

Transelectrica®

Societate Administrată în sistem Dualist

MARKET MONITORING REPORT

Balancing Market

October 2019



romania2019.eu
Președinția României la Consiliul Uniunii Europene

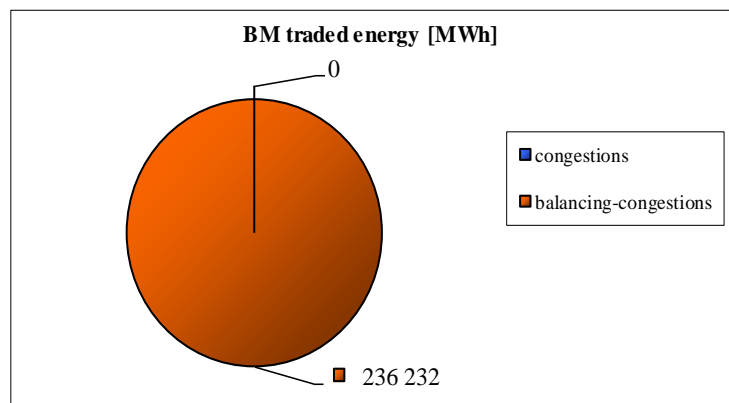
ANRE - Romanian Energy Regulatory Authority
HHI - Herfindahl-Hirschman Index
BRP - Balance Responsible Party
BM - Balancing Market
DAM - Day Ahead Market
TSO - Transmission System Operator
DU – Dispatchable Unit
PN – Physical Notification
NDC - National Dispatching Center
C1 – The market share of the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

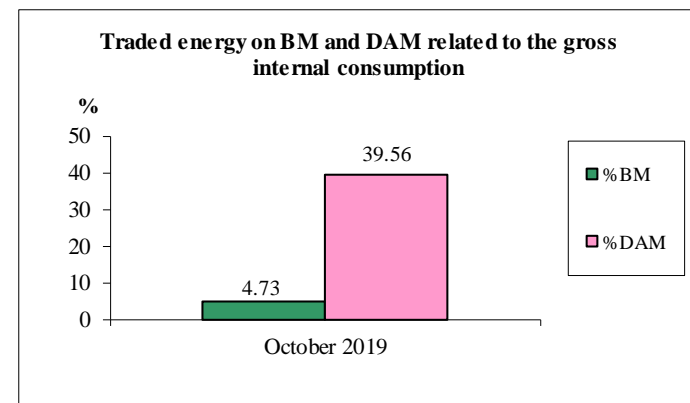
Using the records from the markets data bases, Transelectrica prepares daily, weekly and monthly monitoring reports. A part of the data included in these reports (those data which are not confidential) are published on the website **www.transelectrica.ro** (section Transparency).

The Balance Generation/Consumption

- The average monthly value of generated power was 6 075 MW and the actual internal gross consumption was 6 702 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **1.30%**. 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 **2.89%**. The greatest daily deviation regarding the notifications was registered in **01.10 (7.23%)**.
- The energy used in October 2019 for balancing the power system and congestion management was 236 232 MWh (with an average power of 317MW, which means **4.73%** from the internal gross consumption). No transactions were made for congestion management.
- The energy traded in October 2019 on Day Ahead Market was 1 975 303 MWh (with an average power of 2 651 MW, which means **39.56%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was 34 883 555 lei (with an average weighted price of 148 lei/MWh), from which:
 - the cost for energy traded on the Balancing Market was 34 883 555 lei (from which 0 lei startup cost);
 - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for congestion management was 0 lei.



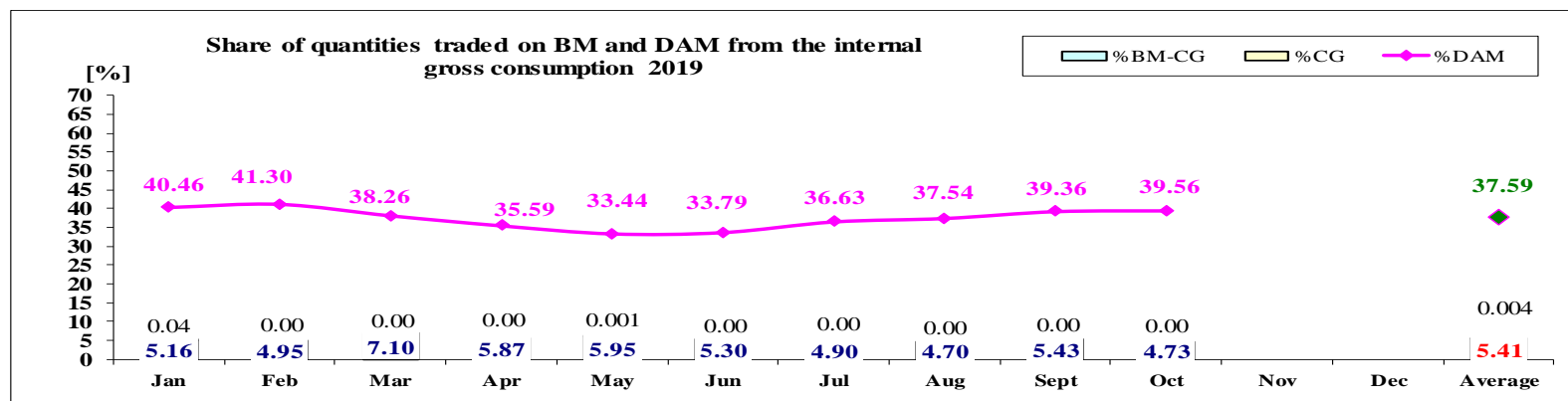
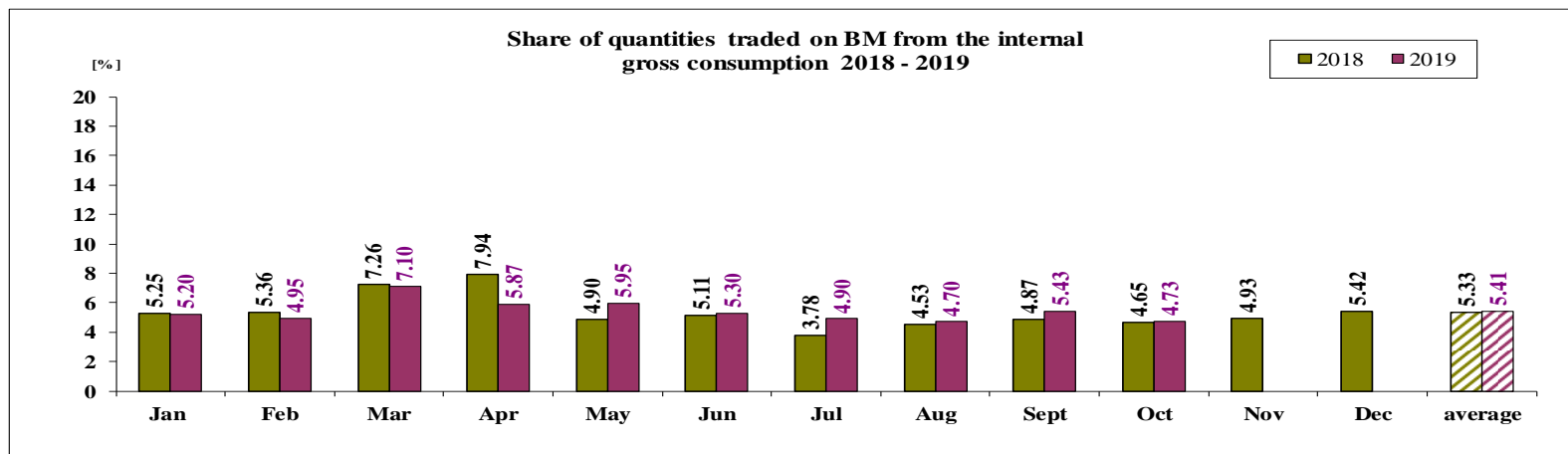
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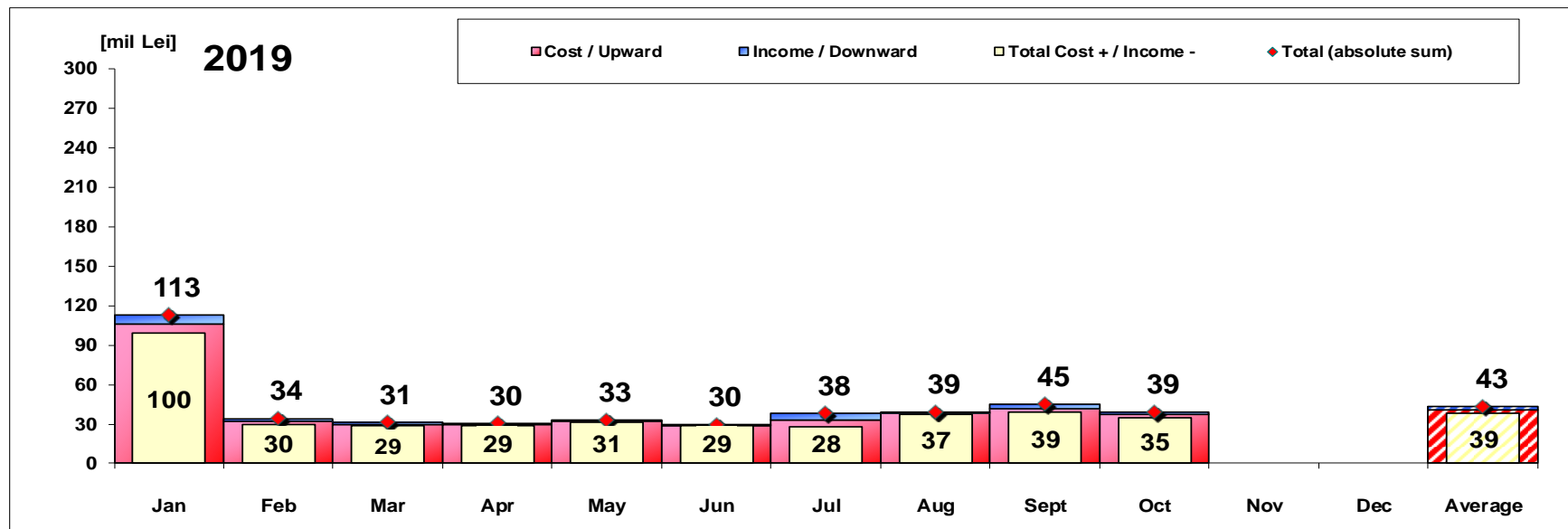
The Balance Generation / Consumption

• 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).



	2019												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
%BM	5.20	4.95	7.10	5.87	5.95	5.30	4.90	4.70	5.43	4.73			5.41
%DAM	40.46	41.30	38.26	35.59	33.44	33.79	36.63	37.54	39.36	39.56			37.59
%CG	0.04	0.00	0.00	0.00	0.001	0.00	0.00	0.00	0.00	0.00			0.004
%BM-CG	5.16	4.95	7.10	5.87	5.95	5.30	4.90	4.70	5.43	4.73			5.41

Balancing Energy Market Transactions

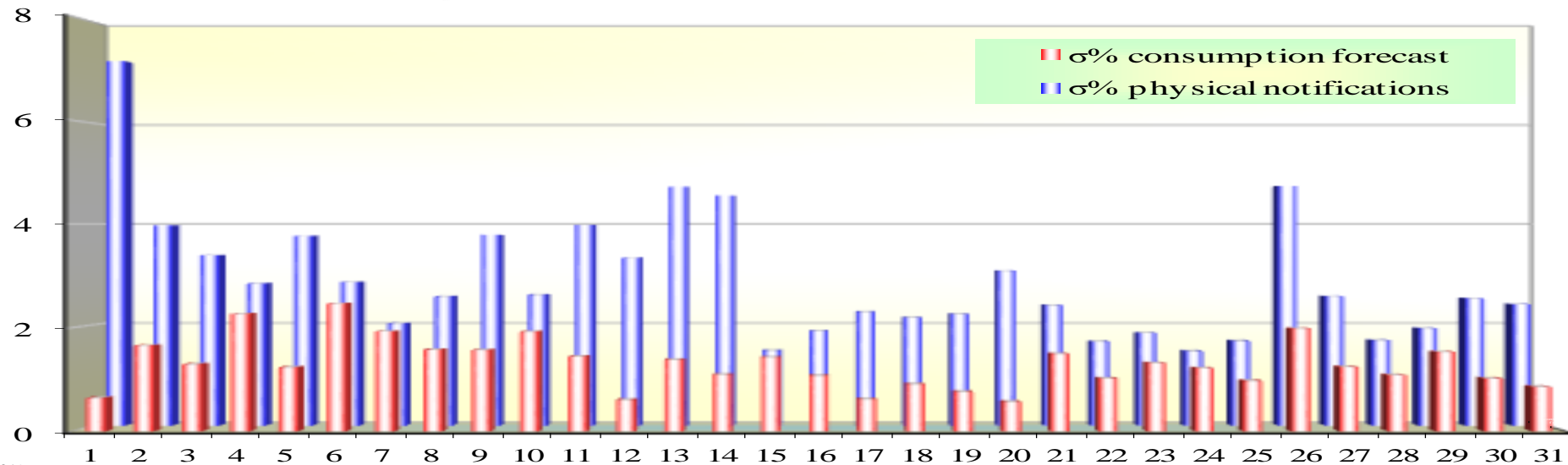


[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	106 045 870	32 017 367	29 926 340	29 740 335	31 990 334	29 090 995	32 824 552	38 192 956	42 023 528	37 148 074			40 900 035	409 000 352
Income / Downward	6 528 407	2 166 232	1 159 092	595 988	1 036 120	512 028	4 972 126	1 050 328	2 862 264	2 264 520			2 314 711	23 147 106
CE Cost	1 639 293	0	0	0	12 911	0	0	0	0	0			165 220	1 652 204
Cost for energy traded on the Balancing Market (includes startup cost)	97 878 170	29 851 135	28 767 248	29 144 347	30 941 303	28 578 967	27 852 426	37 142 628	39 161 264	34 883 555			38 420 104	384 201 043
Cost+/Income- (BE and CE)	99 517 463	29 851 135	28 767 248	29 144 347	30 954 214	28 578 967	27 852 426	37 142 628	39 161 264	34 883 555			38 585 325	385 853 247
Total (absolute sum) (BE and CE)	112 574 277	34 183 599	31 085 432	30 336 324	33 026 454	29 603 024	37 796 678	39 243 284	44 885 793	39 412 594			43 214 746	432 147 458

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.

Standard deviation of physical notifications and consumption forecast against the actual consumption in October 2019



October 2019	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
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	0.64	1.66	1.30	2.27	1.23	2.47	1.93	1.58	1.57	1.92	1.44	0.61	1.38	1.10	1.43	1.07	0.62	0.91	0.76	0.57	1.49	1.02	1.32	1.22	0.98	1.98	1.24	1.09	1.53	1.02	0.86
σ% physical notifications	7.23	3.97	3.38	2.82	3.77	2.85	2.02	2.56	3.78	2.60	3.98	3.33	4.74	4.56	1.49	1.88	2.26	2.14	2.21	3.07	2.39	1.67	1.84	1.48	1.68	4.75	2.56	1.69	1.93	2.52	2.41

σ_{average}% consumption forecast = 1.30

σ_{average} % physical notifications = 2.89

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

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

R = Realized Consumption;

N = Physical Notifications;

P = Consumption Forecast.

Balancing energy – Selected prices and quantities

• At the beginning of the month on the Balancing Market operated 65 BRPs, 111 market participants, holding 219 commercially operating dispatchable units. As a result of a definitive withdrawal from operation, starting with 28th of October dispatchable units list IERN1 (30WELCEIERN1 --- E) and IERN6 (30WELCEIERN6 --- Q) having as BMP S.N.G.N. ROMGAZ S.A. (30XROROMGAZ ---- G) were removed from BRP list.

October 2019

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	0.10	0.10	0.10	49355.78	49355.78	0.00%	4	62.56%	99.88%	62.56%	99.88%	4935	4935
Fast Tertiary	17.17	858.53	0.10	136061.61	131325.13	3.48%	7	42.19%	90.10%	41.44%	90.15%	3002	2976
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				185417.39	180680.91	2.55%							

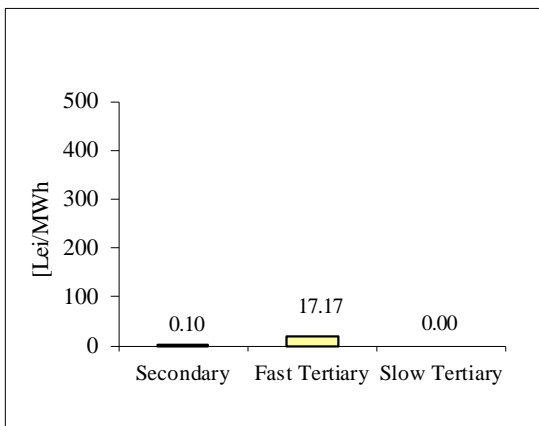
Upward regulation

	Monthly	Maximum	Minimum	Total	Actually	Deviation	C1	C3	C1	C3	HHI	HHI	
	average			selected	delivered	%	Number	(selected)	(actually delivered)		(selected)	(actually delivered)	
Secondary	721.12	1062.00	536.70	27209.31	27209.31	0.00%	4	61.85%	99.89%	61.85%	99.89%	4823	4823
Fast Tertiary	611.12	1060.00	0.10	29639.51	28342.03	4.38%	10	53.64%	85.77%	55.59%	86.33%	3684	3819
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				56848.82	55551.34	2.28%							

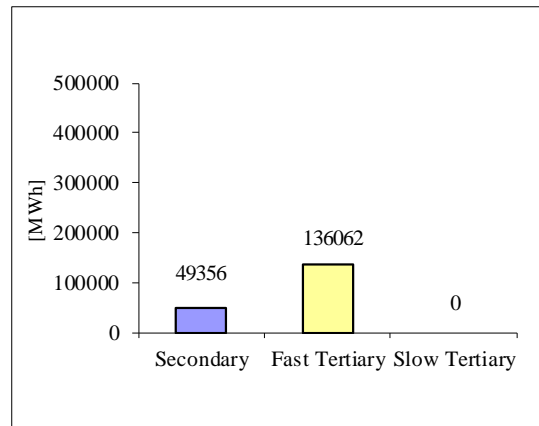
Balancing energy – Selected prices and quantities in October 2019

October 2019

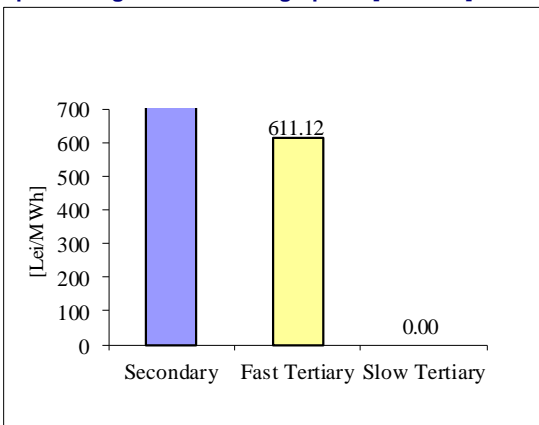
Downward regulation - average price [lei/MWh]



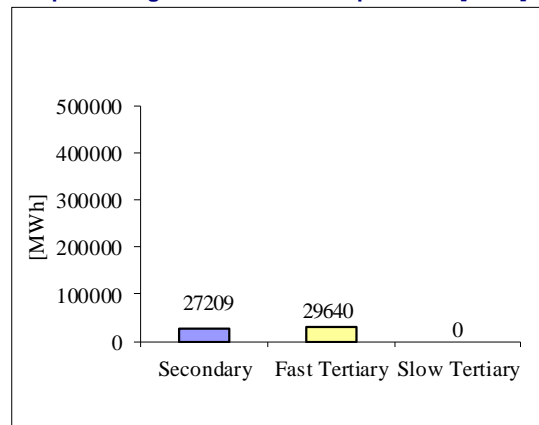
Downward regulation - selected quantities [MWh]



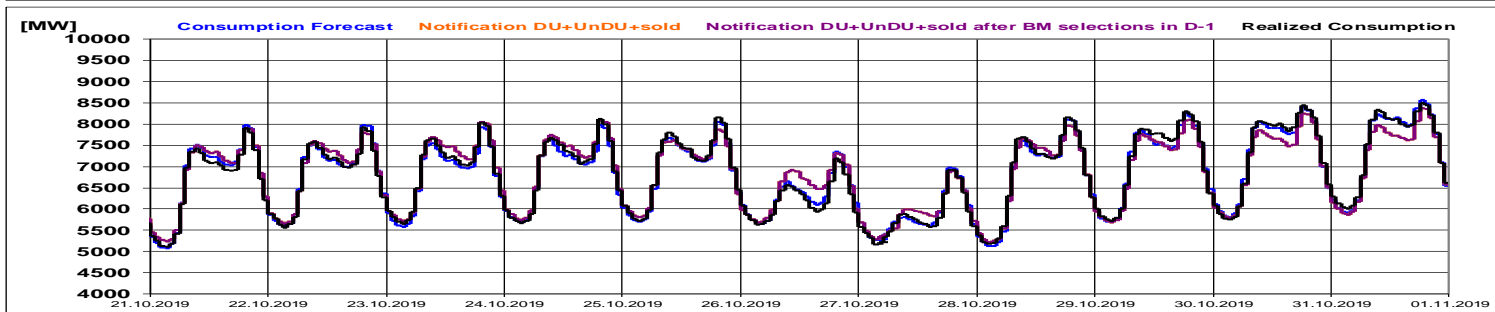
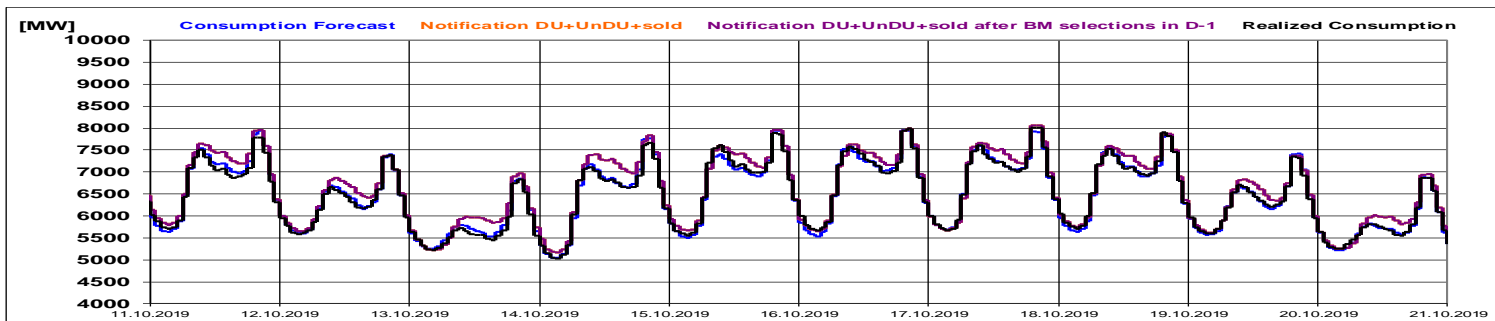
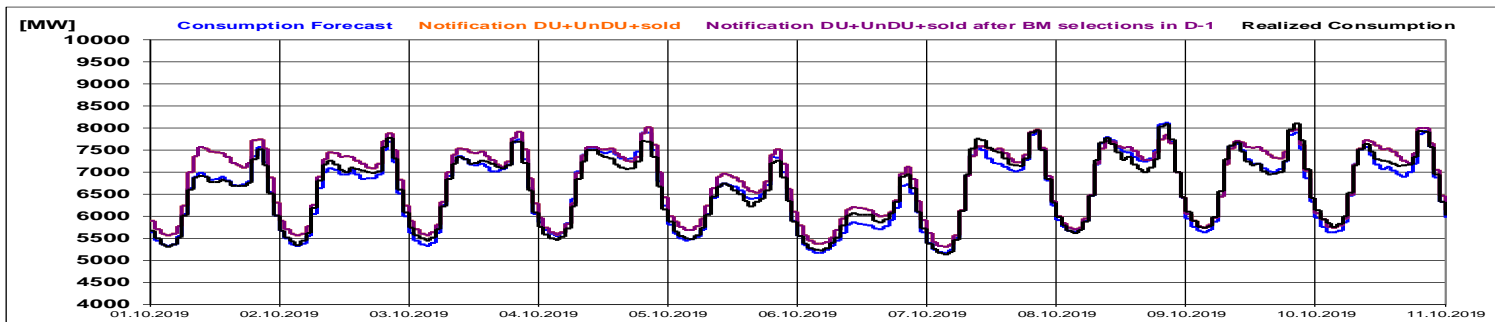
Upward regulation - average price [lei/MWh]



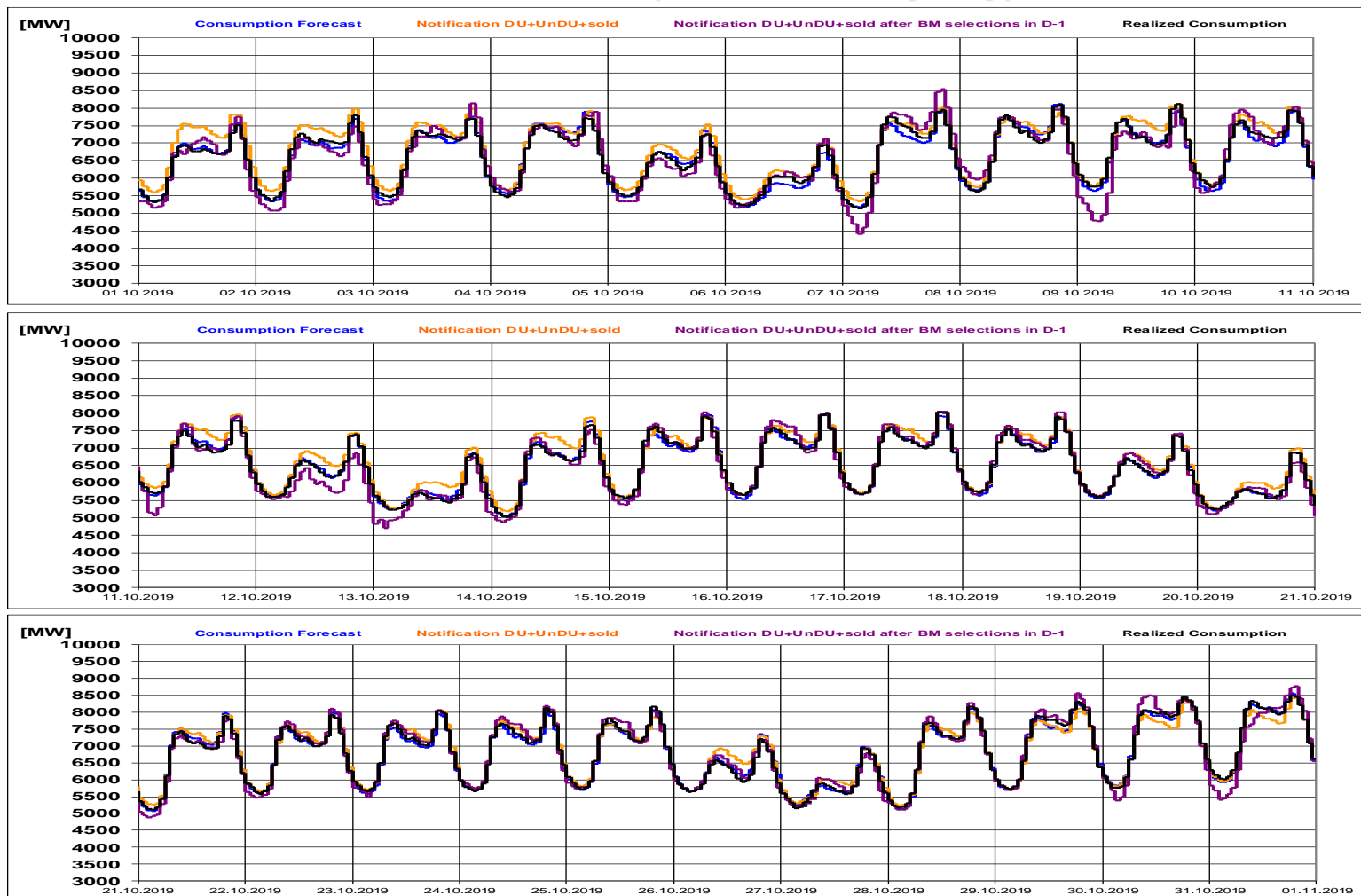
Upward regulation - selected quantities [MWh]



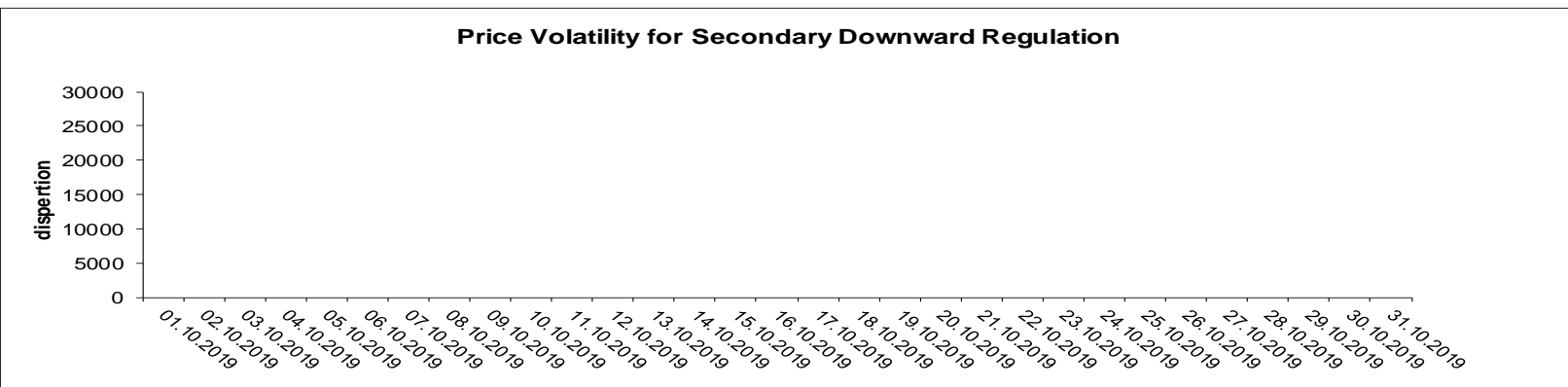
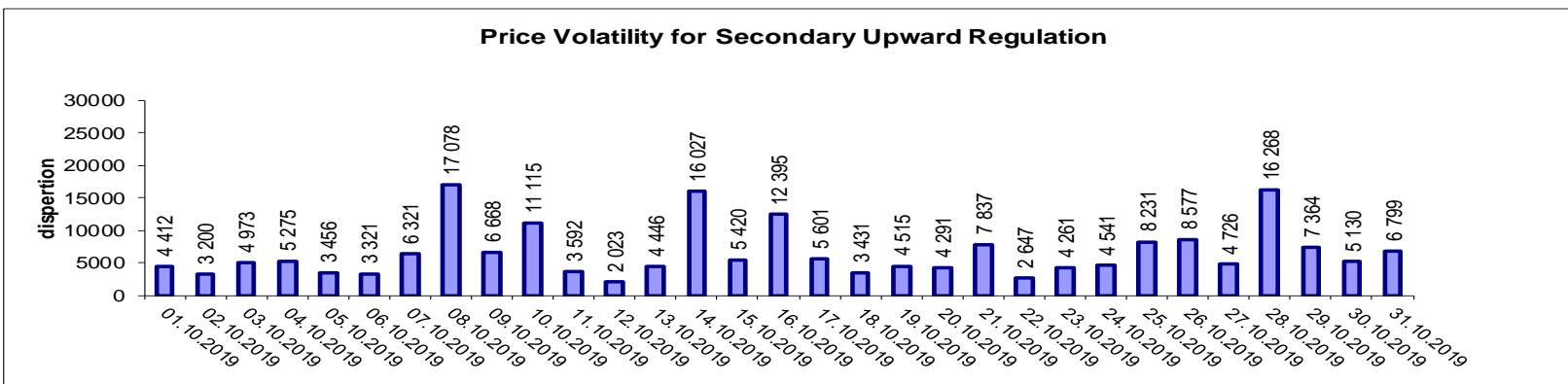
Realized consumption, forecast, notifications, notifications after BM selections in D-1



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



Indicators – Price Volatility for Secondary Regulation



Volatility = price dispersion on studied interval:

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

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.

Contact

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