Capacity  
NTC – Net Transfer Capacity  
ATC – Available Transfer Capacity

According to the Commercial Code, Transelectrica, the Romanian Transmission System Operator, operates and monitors the activity of 3 types of markets: Balancing Market, Ancillary Services Market and Market for Allocation of Cross-Border Capacities.

Using the records from the markets data bases, Transelectrica prepares daily, weekly and monthly monitoring reports. A part of the data included in these reports (those data which are not confidential) are published on the website [www.transelectrica.ro](http://www.transelectrica.ro) (section Transparency).

# Balancing Market

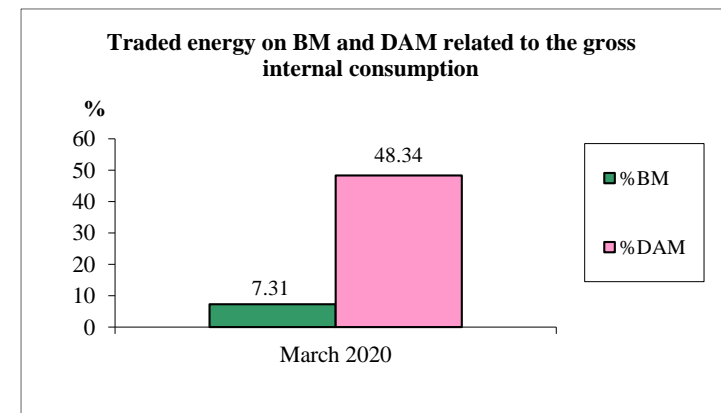
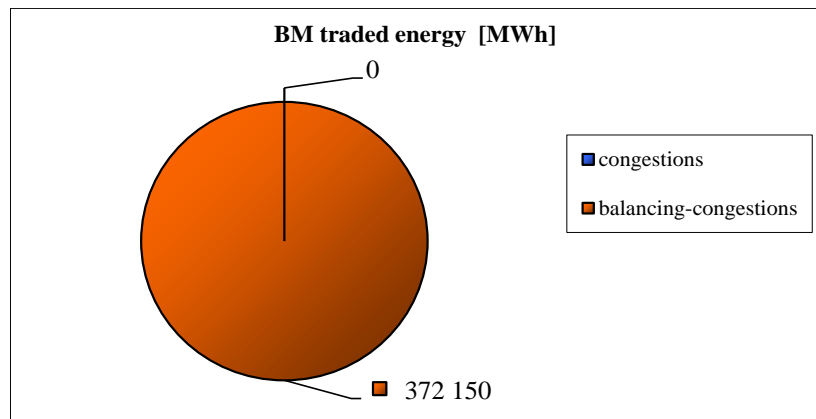


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## The Balance Generation/Consumption

- The average monthly value of generated power was 6 324 MW and the actual internal gross consumption was 6 528 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **1.67%**. Bigger differences were registered in case of consumption values resulted as the sum between notified production and total scheduled exchanges with the neighbouring power systems. In this case the standard monthly deviation value was **3.18%**. The greatest daily deviation regarding the notifications was registered in **26<sup>th</sup> of August (5.70%)**.
- The energy used in August 2020 for balancing the power system and congestion management was 212 154 MWh (with an average power of 285 MW, which means **4.37%** from the internal gross consumption). No transactions were made for congestion management.
- The energy traded in August 2020 on Day Ahead Market was 1 852 771 MWh (with an average power of 2 490 MW, which means **38.15%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was 24 828 716 lei (with an average weighted price of 117,03 lei/MWh), from which:
  - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for balancing was de 24 828 716 lei (from which startup cost 0 lei);
  - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for congestion management was 0 lei.





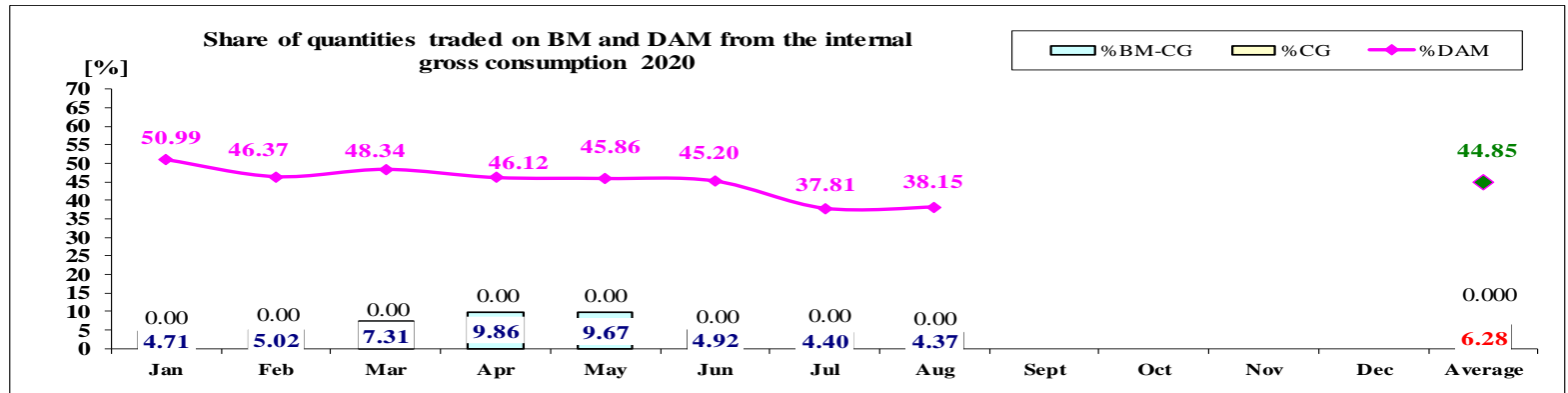
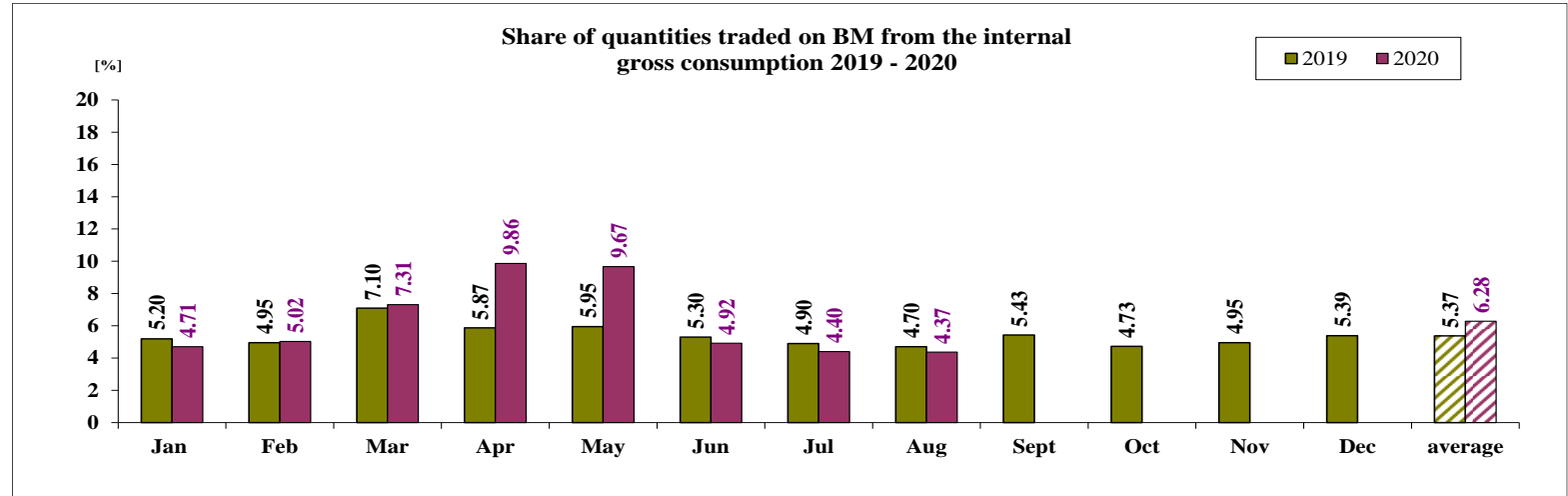
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# Balancing Market

## The Balance Generation / Consumption

• Monthly percentage values resulted are calculated as ratio between traded volumes on BM and gross internal consumption. The annual average value was calculated as average of monthly values. (BM – Balancing Market, DAM – Day Ahead Market, BM-CG – difference between Balancing Market and traded volume on congestion).



2020													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
%BM	4.71	5.02	7.31	9.86	9.67	4.92	4.40	4.37					6.28
%DAM	50.99	46.37	48.34	46.12	45.86	45.20	37.81	38.15					44.85
%CG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
%BM-CG	4.71	5.02	7.31	9.86	9.67	4.92	4.40	4.37					6.28

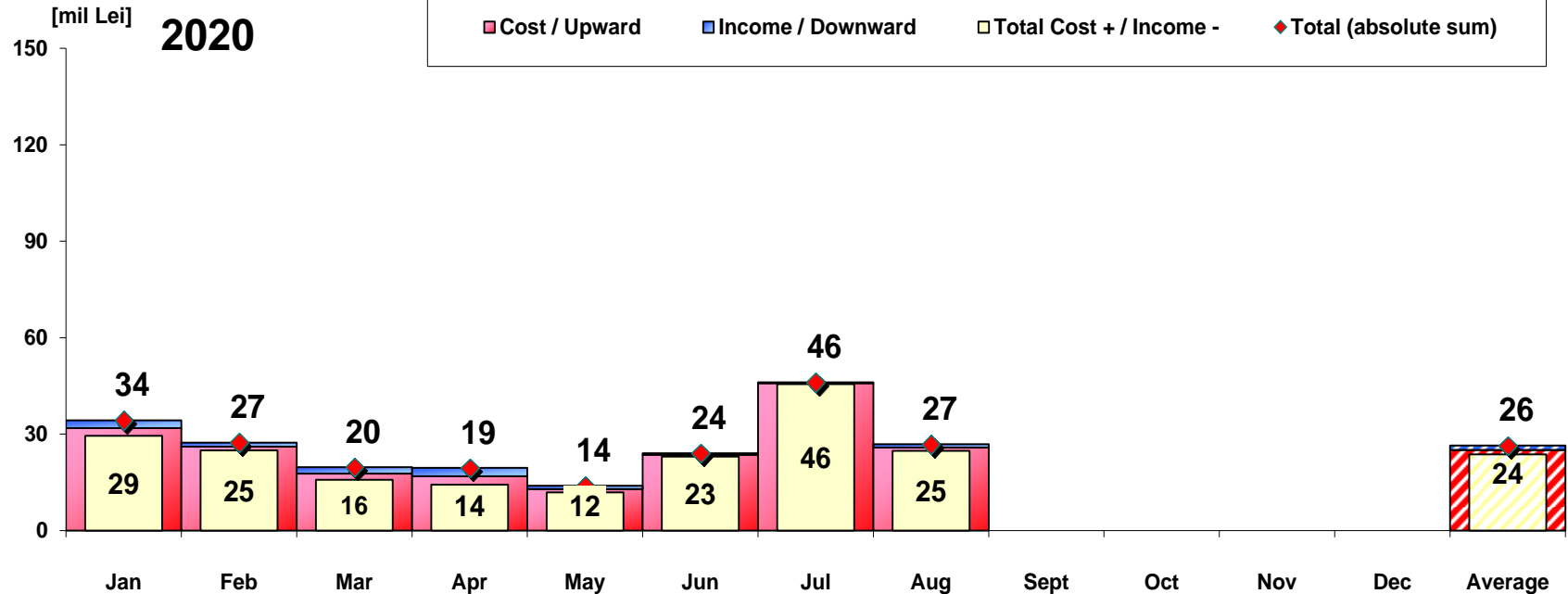
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# Balancing Energy Market Transactions



[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	31 888 098	26 145 180	17 762 040	16 885 892	12 922 176	23 543 913	45 840 936	25 852 709					25 105 118	200 840 943
Income / Downward	2 431 458	1 215 818	1 941 606	2 607 194	1 041 810	489 075	275 593	1 023 993					1 378 318	11 026 547
CE Cost	0	0	0	0	0	0	0	0					0	0
Total Cost + / Income -	29 456 640	24 929 362	15 820 434	14 278 698	11 880 365	23 054 838	45 565 343	24 828 716					23 726 799	189 814 396
Total (absolute sum)	34 319 556	27 360 998	19 703 646	19 493 085	13 963 986	24 032 988	46 116 528	26 876 702					26 483 436	211 867 490

CE – Congestion Energy

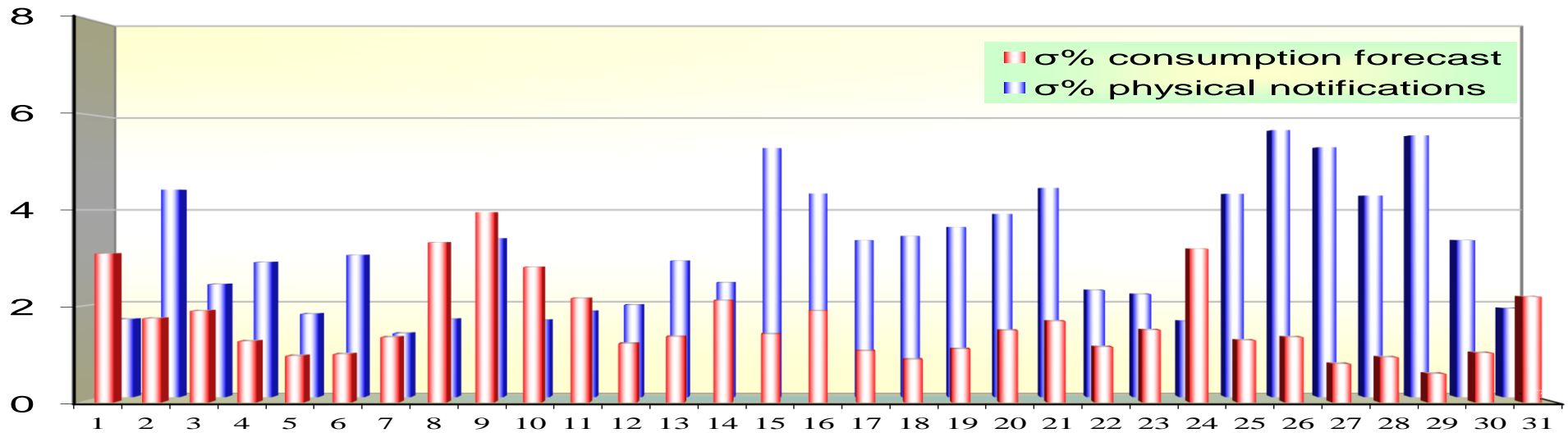
\* The average annual value of BM transactions (the absolute sum of upward and downward transactions) was calculated as average of monthly values.



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# Balancing Market

Standard deviation of physical notifications and consumption forecast against the actual consumption in August 2020



aug 2020

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
σ% consumption forecast	3.09	1.74	1.90	1.27	0.97	1.00	1.35	3.32	3.95	2.81	2.16	1.22	1.36	2.12	1.42	1.90	1.07	0.89	1.11	1.50	1.69	1.15	1.51	3.19	1.29	1.35	0.80	0.94	0.59	1.03	2.19
σ% physical notifications	1.66	4.43	2.41	2.88	1.78	3.03	1.36	1.66	3.39	1.64	1.83	1.97	2.91	2.44	5.32	4.35	3.35	3.44	3.63	3.91	4.47	2.28	2.20	1.62	4.34	5.70	5.34	4.31	5.59	3.35	1.89

**σ<sub>average% consumption forecast</sub> = 1.67**

**σ<sub>average % physical notifications</sub> = 3.18**

$$\sigma_{\text{average\% consumption forecast}} = \frac{\sqrt{\frac{1}{n} \sum_{i=1}^n (R - P)^2}}{R} \cdot 100$$

$$\sigma_{\text{average\% notifications}} = \frac{\sqrt{\frac{1}{n} \sum_{i=1}^n (R - N)^2}}{R} \cdot 100$$

**R = Realized Consumption;**

**N = Physical Notifications;**

**P = Consumption Forecast.**



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# Balancing Market

## Balancing energy – Selected prices and quantities

• At the beginning of the month, 67 BRPs and 109 market participants operated on BM, holding 205 dispatchable units in commercial operation. Starting with 5<sup>th</sup> of August 2020, BRP WIEE ROMANIA S.R.L. (30XROWIEE ----- W) was removed from the BRP list with its license withdrawn. The dispatchable production unit Oravița (30W-ORAVITA ---- A) was removed from the UD list on 5<sup>th</sup> of August 2020 following the withdrawal of the license of the participant LC BUSINNES S.R.L. (30XROLCBUSINESSP) and was reintroduced in the DU list starting with the date of 10 August 2020 to BMP NRX WIND SRL (30XRONRXWINDPAKE). Starting with 10<sup>th</sup> of August 2020, BMP CUJMIR SOLAR S.A. (30XROCUEJMIR ---- I) was removed from the BMP list, and the dispatchable production unit EDPRSOLAR (30W-EDPRSOLAR - 3) was registered with BMP EDPR ROMANIA S.R.L. (former IALOMITA POWER S.R.L.).

### August 2020

#### Downward regulation

Downward regulation	Prices [lei/MWh]			Quantities [MWh]			Participants						
	Monthly	Maximum	Minimum	Total	Actually	Deviation	C1	C3	C1	C3	HHI	HHI	
	average			selected	delivered	%	Number	(selected)	(actually delivered)	(selected)	(actually delivered)		
Secondary	0.67	5.00	0.10	49339.60	49339.60	0.00%	3	38.53%	100.00%	38.53%	100.00%	3389	3389
Fast Tertiary	8.81	759.93	0.10	115886.46	112348.95	3.05%	11	41.24%	91.03%	41.78%	91.11%	2994	3016
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				165226.06	161688.55	2.14%							

#### Upward regulation

	Monthly	Maximum	Minimum	Total	Actually	Deviation	C1	C3	C1	C3	HHI	HHI	
	average			selected	delivered	%	Number	(selected)	(actually delivered)	(selected)	(actually delivered)		
Secondary	634.55	856.98	496.23	23144.47	23144.47	0.00%	3	39.44%	100.00%	39.44%	100.00%	3403	3403
Fast Tertiary	408.77	856.50	0.10	28698.89	27321.03	4.80%	11	52.38%	88.56%	51.98%	88.97%	3766	3765
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				51843.37	50465.50	2.66%							





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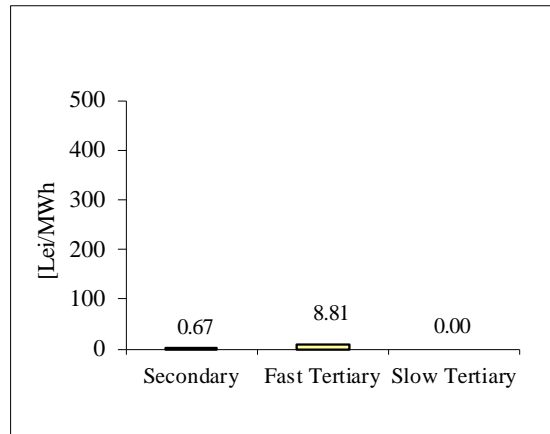
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# Balancing Market

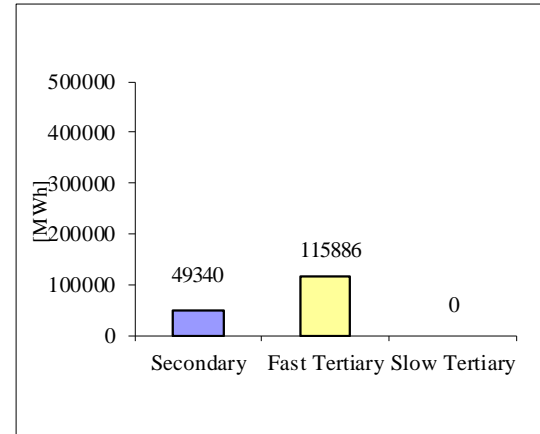
## Balancing energy – Selected prices and quantities in August 2020

August 2020

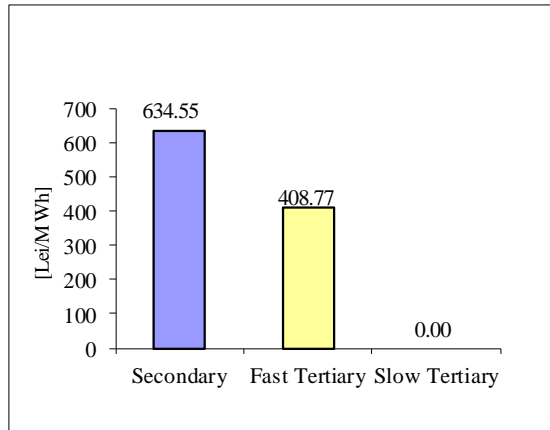
Downward regulation - average price [lei/MWh]



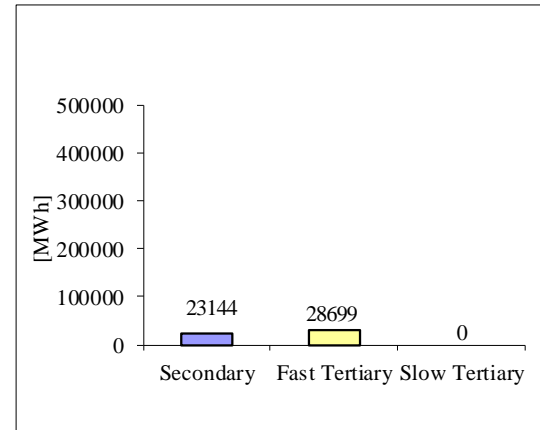
Downward regulation - selected quantities [MWh]



Upward regulation - average price [lei/MWh]



Upward regulation - selected quantities [MWh]



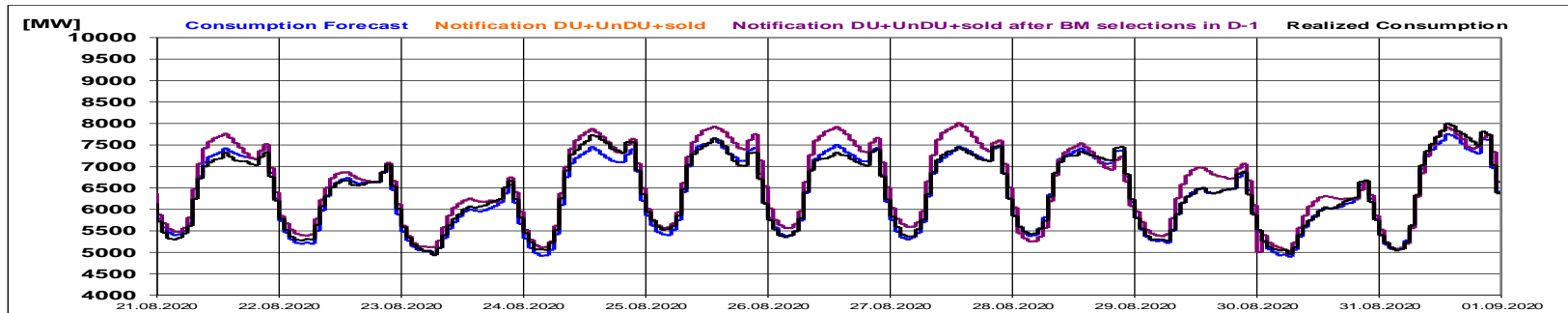
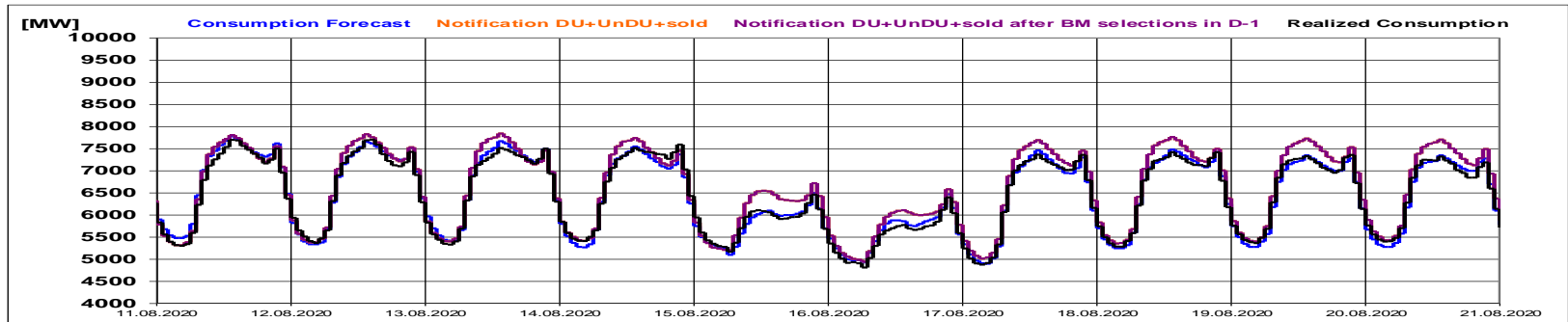
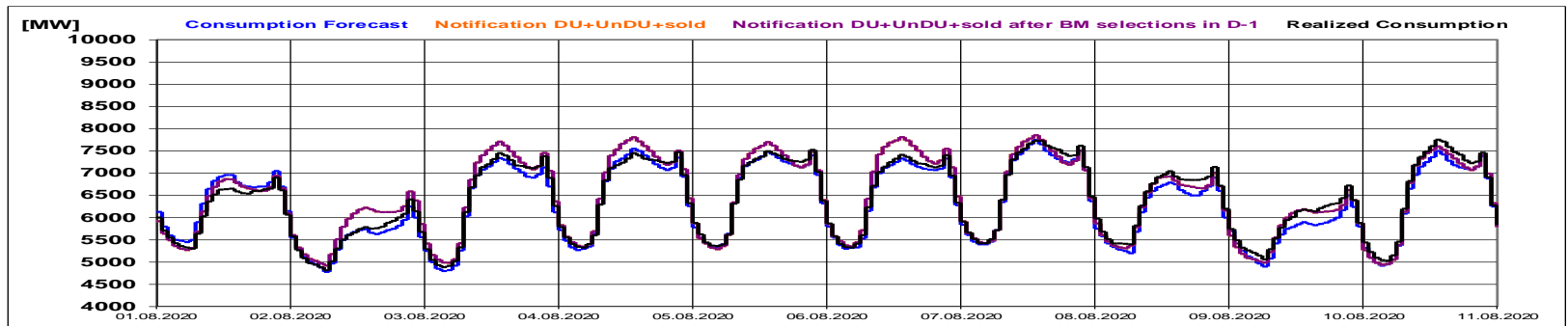


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# Balancing Market

Realized consumption, forecast, notifications,  
notifications after BM selections in D-1



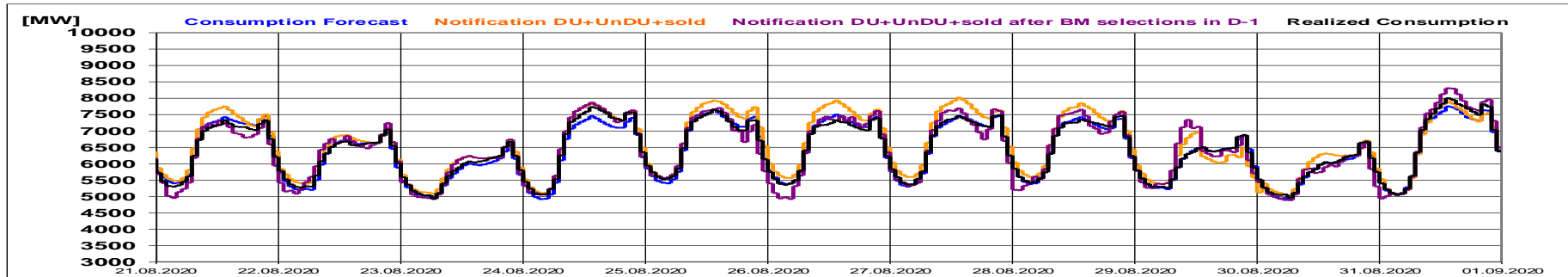
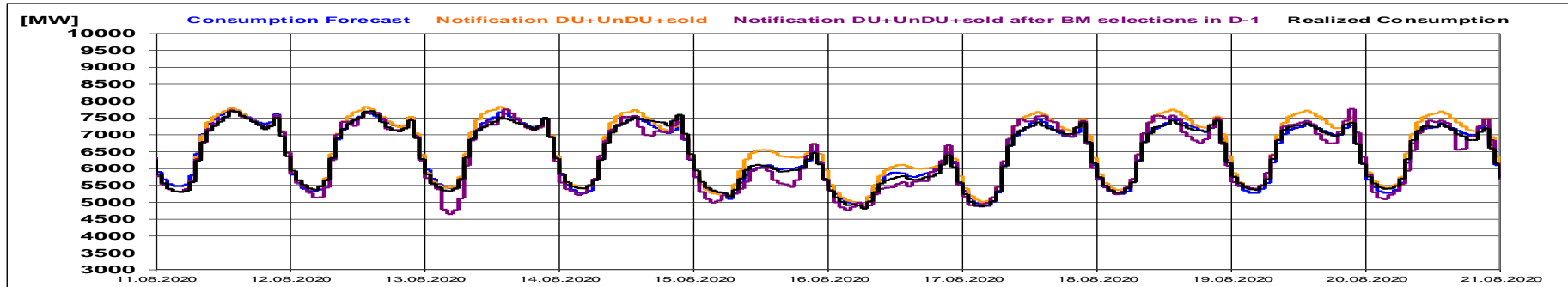
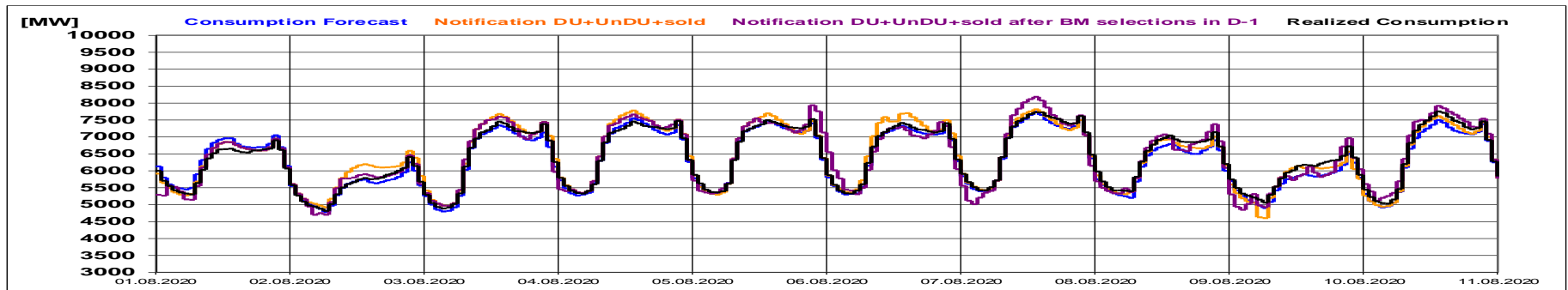


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# Balancing Market

Realized consumption, forecast, notifications, notifications after BM selections in D (end of delivery day)





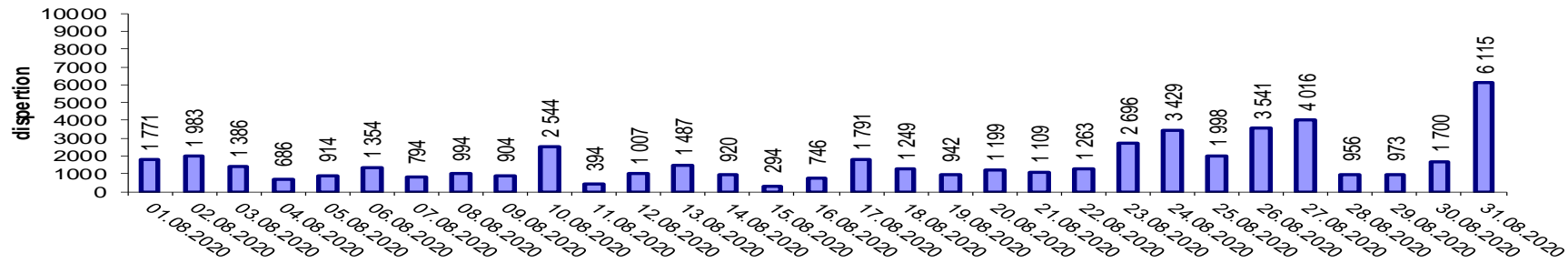
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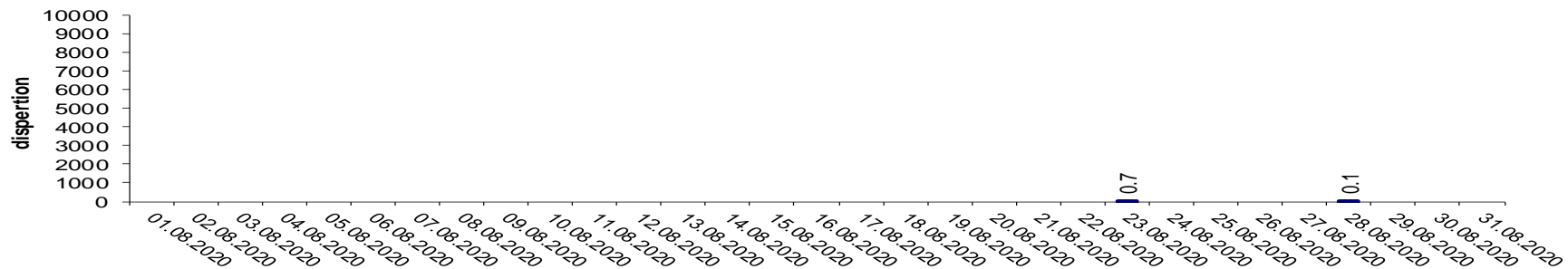
# Balancing Market

## Indicators – Price Volatility for Secondary Regulation

Price Volatility for Secondary Upward Regulation



Price Volatility for Secondary Downward Regulation



Price volatility for Secondary Downward Regulation, determined as the daily price dispersion, recorded zero values throughout the month, because of constant price values from one hour to the next.

Volatility = price dispersion on studied interval:

$$\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2$$



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