

Transelectrica®

Societate Administrată în sistem Dualist

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# MARKET MONITORING REPORT

## Balancing Market

### August 2019

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romania2019.eu  
Președinția României la Consiliul Uniunii Europene

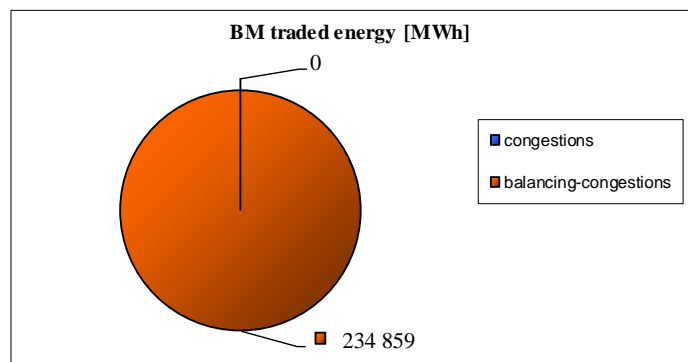
ANRE - Romanian Energy Regulatory Authority  
HHI - Herfindahl-Hirschman Index  
BRP - Balance Responsible Party  
BM - Balancing Market  
DAM - Day Ahead Market  
TSO - Transmission System Operator  
DU – Dispatchable Unit  
PN – Physical Notification  
NDC - National Dispatching Center  
C1 – The market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

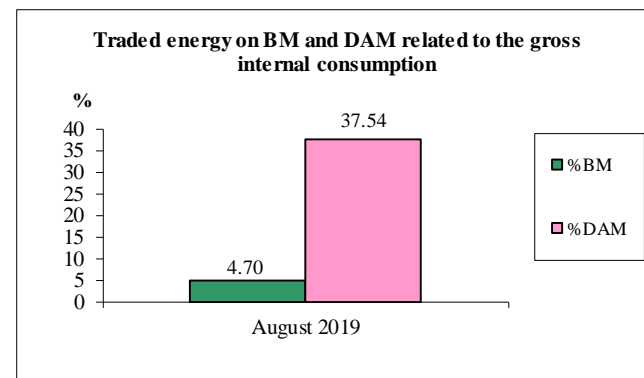
Using the records from the markets data bases, Transelectrica prepares daily, weekly and monthly monitoring reports. A part of the data included in these reports (those data which are not confidential) are published on the website **www.transelectrica.ro** (section Transparency).

## The Balance Generation/Consumption

- The average monthly value of generated power was 6 023 MW and the actual internal gross consumption was 6 715 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **1.53%**. 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 **3.40%**. The greatest daily deviation regarding the notifications was registered in **16.08 (7.79%)**.
- The energy used in August 2019 for balancing the power system and congestion management was 234 859 MWh (with an average power of 316MW, which means **4.70%** from the internal gross consumption). No transactions were made for congestion management.
- The energy traded in August 2019 on Day Ahead Market was 1 875 332 MWh (with an average power of 2 521 MW, which means **37.54%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was 37 142 628 lei (with an average weighted price of 158 lei/MWh), from which:
  - the cost for energy traded on the Balancing Market was 37 142 628 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.

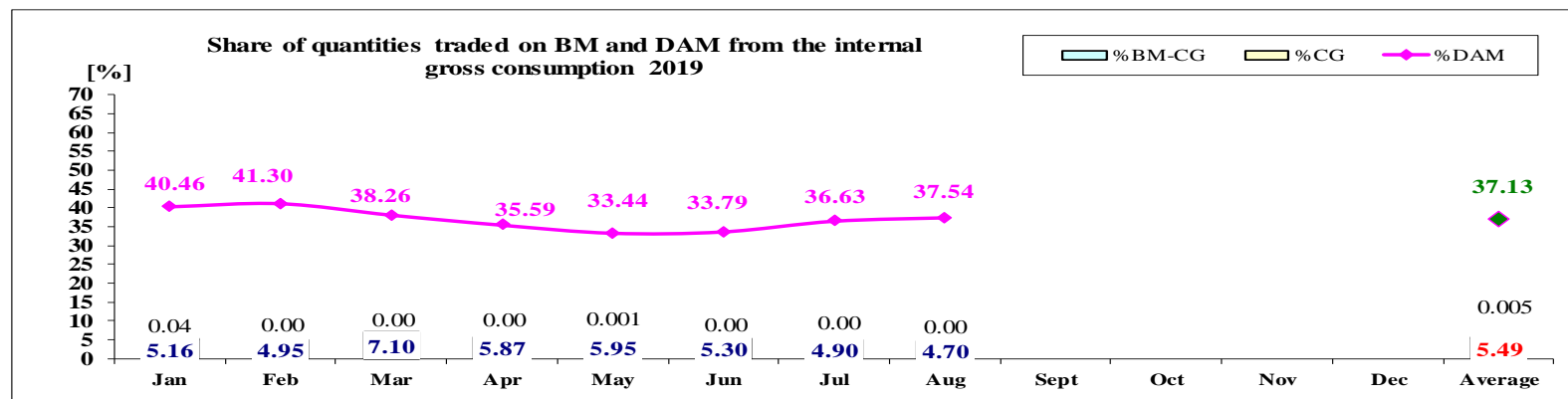
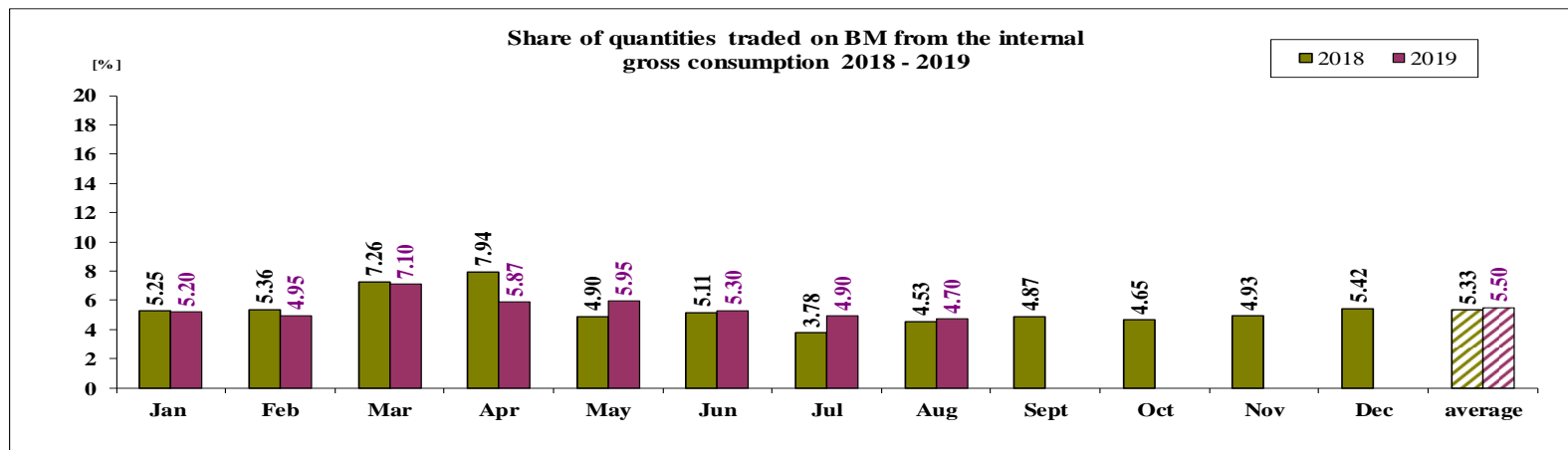


August 2019



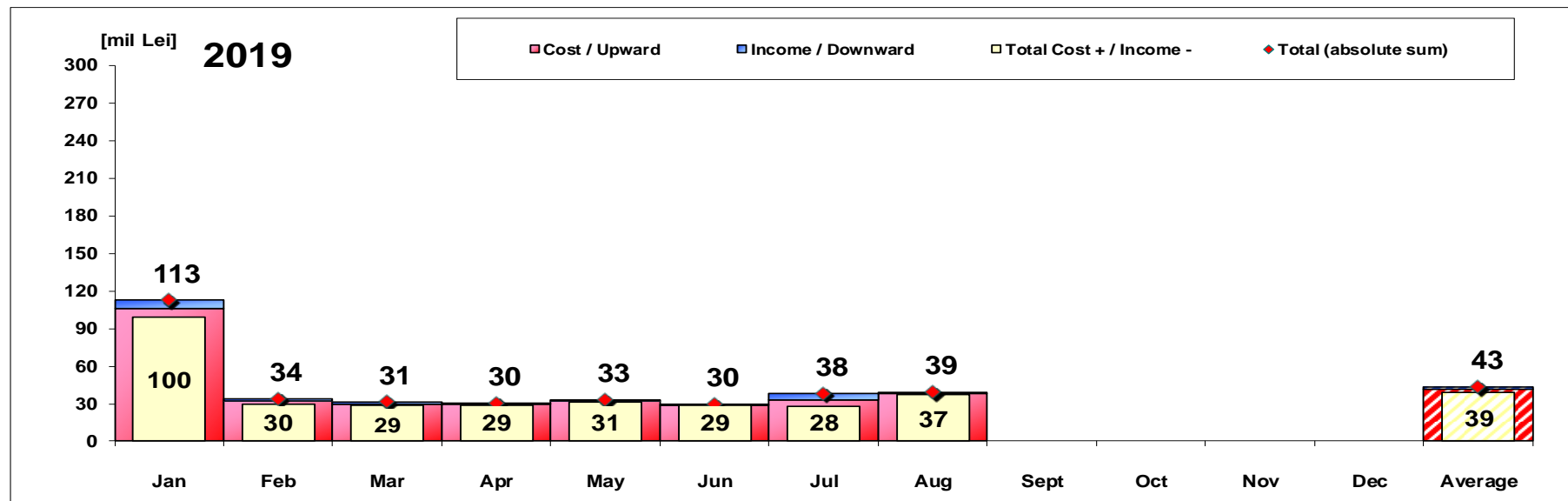
## The Balance Generation / Consumption

• 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					5.50
%DAM	40.46	41.30	38.26	35.59	33.44	33.79	36.63	37.54					37.13
%CG	0.04	0.00	0.00	0.00	0.001	0.00	0.00	0.00					0.005
%BM-CG	5.16	4.95	7.10	5.87	5.95	5.30	4.90	4.70					5.49

# Balancing Energy Market Transactions

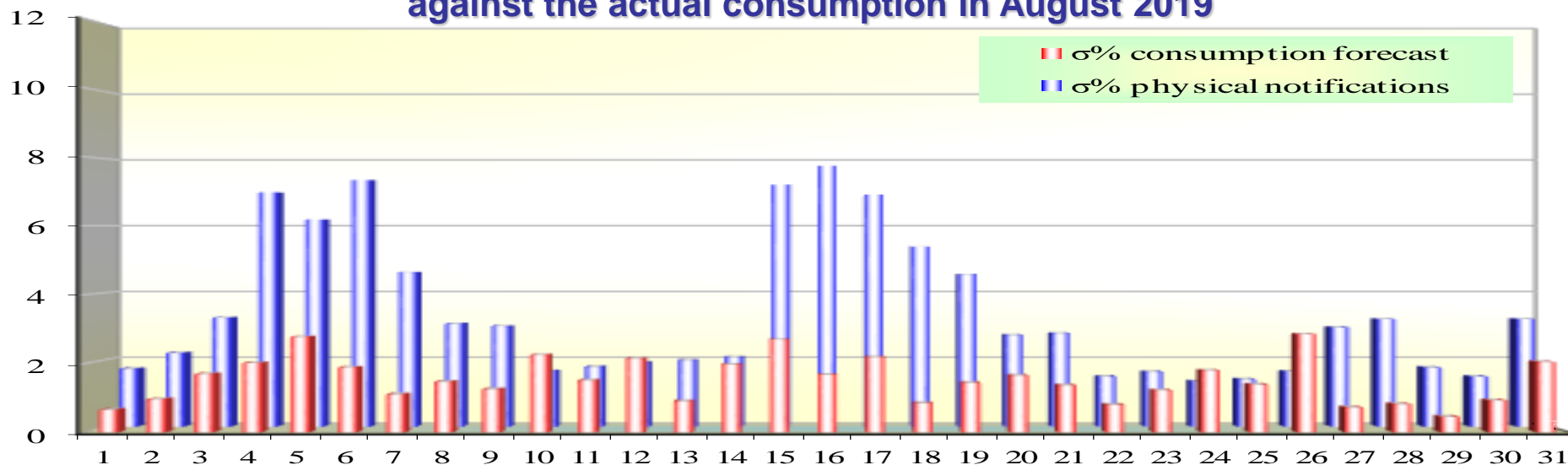


[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	106 045 870	32 017 367	29 926 340	29 740 335	31 990 334	29 090 995	32 824 552	38 192 956					41 228 594	329 828 750
Income / Downward	6 528 407	2 166 232	1 159 092	595 988	1 036 120	512 028	4 972 126	1 050 328					2 252 540	18 020 322
CE Cost	1 639 293	0	0	0	12 911	0	0	0					206 526	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					38 769 528	310 156 224
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					38 976 054	311 808 428
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					43 481 134	347 849 071

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 August 2019



August 2019

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	0.65	0.96	1.70	2.02	2.78	1.89	1.10	1.47	1.25	2.25	1.51	2.15	0.90	1.97	2.70	1.67	2.18	0.85	1.44	1.65	1.36	0.80	1.22	1.80	1.39	2.85	0.72	0.82	0.45	0.93	2.05
σ% physical notifications	1.73	2.20	3.25	7.00	6.19	7.36	4.61	3.07	3.00	1.66	1.78	1.91	1.98	2.07	7.22	7.79	6.93	5.37	4.54	2.73	2.79	1.49	1.64	1.35	1.41	1.65	2.97	3.21	1.76	1.49	3.21

σ<sub>average% consumption forecast</sub> = 1.53

σ<sub>average % physical notifications</sub> = 3.40

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

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

**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 64 BRPs, 111 market participants, holding 220 commercially operating dispatchable units. Starting with 24<sup>th</sup> of August the dispatchable production unit STEJ6 was registered as a non-dispatchable unit with the name STEJPROBE and in accordance with the provisions of art. 38 of the Regulation for calculating and settling the imbalances of BRPs approved by ANRE order no. 31 / 31.01.2019, BRP HIDROELECTRICA PROBE (30XROHIDROPROV-R) was registered as a provisional BRP during the testing period of the STEJPROBE production unit.

### August 2019

#### Downward regulation

	Prices [lei/MWh]			Quantities [MWh]		
	Monthly	Maximum	Minimum	Total	Actually	Deviation
	average			selected	delivered	%
Secondary	0.33	9.00	0.10	45674.99	45674.99	0.00%
Fast Tertiary	7.93	899.00	0.10	135019.11	128279.52	4.99%
Slow Tertiary	5.93	798.59	3.00	8025.30	7992.75	0.41%
				188719.40	181947.26	3.59%

Participants						
	C1	C3	C1	C3	HHI	HHI
Number	(selected)		(actually delivered)		(selected)	(actually delivered)
3	64.96%	100.00%	64.96%	100.00%	5157	5157
10	47.71%	99.26%	46.84%	99.40%	3700	3679
1	100.00%	100.00%	100.00%	100.00%	10000	10000

#### Upward regulation

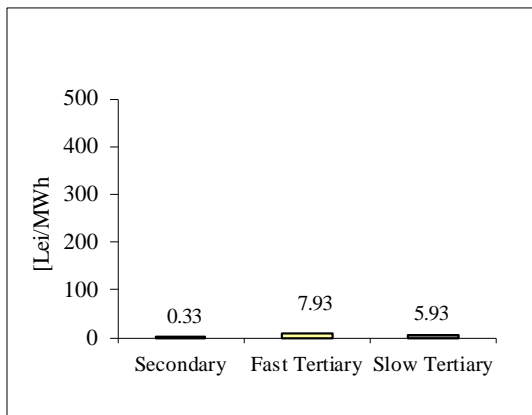
	Prices [lei/MWh]			Quantities [MWh]		
	Monthly	Maximum	Minimum	Total	Actually	Deviation
	average			selected	delivered	%
Secondary	751.23	1088.98	451.00	27599.58	27599.58	0.00%
Fast Tertiary	686.05	1085.98	0.10	26168.01	25312.27	3.27%
Slow Tertiary	-	-	-	-	-	-
				53767.59	52911.85	1.59%

Participants						
	C1	C3	C1	C3	HHI	HHI
Number	(selected)		(actually delivered)		(selected)	(actually delivered)
3	68.40%	100.00%	68.40%	100.00%	5394	5394
9	59.82%	86.52%	60.64%	86.42%	4099	4161
-	-	-	-	-	-	-

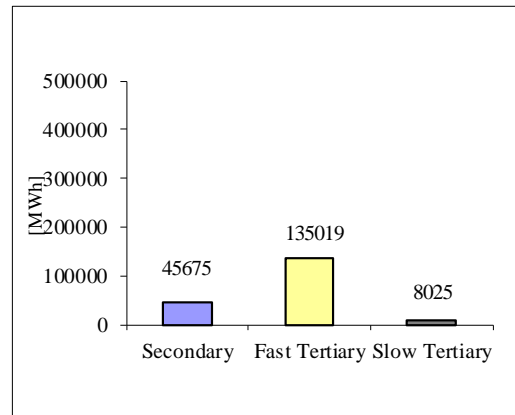
## Balancing energy – Selected prices and quantities in August 2019

August 2019

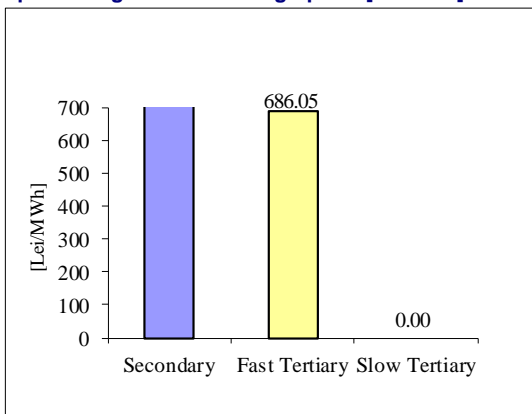
Downward regulation - average price [lei/MWh]



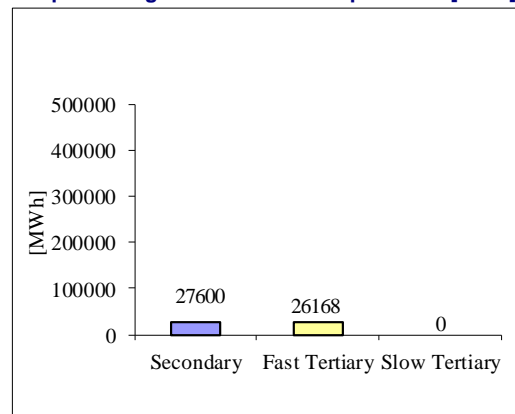
Downward regulation - selected quantities [MWh]



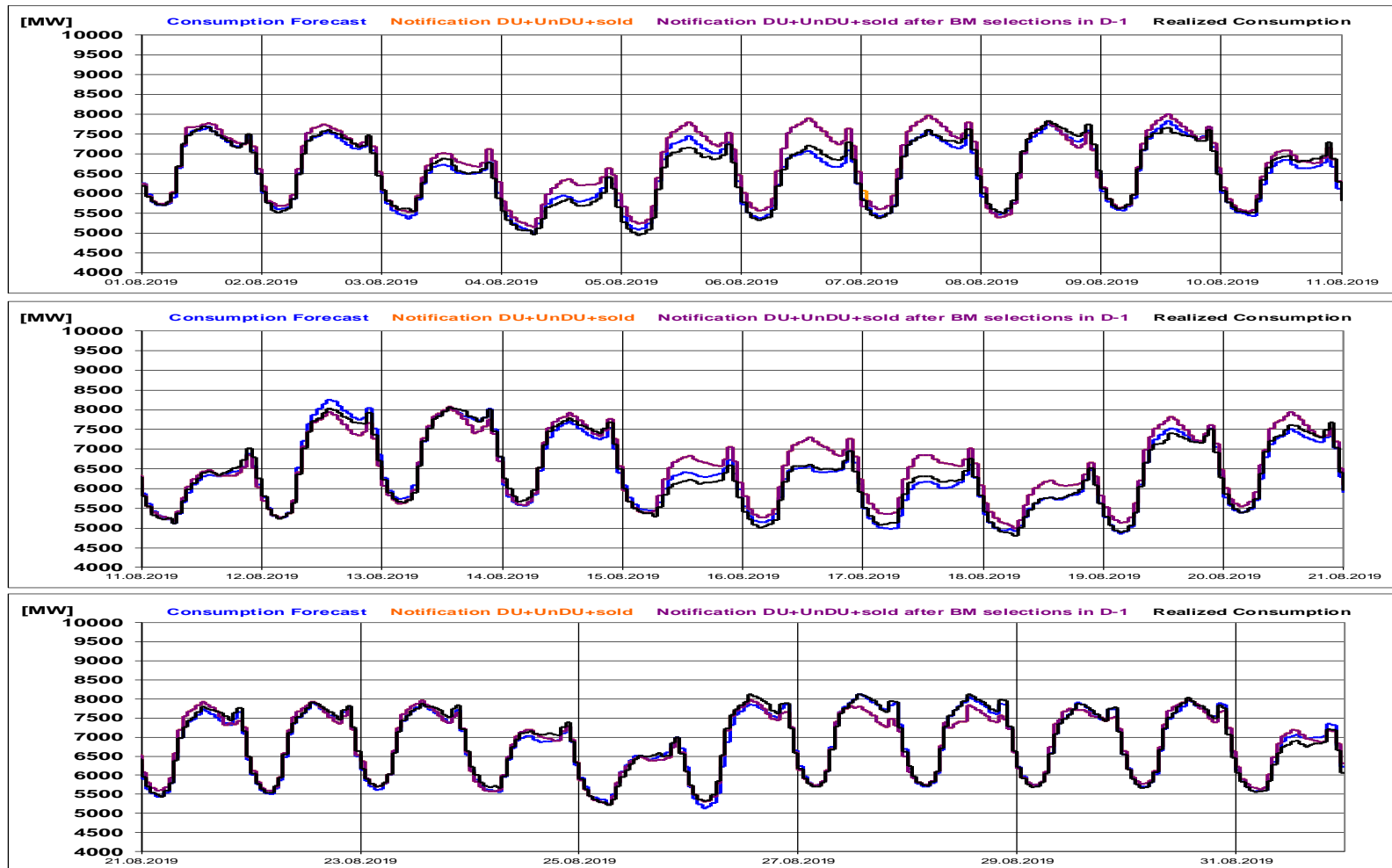
Upward regulation - average price [lei/MWh]



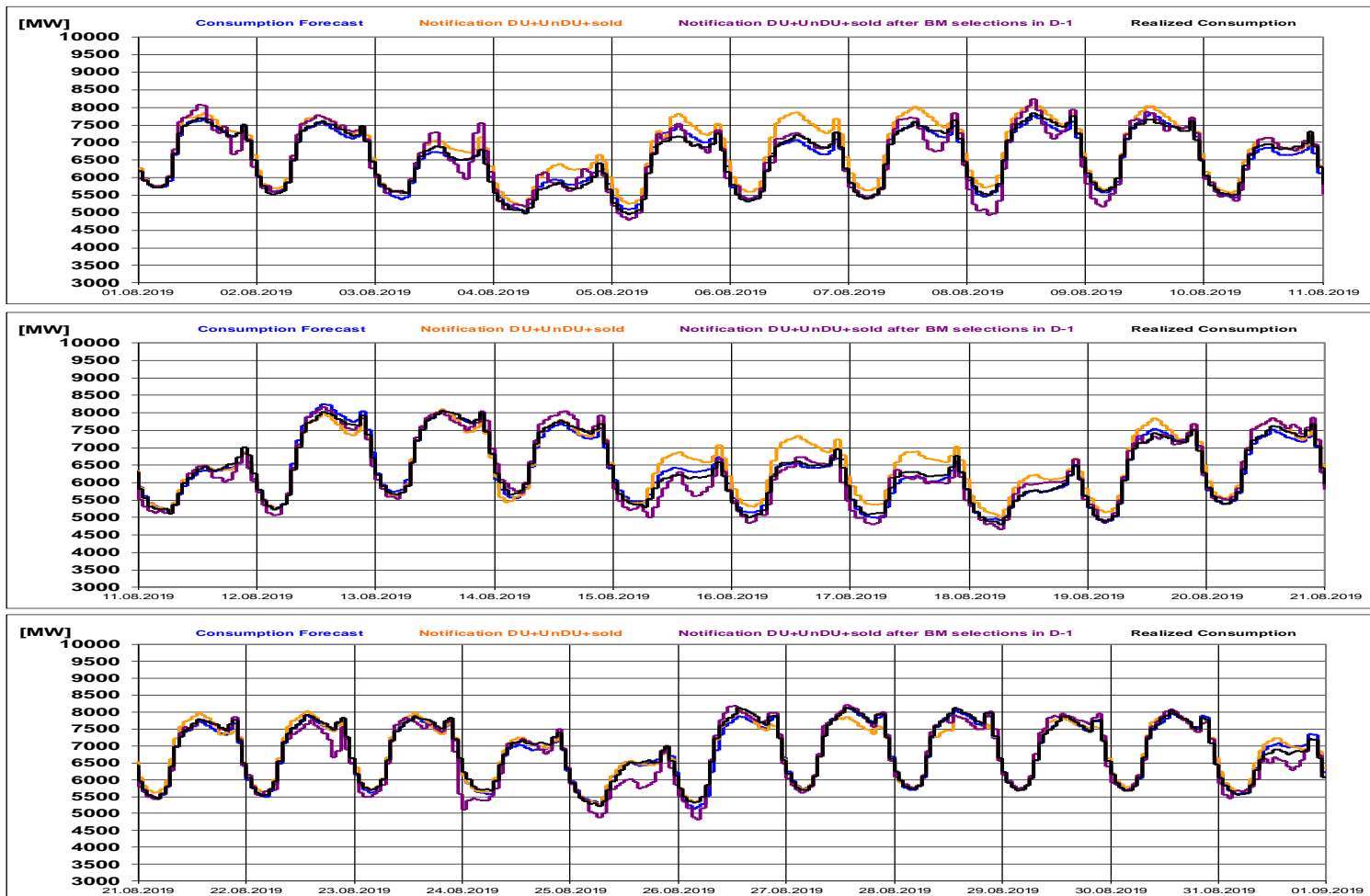
Upward regulation - selected quantities [MWh]



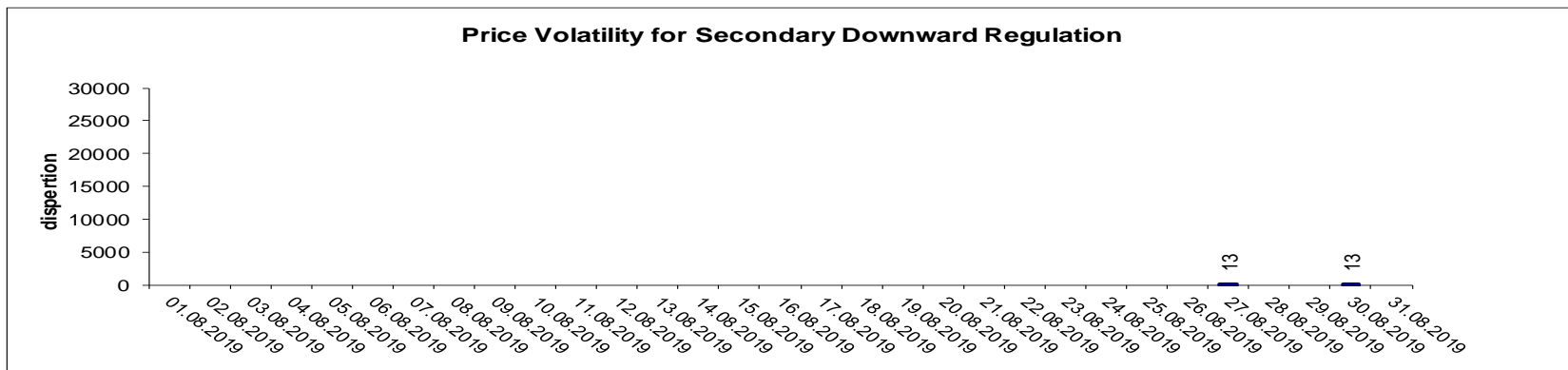
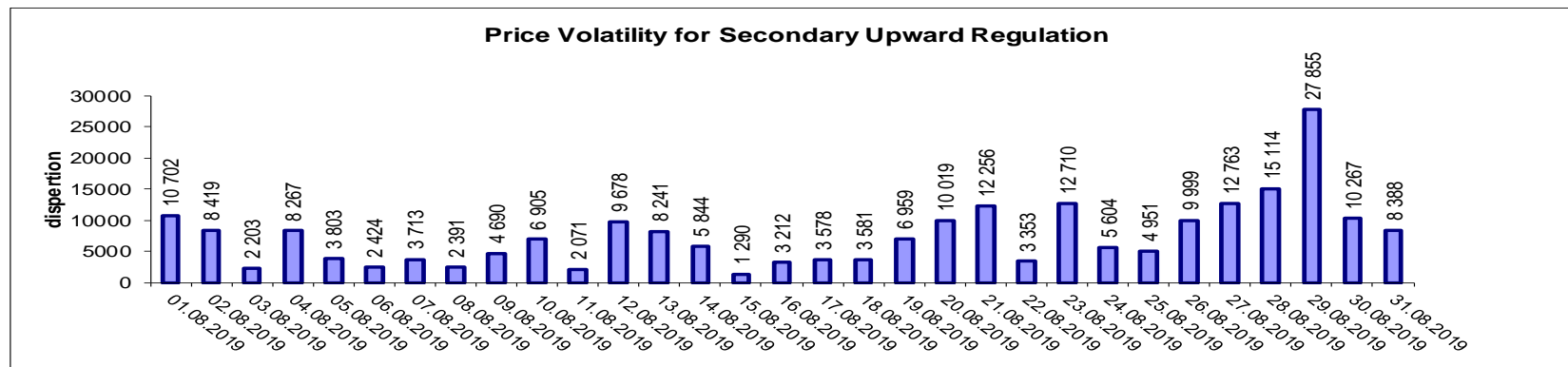
## Realized consumption, forecast, notifications, notifications after BM selections in D-1



## 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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