

Transelectrica®

Societate Administrată în sistem Dualist

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# MARKET MONITORING REPORT

## Balancing Market

### April 2019

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romania2019.eu  
Președinția României la Consiliul Uniunii Europene

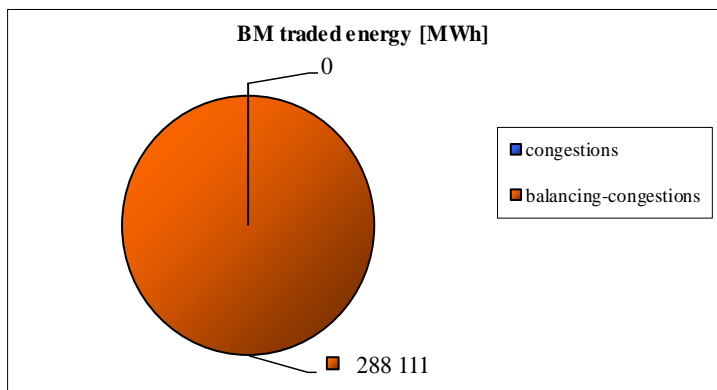
ANRE - Romanian Energy Regulatory Authority  
HHI - Herfindahl-Hirschman Index  
BRP - Balance Responsible Party  
BM - Balancing Market  
DAM - Day Ahead Market  
TSO - Transmission System Operator  
DU – Dispatchable Unit  
PN – Physical Notification  
NDC - National Dispatching Center  
C1 – The market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

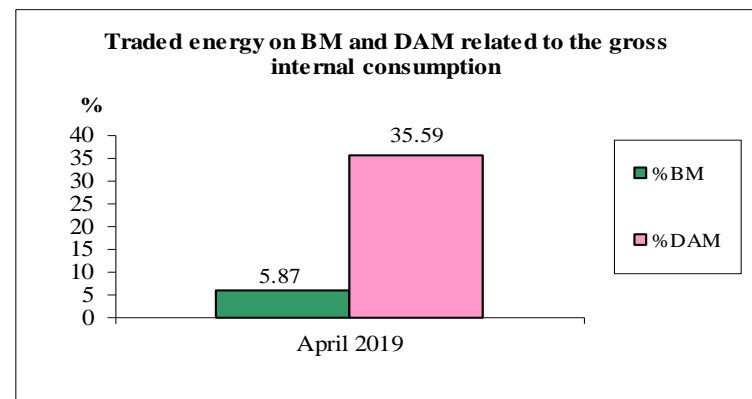
Using the records from the markets data bases, Transelectrica prepares daily, weekly and monthly monitoring reports. A part of the data included in these reports (those data which are not confidential) are published on the website **www.transelectrica.ro** (section Transparency).

## The Balance Generation/Consumption

- The average monthly value of generated power was 6 863 MW and the actual internal gross consumption was 6 817 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **2.00%**. 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 **3.39%**. The greatest daily deviation regarding the notifications was registered in **29.04 (12.73%)**.
- The energy used in April 2019 for balancing the power system and congestion management was 288 111 MWh (with an average power of 400 MW, which means **5.87%** from the internal gross consumption). No transactions were made for congestion management.
- The energy traded in April 2019 on Day Ahead Market was 1 746 977 MWh (with an average power of 2 426 MW, which means **35,59%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was 29 144 347 lei (with an average weighted price of 101 lei/MWh), from which:
  - the cost for energy traded on the Balancing Market was 29 144 347 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.

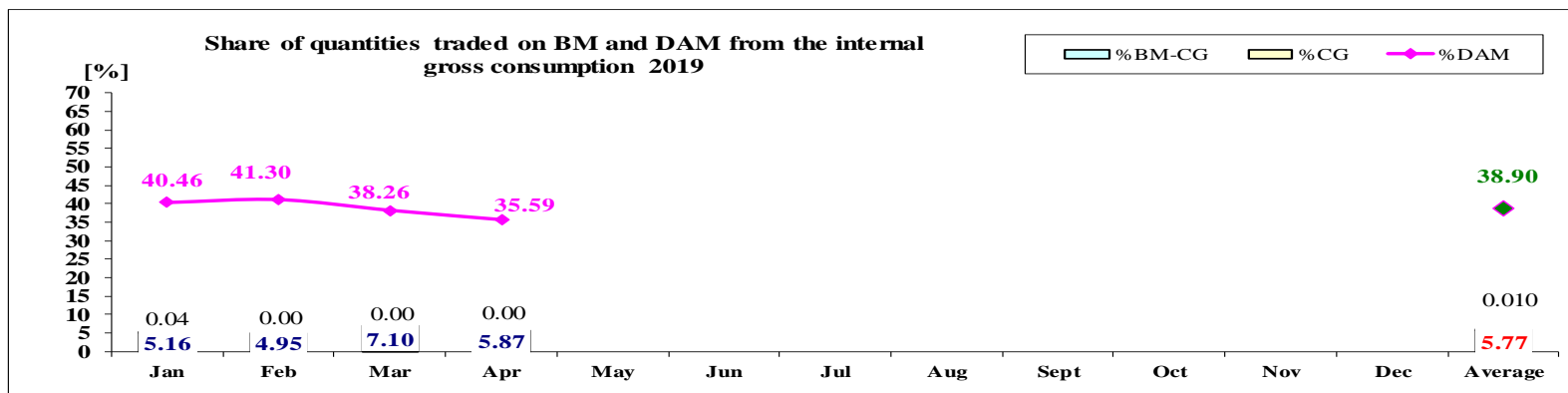
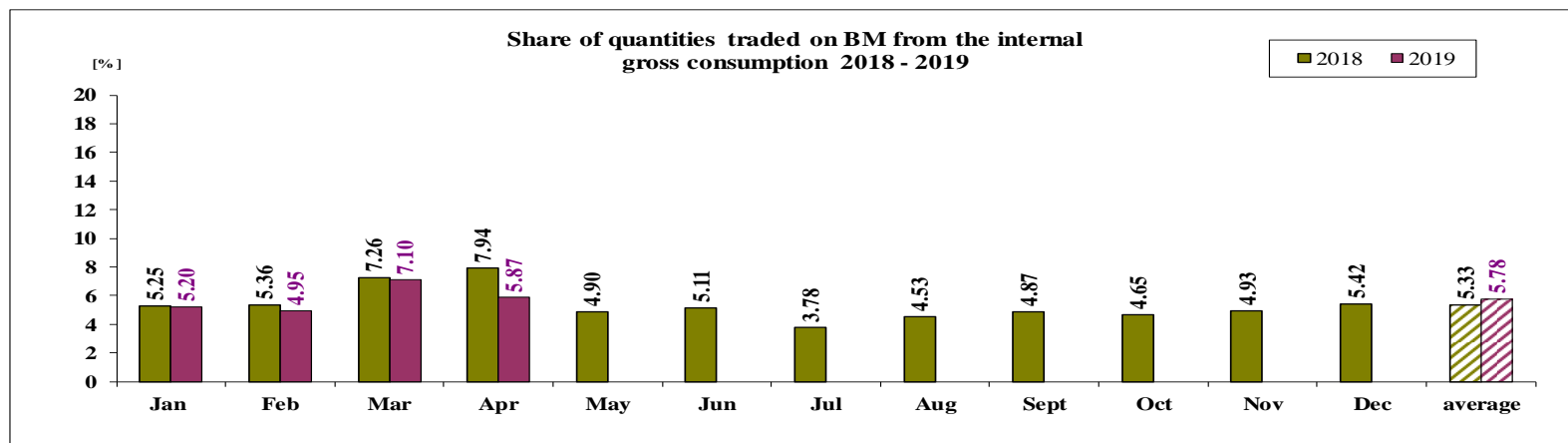


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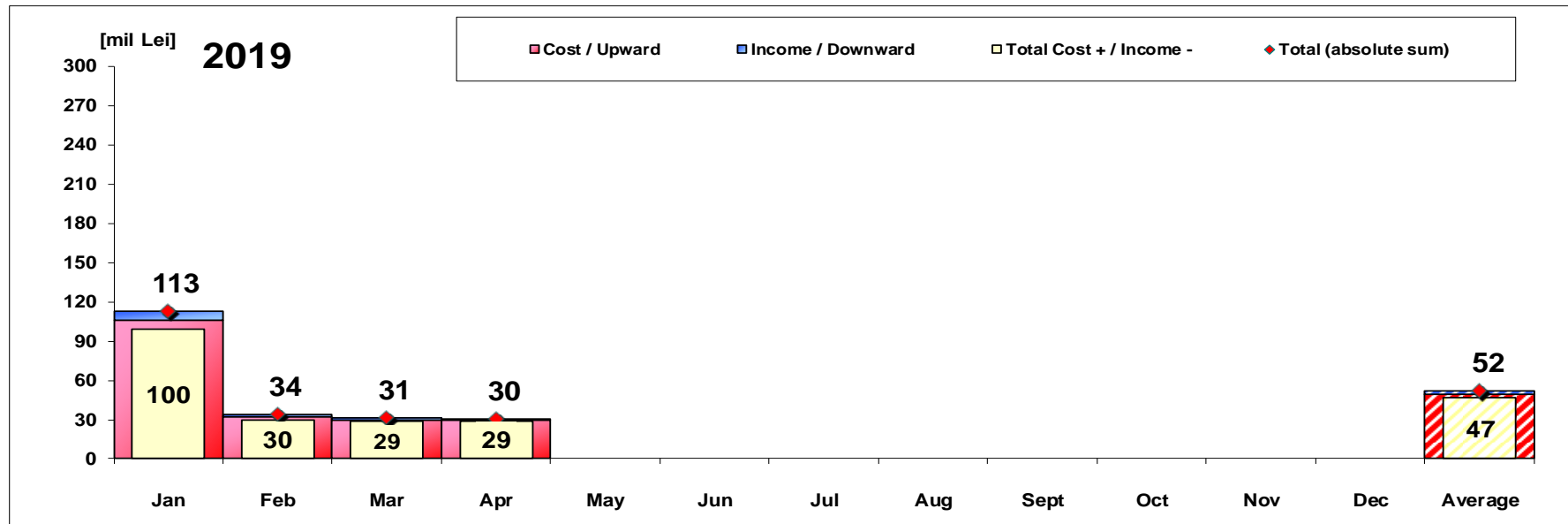
## The Balance Generation / Consumption

• 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									5.78
%DAM	40.46	41.30	38.26	35.59									38.90
%CG	0.04	0.00	0.00	0.00									0.010
%BM-CG	5.16	4.95	7.10	5.87									5.77

# Balancing Energy Market Transactions

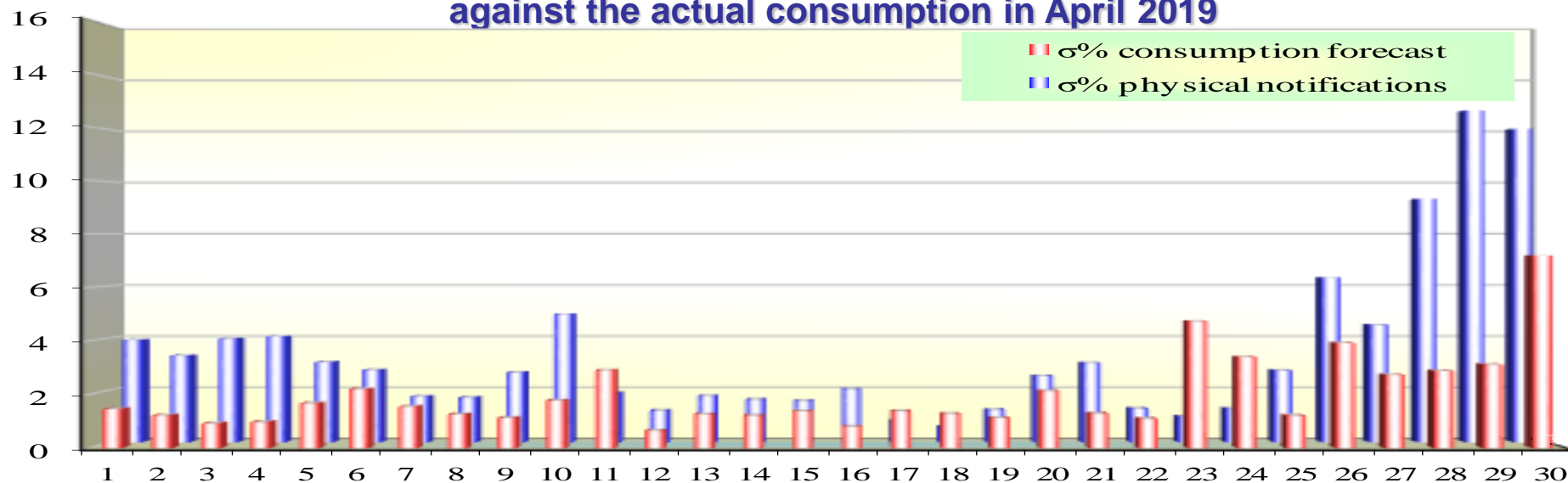


[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	106 045 870	32 017 367	29 926 340	29 740 335									49 432 478	197 729 912
Income / Downward	6 528 407	2 166 232	1 159 092	595 988									2 612 430	10 449 719
CE Cost	1 639 293	0	0	0									409 823	1 639 293
Cost for energy traded on the Balancing Market (includes startup cost)	97 878 170	29 851 135	28 767 248	29 144 347									46 410 225	185 640 900
Cost+/Income- (BE and CE)	99 517 463	29 851 135	28 767 248	29 144 347									46 820 048	187 280 193
Total (absolute sum) (BE and CE)	112 574 277	34 183 599	31 085 432	30 336 324									52 044 908	208 179 631

## 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 April 2019



April 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
σ% consumption forecast	1.46	1.22	0.92	0.97	1.67	2.20	1.55	1.26	1.13	1.78	2.91	0.65	1.26	1.22	1.38	0.80	1.38	1.28	1.12	2.13	1.29	1.09	4.74	3.40	1.21	3.93	2.74	2.89	3.12	7.19
σ% physical notifications	3.92	3.32	3.97	4.06	3.08	2.77	1.75	1.71	2.68	4.92	1.89	1.21	1.77	1.63	1.58	2.03	0.82	0.58	1.24	2.55	3.04	1.29	0.98	1.28	2.75	6.32	4.50	9.35	12.73	12.03

**σ<sub>average % consumption forecast</sub> = 2.00**

**σ<sub>average % physical notifications</sub> = 3.39**

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

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

**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 66 BRPs, 111 market participants, holding 220 commercially operating dispatchable units. Given the fact that PRE MENAROM PEC did not take the necessary steps to activate its own BRP, respectively establishing a financial guarantee correlated with the PRE size or reducing the PRE size in accordance with the value of the financial guarantee established, BRP MENAROM PEC was revoked starting with 01.04. 2019, in accordance with the provisions of art. 57 of ANRE Order no. 31 / 31.01.2018.

BRP INDUSTRIAL INSTALSERVICE SRL has been revoked since 15.04.2019, in accordance with the provisions of art. 39 of ANRE Order no. 31 / 31.01.2018.

BRP UGM ENERGY TRADING SRL has been revoked since 22.04.2019, having the license withdrawn upon request, as a result of the bankruptcy.

### April 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	0.11	1.00	0.10	51031.59	51031.59	0.00%	3	72.65%	100.00%	72.65%	100.00%	6023	6023
Fast Tertiary	2.64	708.34	0.10	172487.34	166836.01	3.28%	9	80.19%	98.89%	80.77%	98.99%	6747	6824
Slow Tertiary	11.11	40.00	0.10	18304.23	18221.53	0.45%	2	99.99%	100.00%	100.00%	100.00%	9998	10000
				241823.16	236089.13	2.37%							

#### Upward regulation

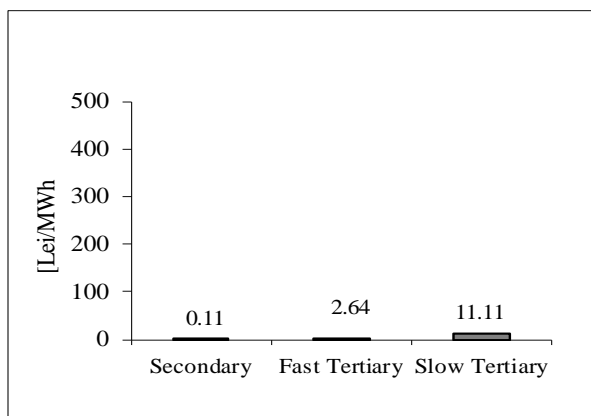
	Monthly	Maximum	Minimum	Total	Actually	Deviation	C1	C3	C1	C3	HHI	HHI	
	average			selected	delivered	%	Number	(selected)	(actually delivered)		(selected)	(actually delivered)	
Secondary	671.73	850.00	450.00	26894.80	26894.80	0.00%	3	70.72%	100.00%	70.72%	100.00%	5857	5857
Fast Tertiary	462.25	849.00	229.00	26130.95	25126.63	3.84%	6	53.53%	96.11%	54.53%	96.22%	4417	4448
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				53025.75	52021.44	1.89%							



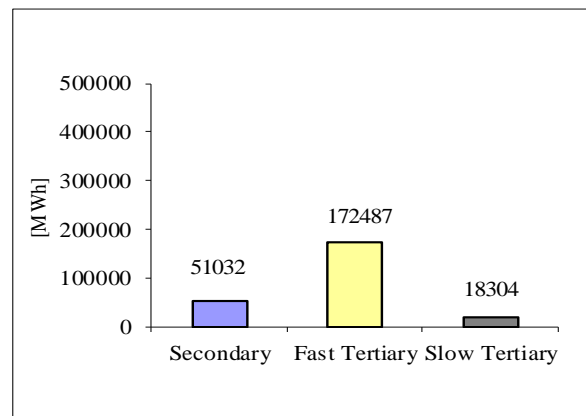
## Balancing energy – Selected prices and quantities in April 2019

April 2019

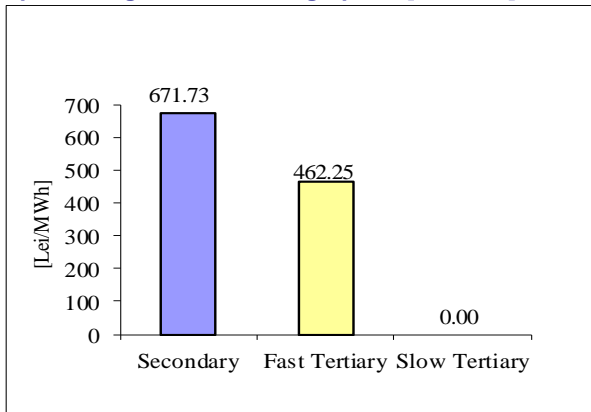
Downward regulation - average price [lei/MWh]



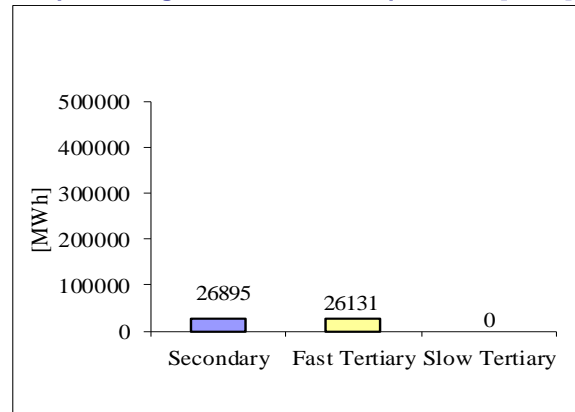
Downward regulation - selected quantities [MWh]



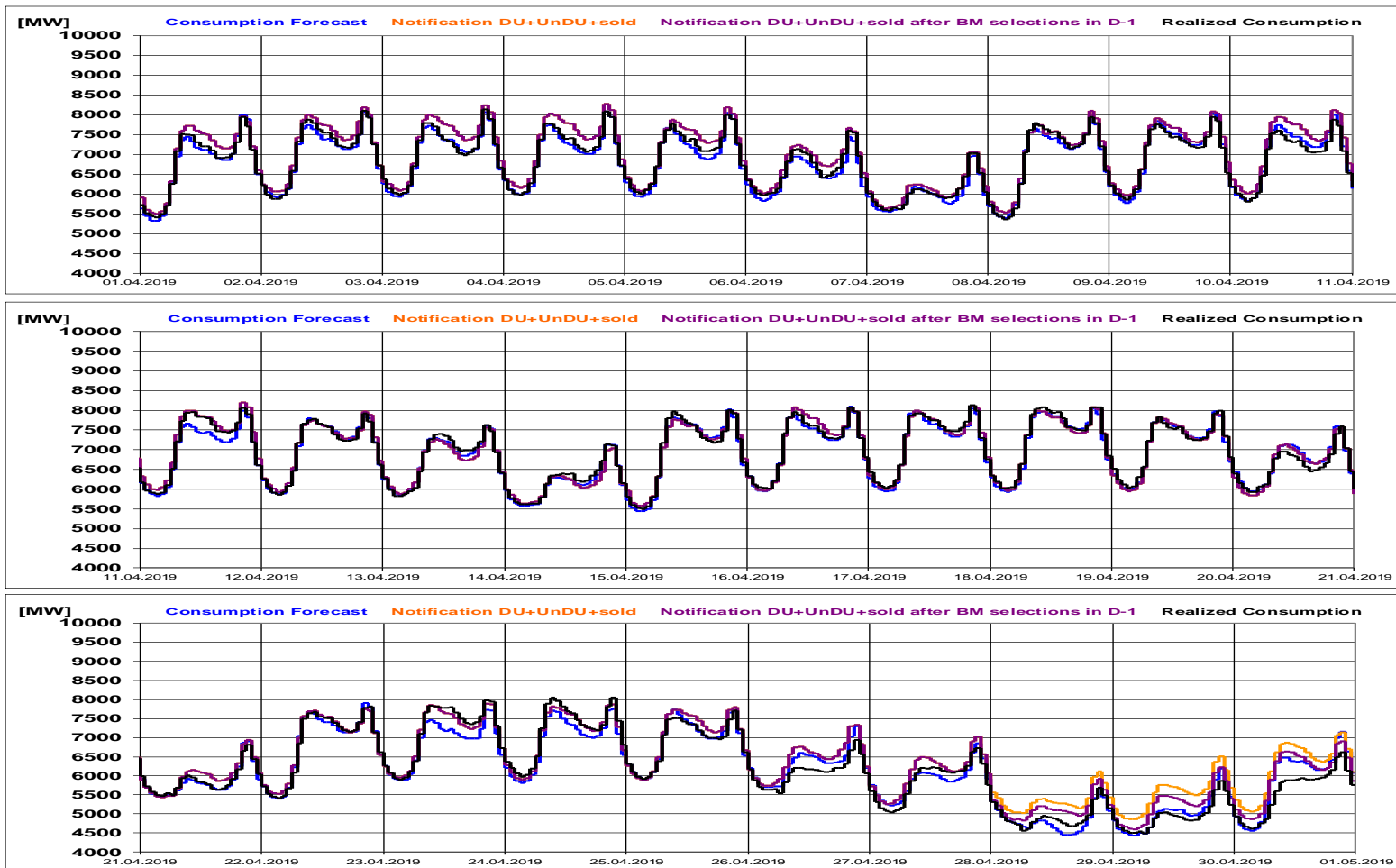
Upward regulation - average price [lei/MWh]



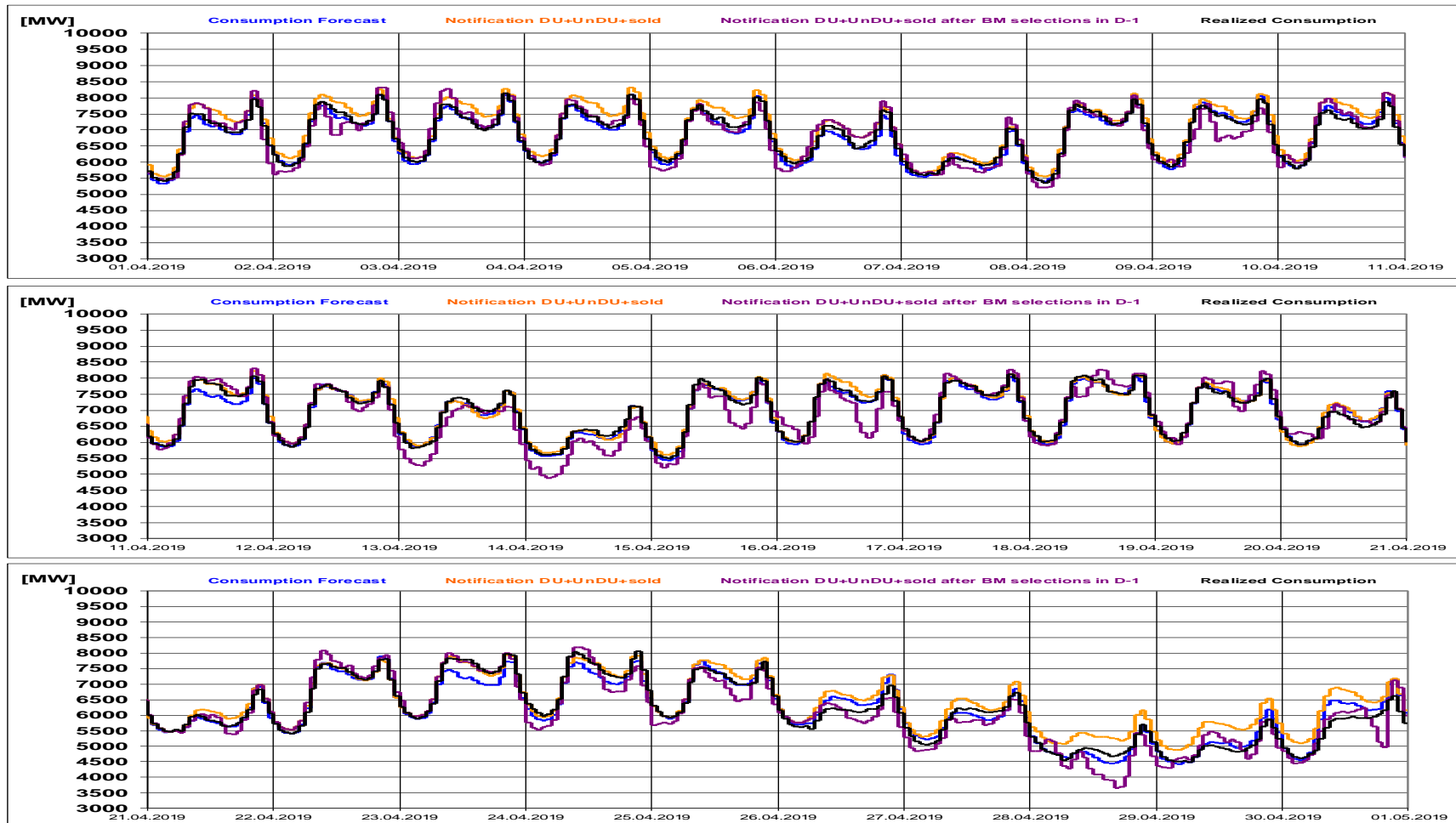
Upward regulation - selected quantities [MWh]



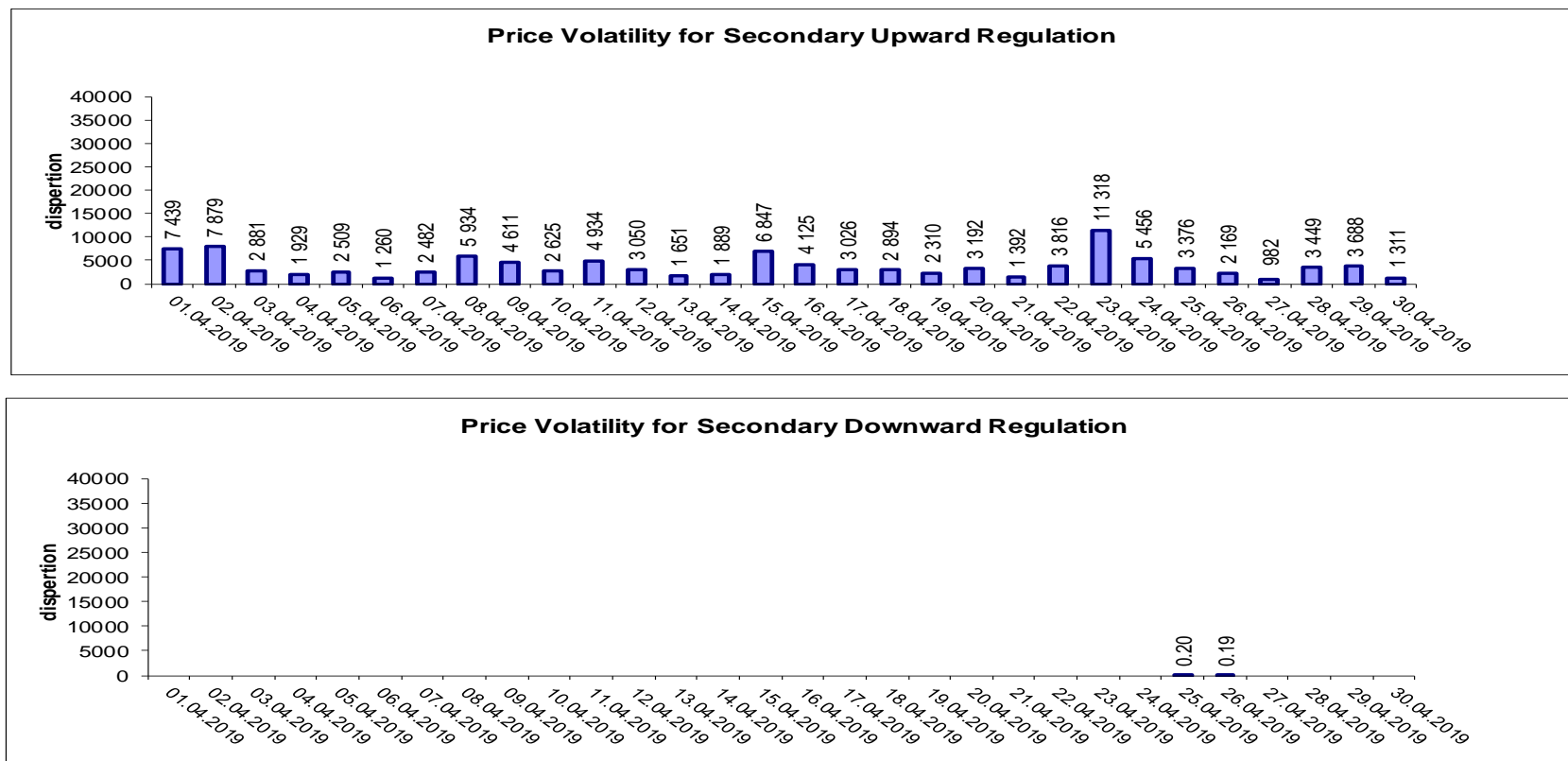
## Realized consumption. forecast. notifications. notifications after BM selections in D-1



## 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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