



**Transelectrica®**  
Societate Administrată în Sistem Dualist

# **MARKET MONITORING REPORT**

## **Balancing Market**

### **October 2020**

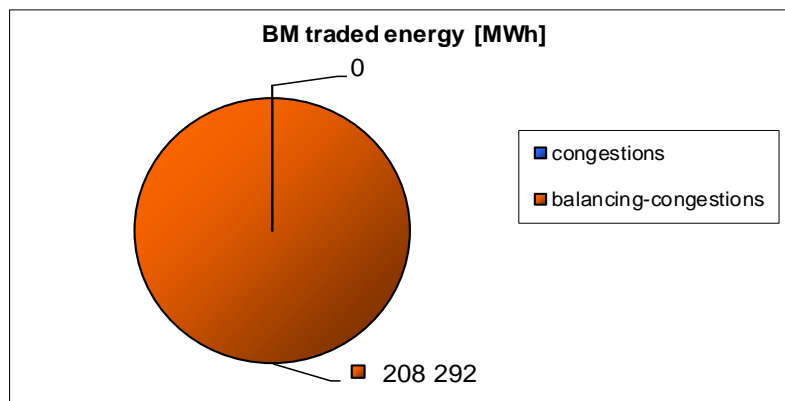
ANRE - Romanian Energy Regulatory Authority  
HHI - Herfindahl-Hirschman Index  
BRP - Balance Responsible Party  
BM - Balancing Market  
DAM - Day Ahead Market  
TSO - Transmission System Operator  
DU – Dispatchable Unit  
PN – Physical Notification  
NDC - National Dispatching Center  
C1 – The market 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.

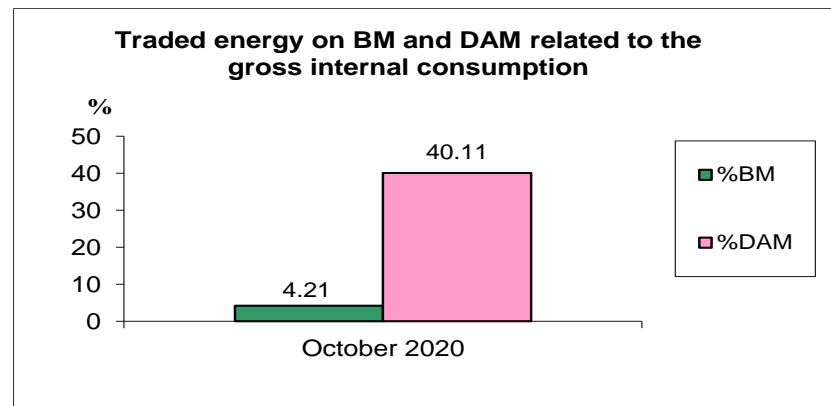
Using the records from the markets data bases. Transelectrica prepares daily. weekly and monthly monitoring reports. A part of the data included in these reports (those data which are not confidential) are published on the website [www.transelectrica.ro](http://www.transelectrica.ro) (section Transparency).

## The Balance Generation/Consumption

- The average monthly value of generated power was 6 750 MW and the actual internal gross consumption was 6 638 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **1.51%**. 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 **3.08%**. The greatest daily deviation regarding the notifications was registered in **4<sup>th</sup> of October (6.14%)**.
- The energy used in October 2020 for balancing the power system and congestion management was 208 292 MWh (with an average power of 280 MW, which means **4.21%** from the internal gross consumption). No transactions were made for congestion management.
- The energy traded in October 2020 on Day Ahead Market was 1 983 445 MWh (with an average power of 2 662 MW, which means **40.11%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was 29 435 279 lei (with an average weighted price of 141.32 lei/MWh), from which:
  - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for balancing was de 29 435 279 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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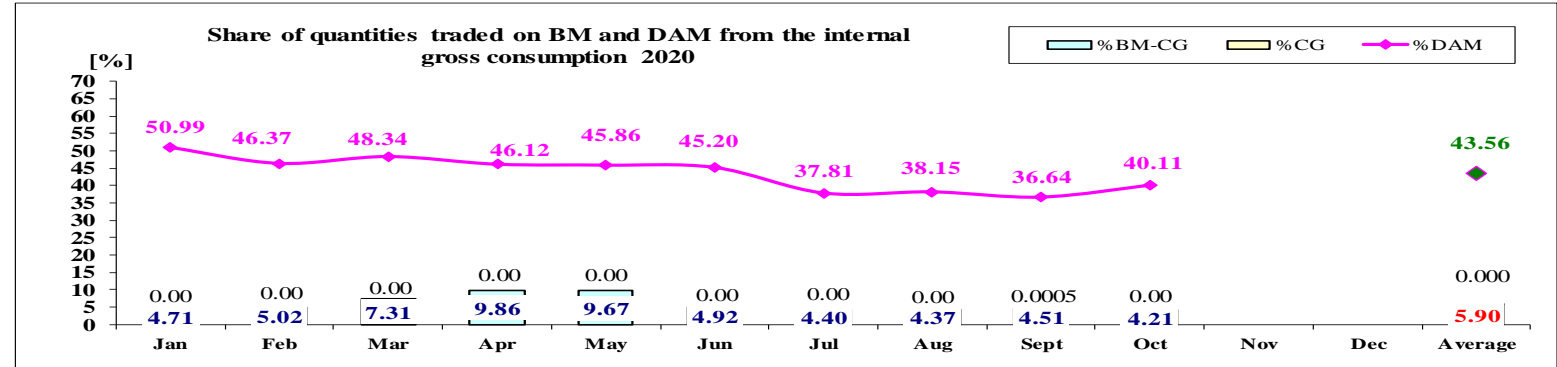
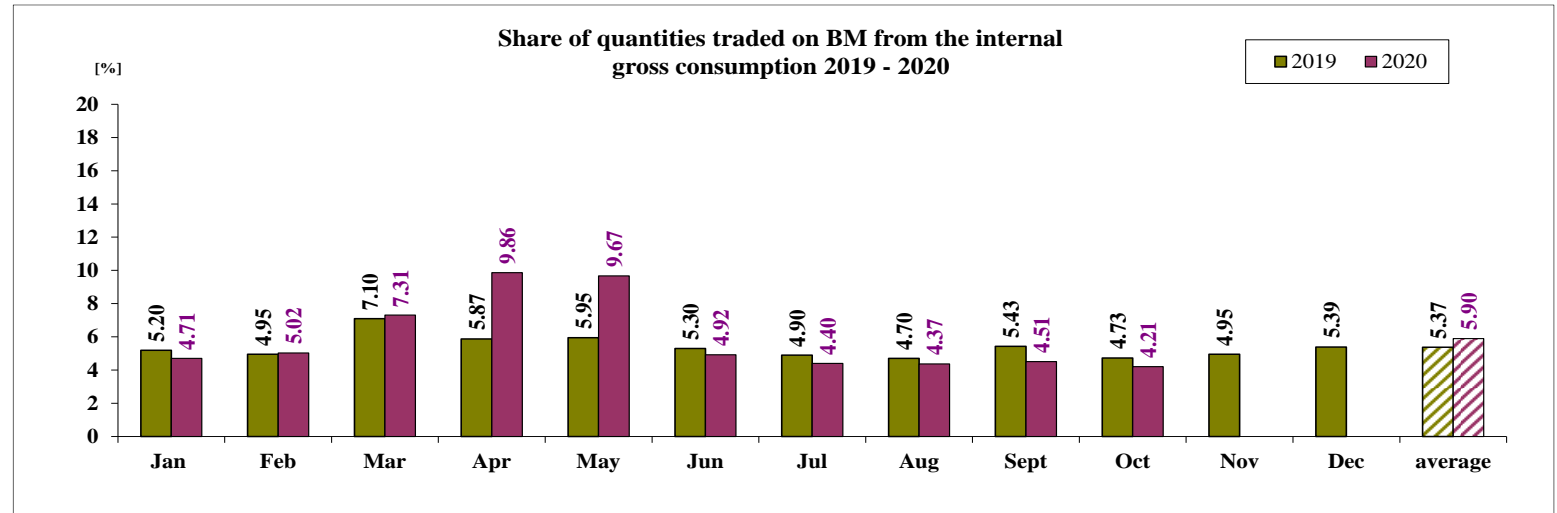
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# Balancing Market

## 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).



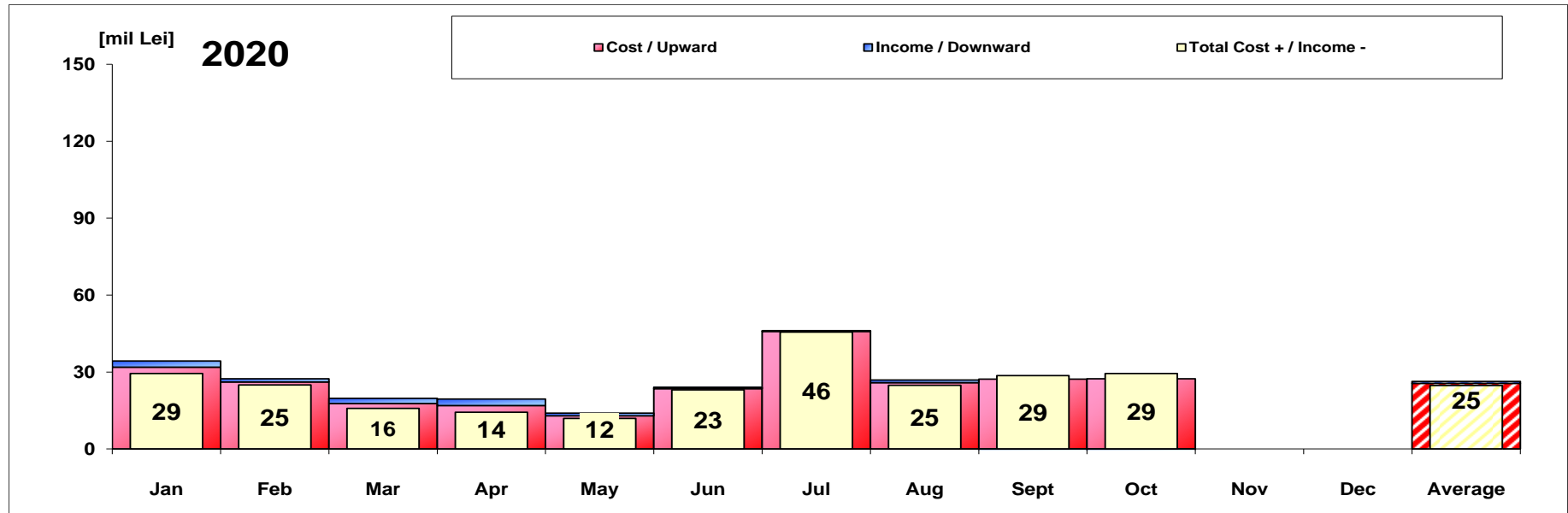
	2020												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
%BM	4.71	5.02	7.31	9.86	9.67	4.92	4.40	4.37	4.51	4.21			5.90
%DAM	50.99	46.37	48.34	46.12	45.86	45.20	37.81	38.15	36.64	40.11			43.56
%CG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0005	0.00			0.00005
%BM-CG	4.71	5.02	7.31	9.86	9.67	4.92	4.40	4.37	4.51	4.21			5.90



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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	27 215 587	27 361 341			25 541 787	255 417 871
Income / Downward	2 431 458	1 215 818	1 941 606	2 607 194	1 041 810	489 075	275 593	1 023 993	-1 350 525	-2 073 939			760 208	7 602 084
CE Cost	0	0	0	0	0	0	0	0	1 650	0			165	1 650
Cost for energy traded on the Balancing Market (includes startup cost)	29 456 640	24 929 362	15 820 434	14 278 698	11 880 365	23 054 838	45 565 343	24 828 716	28 564 461	29 435 279			24 781 414	247 814 137
Cost+/Income- (BE and CE)	29 456 640	24 929 362	15 820 434	14 278 698	11 880 365	23 054 838	45 565 343	24 828 716	28 566 112	29 435 279			24 781 579	247 815 787

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.

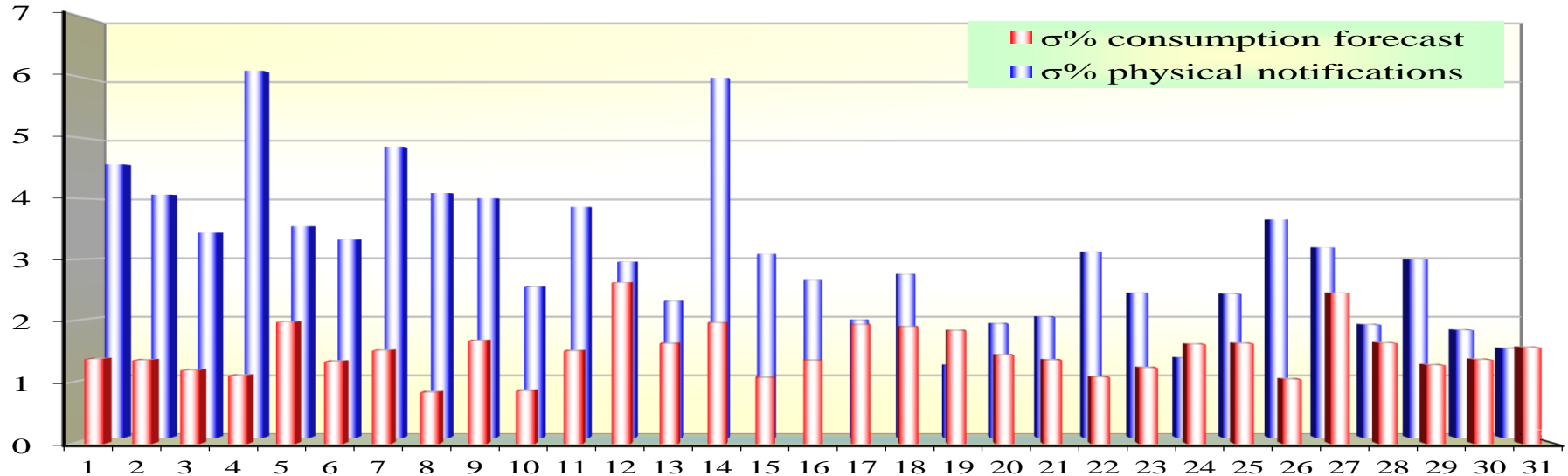


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# Balancing Market

Standard deviation of physical notifications and consumption forecast against the actual consumption in October 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	1.38	1.36	1.20	1.11	1.98	1.34	1.52	0.84	1.68	0.86	1.51	2.62	1.63	1.97	1.08	1.36	1.94	1.90	1.84	1.44	1.36	1.08	1.24	1.62	1.63	1.05	2.45	1.64	1.28	1.37	1.57
σ% physical notifications	4.58	4.07	3.43	6.14	3.54	3.32	4.87	4.10	4.01	2.52	3.87	2.94	2.29	6.02	3.07	2.63	1.97	2.74	1.21	1.91	2.02	3.11	2.42	1.33	2.41	3.66	3.19	1.89	2.99	1.80	1.49

σ<sub>average% consumption forecast</sub> = 1.51

σ<sub>average % physical notifications</sub> = 3.08

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

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

**R = Realized Consumption;**

**N = Physical Notifications;**

**P = Consumption Forecast.**

# Balancing Market

## Balancing energy – Selected prices and quantities

• At the beginning of the month, there were 67 PRE and 105 market participants operating on PE, holding 200 dispatchable units in commercial operation. Starting with 8<sup>th</sup> of October 2020, MONSSON dispatchable unit (30WUDMONSSONT - W) was introduced in the DU list, resulting from the aggregation of UDs MIREASA1, MIREASA2 and PECINEAGA2. MONSSON TRADING (30XROMONSSONET-6) was introduced in the BMP list and ECO POWER WIND S.R.L. (30XROECOPOWER - X), WIND PARK INVEST S.R.L. (30XROWINDPARKI-M) and MIREASA ENERGIES S.R.L. (30XROMIREASAEN-V) were removed. On the 24<sup>th</sup> of October, EOLIAN CENTER S.R.L. (30XROEOLCENTER-O) and M&M 2008 S.R.L. (30XROMM2008 ---- 2) were removed from the BMP list, following the withdrawal of the licenses, the corresponding production units GREBANU and TOPLICENI being taken over by BMP RA-RA PARC S.R.L. (30XRORARAPARC - C).

### October 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	-40.17	0.10	-135.00	51497.54	51497.54	0.00%	4	63.52%	98.87%	63.52%	98.87%	4707	4707
Fast Tertiary	-0.15	52.00	-129.70	120510.81	116879.38	3.01%	16	51.25%	91.77%	51.61%	91.87%	3689	3708
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				172008.35	168376.91	2.11%							

#### 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	736.87	1006.00	461.10	24652.24	24652.24	0.00%	4	64.83%	98.96%	64.83%	98.96%	4833	4833
Fast Tertiary	596.58	815.39	0.10	16150.13	15262.78	5.49%	10	47.33%	83.11%	48.89%	84.90%	3107	3248
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				40802.36	39915.01	2.17%							





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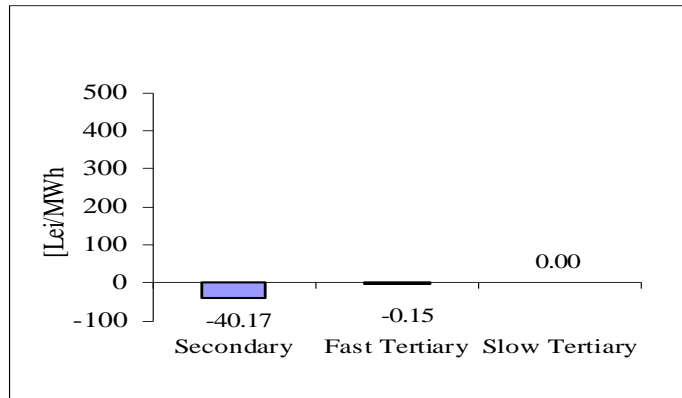
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# Balancing Market

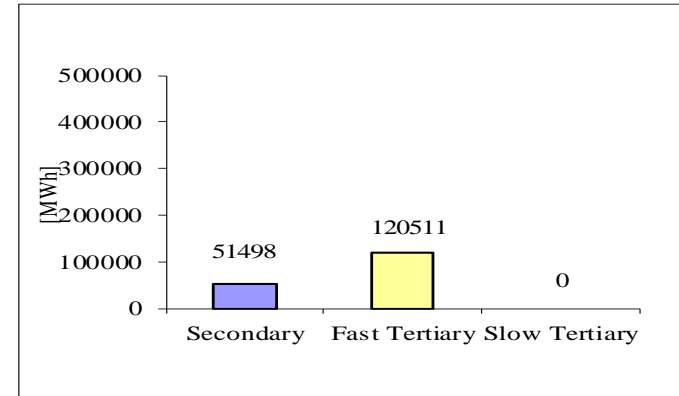
## Balancing energy – Selected prices and quantities in October 2020

October 2020

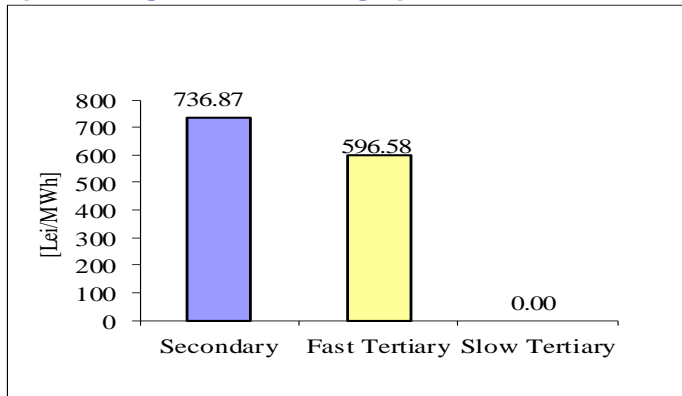
**Downward regulation - average price [lei/MWh]**



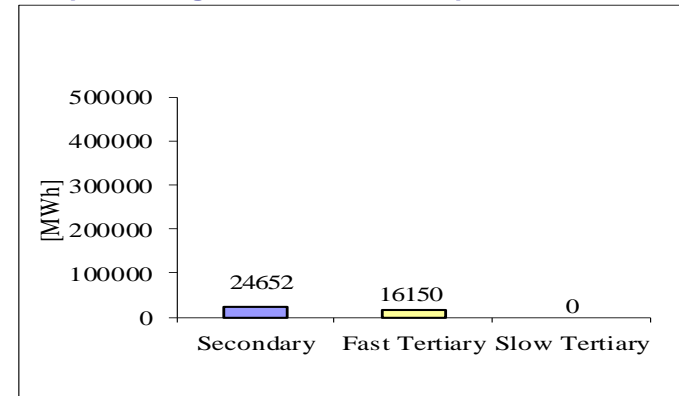
**Downward regulation - selected quantities [MWh]**



**Upward regulation - average price [lei/MWh]**



**Upward regulation - selected quantities [MWh]**



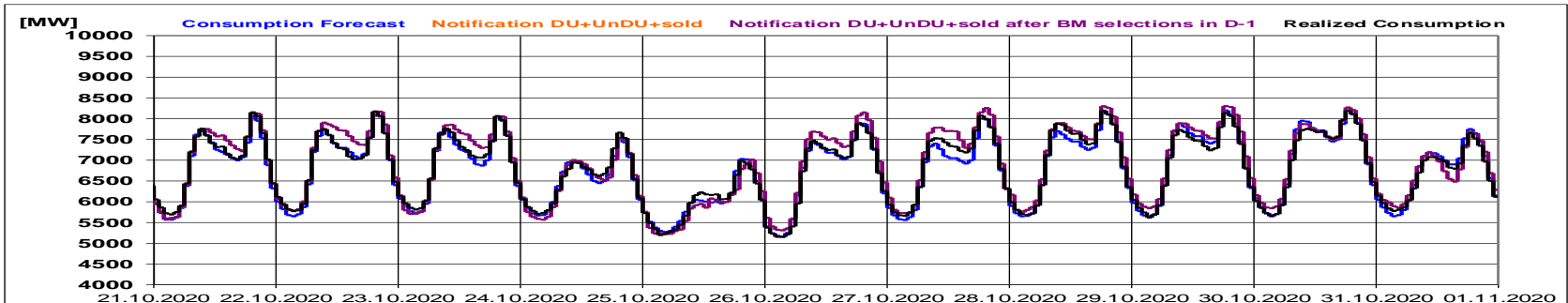
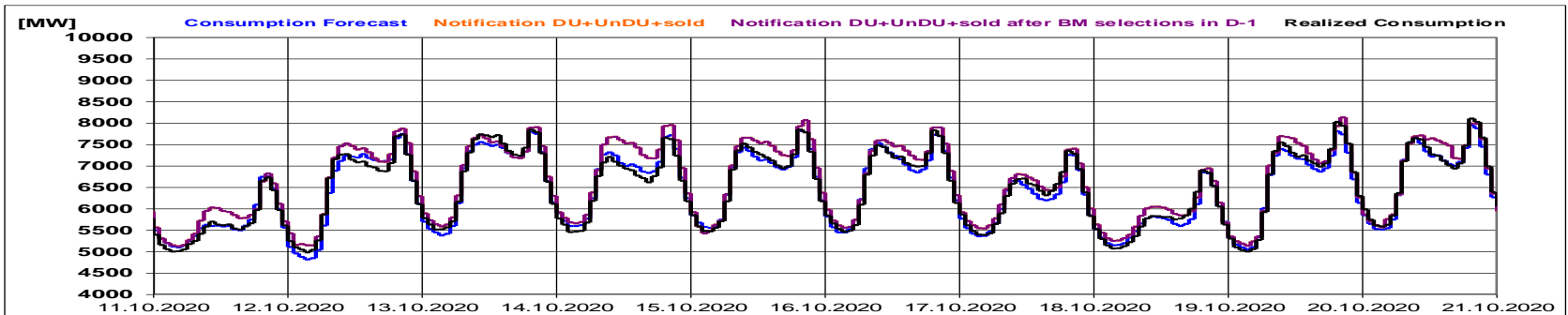
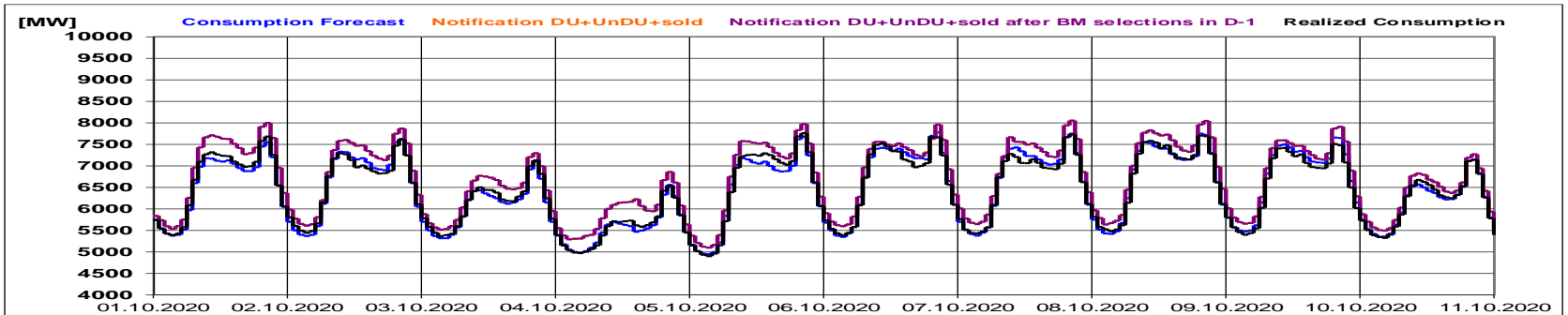


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# Balancing Market

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



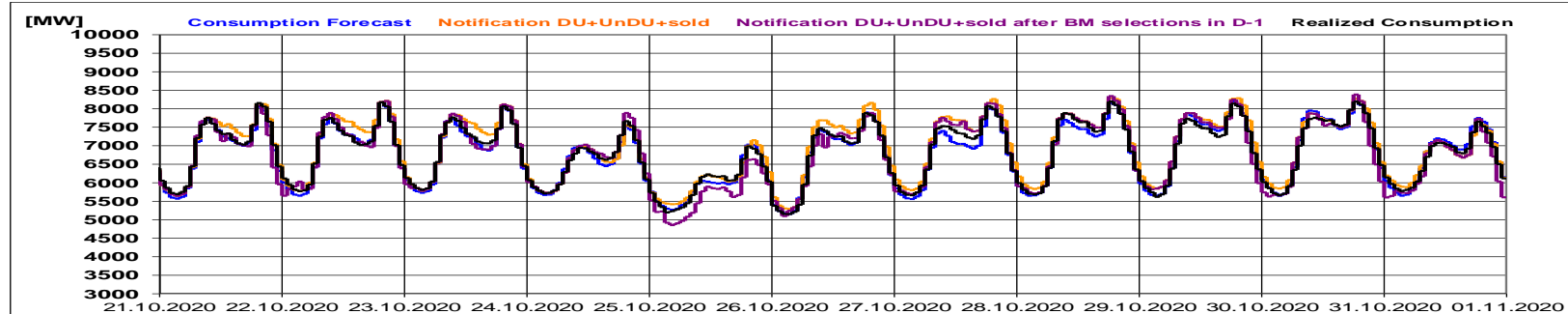
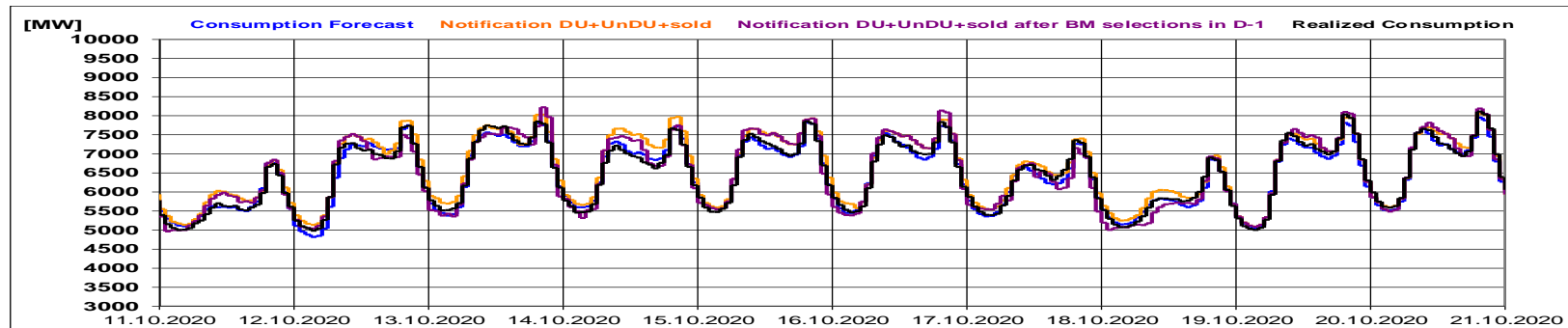
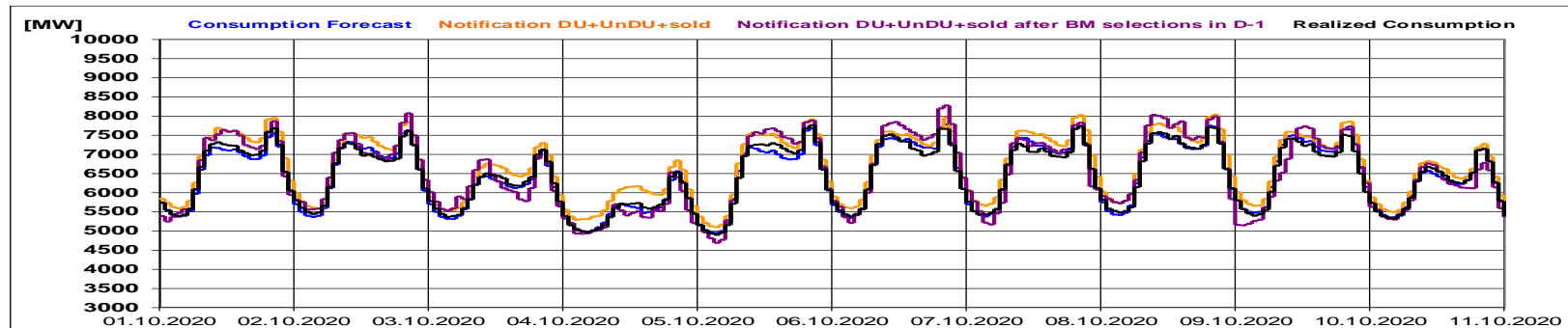


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# Balancing Market

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



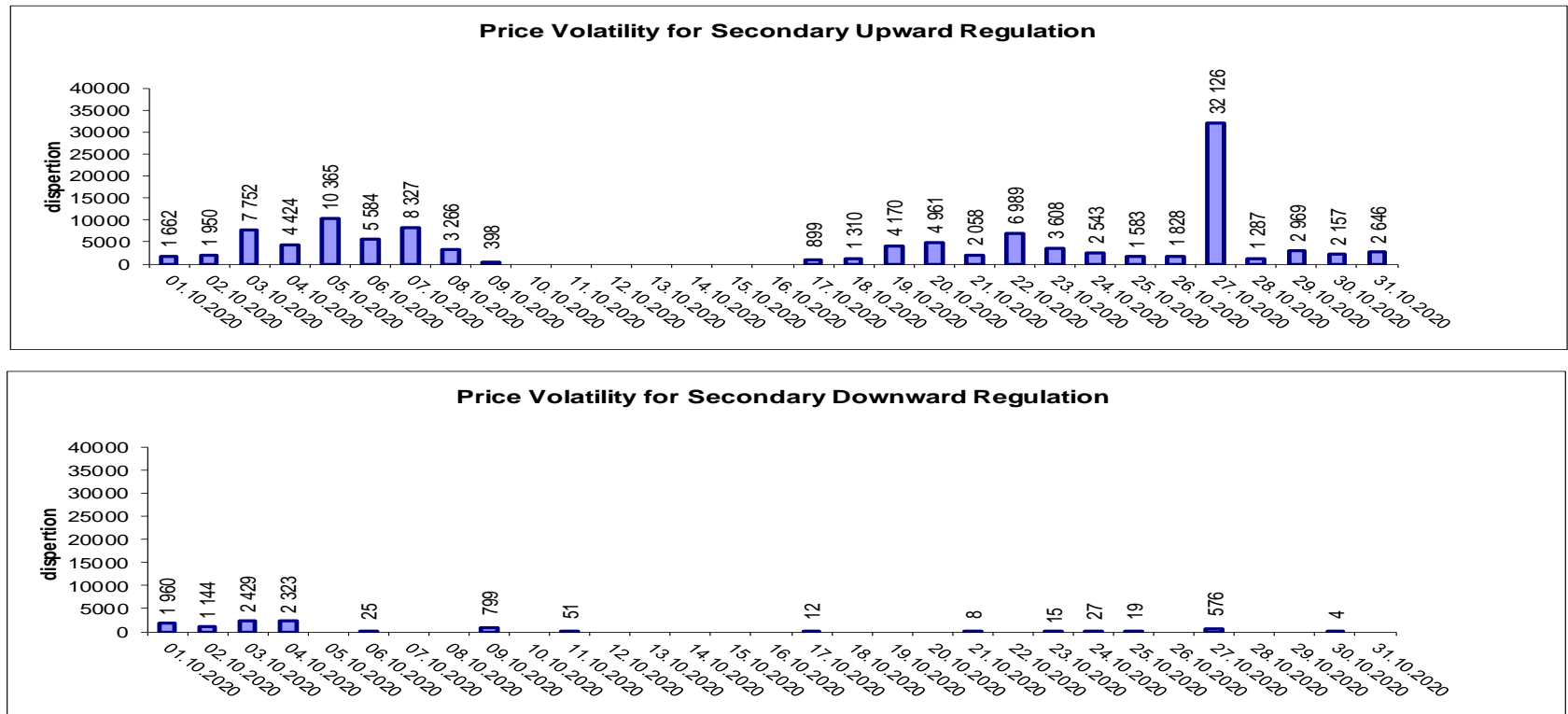


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# Balancing Market

## Indicators – Price Volatility for Secondary Regulation



Price volatility for Secondary 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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