

Transelectrica®

Societate Administrată în sistem Dualist

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# MARKET MONITORING REPORT

## Balancing Market

### February 2019

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romania2019.eu  
Președinția României la Consiliul Uniunii Europene

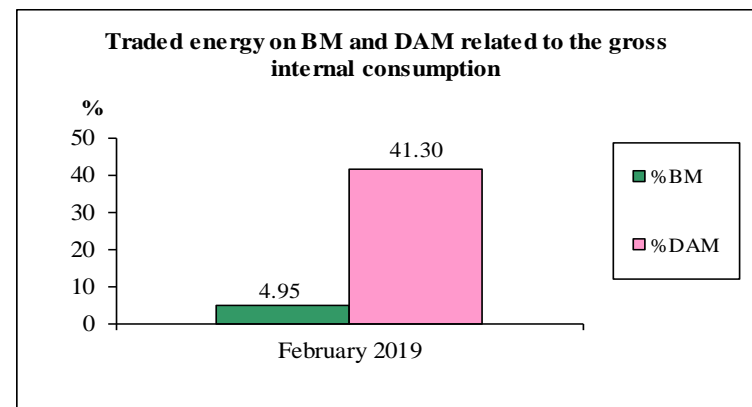
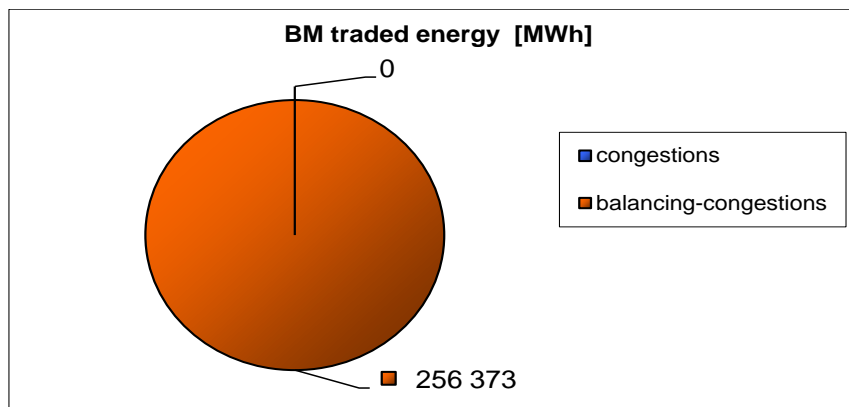
ANRE - Romanian Energy Regulatory Authority  
HHI - Herfindahl-Hirschman Index  
BRP - Balance Responsible Party  
BM - Balancing Market  
DAM - Day Ahead Market  
TSO - Transmission System Operator  
DU – Dispatchable Unit  
PN – Physical Notification  
NDC - National Dispatching Center  
C1 – The market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

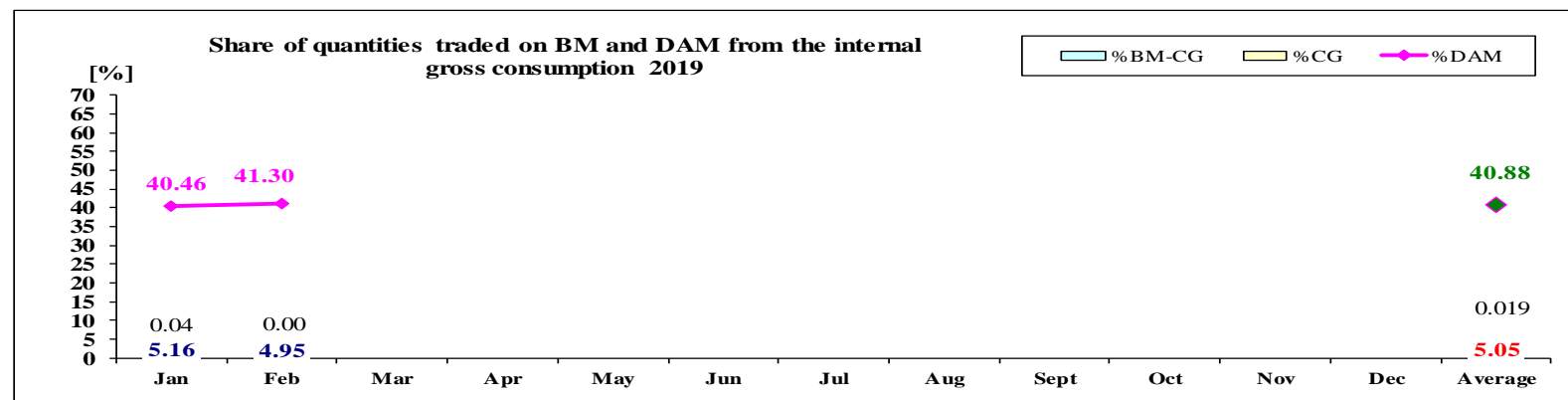
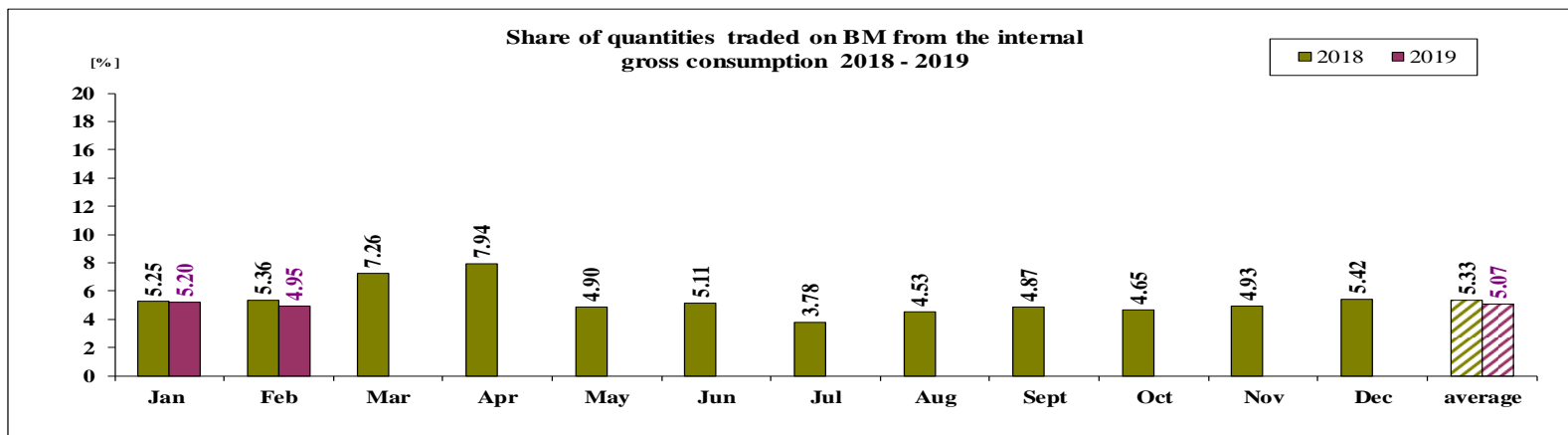
## The Balance Generation/Consumption

- The average monthly value of generated power was 7 714 MW and the actual internal gross consumption was 7 705 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 **2.33%**. The greatest daily deviation regarding the notifications was registered in **17.02 (4.58%)**.
- The energy used in February 2019 for balancing the power system and congestion management was 256 373 MWh (with an average power of 382 MW, which means **4.95%** from the internal gross consumption). No transactions were made for congestion management.
- The energy traded in February 2019 on Day Ahead Market was 2 138 232 MWh (with an average power of 3 182 MW, which means **41.30%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was **29 851 135 lei** (with an average weighted price of 116 lei/MWh), from which:
  - the cost for energy traded on the Balancing Market was 29 851 135 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.



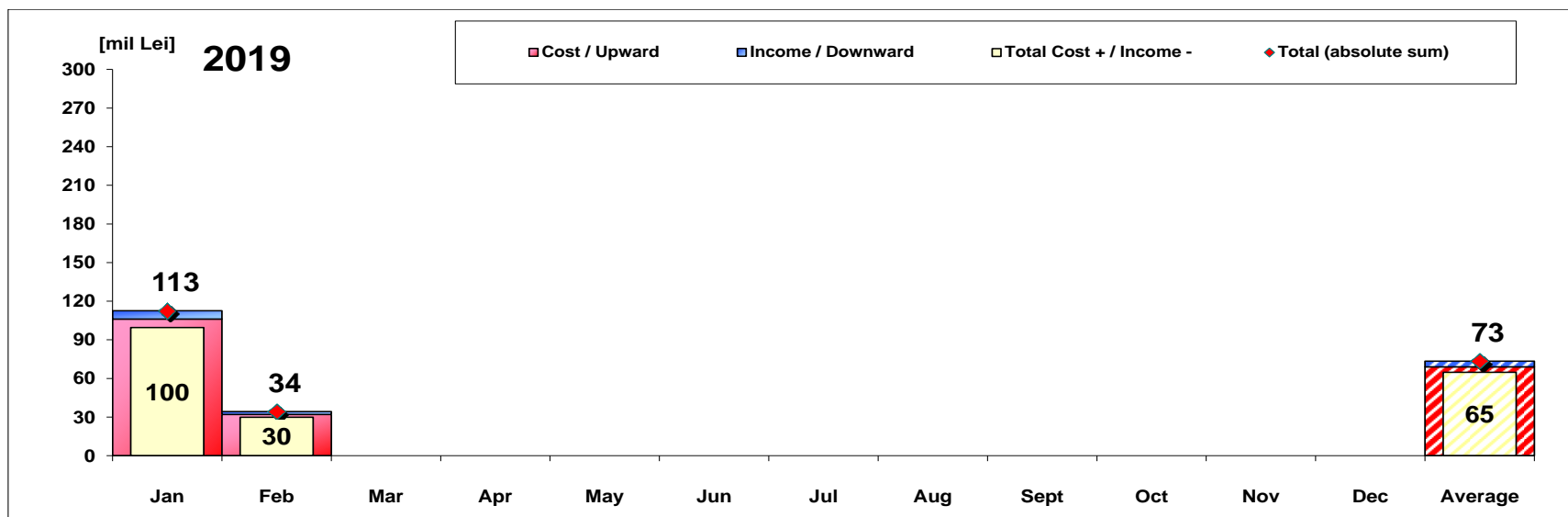
## The Balance Generation / Consumption

• 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											5.07
%DAM	40.46	41.30											40.88
%CG	0.04	0.00											0.019
%BM-CG	5.16	4.95											5.05

# Balancing Energy Market Transactions

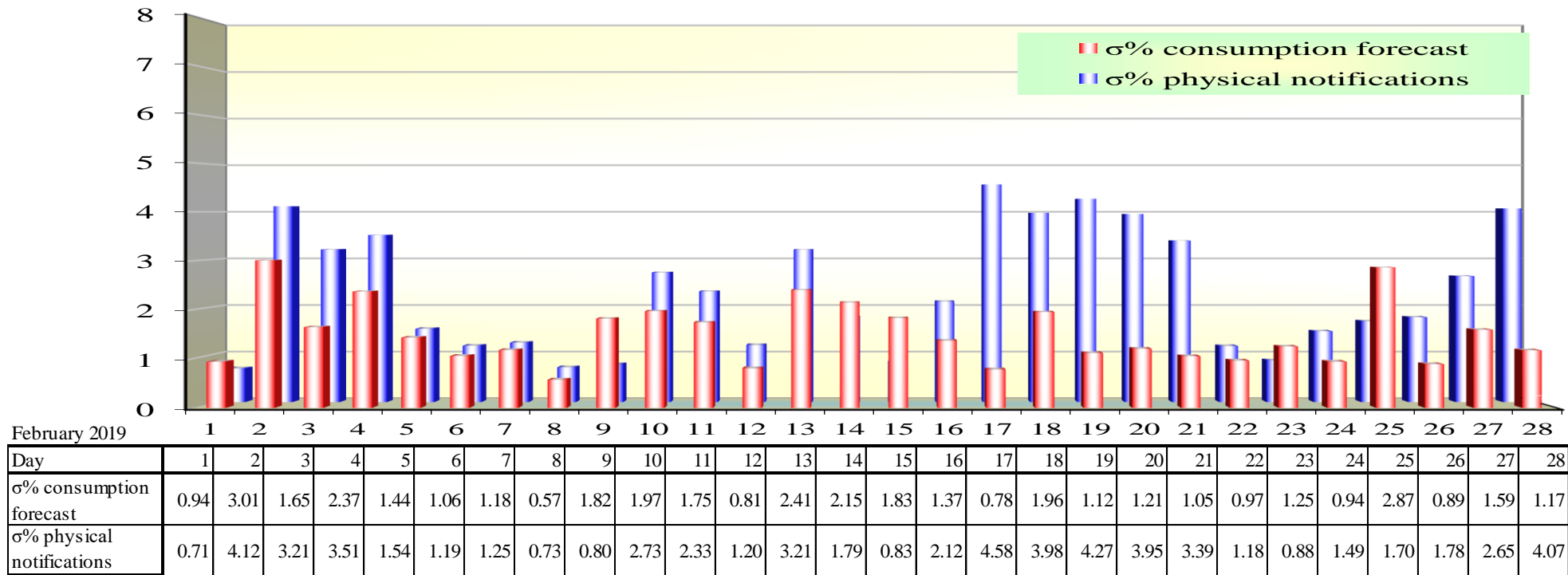


[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	106 045 870	32 017 367											69 031 618	138 063 237
Income / Downward	6 528 407	2 166 232											4 347 320	8 694 639
CE Cost	1 639 293	0											819 647	1 639 293
Cost for energy traded on the Balancing Market (includes startup cost)	97 878 170	29 851 135											63 864 652	127 729 304
Cost+/Income- (BE and CE)	99 517 463	29 851 135											64 684 299	129 368 598
Total (absolute sum) (BE and CE)	112 574 277	34 183 599											73 378 938	146 757 876

## 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 February 2019



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

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

**R = Realized Consumption;**  
**N = Physical Notifications;**  
**P = Consumption Forecast.**

**σ average % consumption forecast = 1.51**

**σ average % physical notifications = 2.33**

## Balancing energy – Selected prices and quantities

- At the beginning of the month on the Balancing Market operated 65 BRPs, 112 market participants, holding 223 commercially operating dispatchable units. Starting with 15<sup>th</sup> of February dispatchable units IERNUT2 ((30WELCEIERN2---9) and IERNUT 3 (30WELCEIERN3---4) were removed from DU's list, the reason being the final withdrawal from operation.

### February 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)	(actually delivered)	
Secondary	0.10	0.10	0.10	46727.24	46727.24	0.00%	4	70.79%	98.67%	70.79%	98.67%	5505	5505
Fast Tertiary	14.40	805.77	0.10	156238.93	150513.76	3.66%	8	40.22%	99.72%	40.45%	99.75%	3588	3593
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				202966.17	197241.00	2.82%							

#### Upward regulation

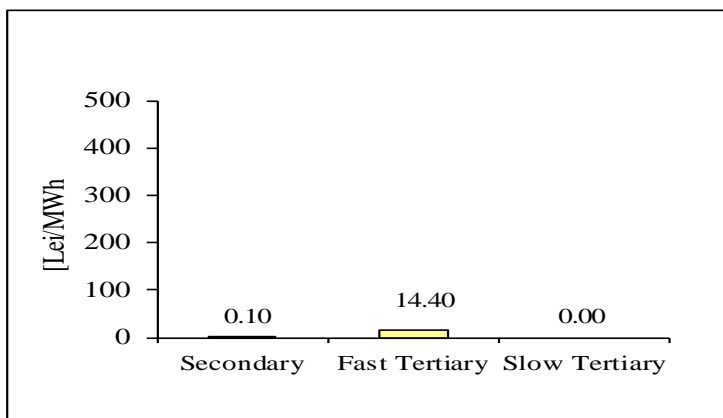
	Monthly	Maximum	Minimum	Total	Actually	Deviation	C1	C3	C1	C3	HHI	HHI	
	average			selected	delivered	%	Number	(selected)	(actually delivered)		(selected)	(actually delivered)	
Secondary	679.48	855.31	523.01	29610.22	29610.22	0.00%	4	72.71%	98.78%	72.71%	98.78%	5776	5776
Fast Tertiary	402.50	826.22	0.10	30423.30	29522.19	2.96%	9	58.19%	87.45%	58.73%	87.82%	3946	3995
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				60033.51	59132.41	1.50%							



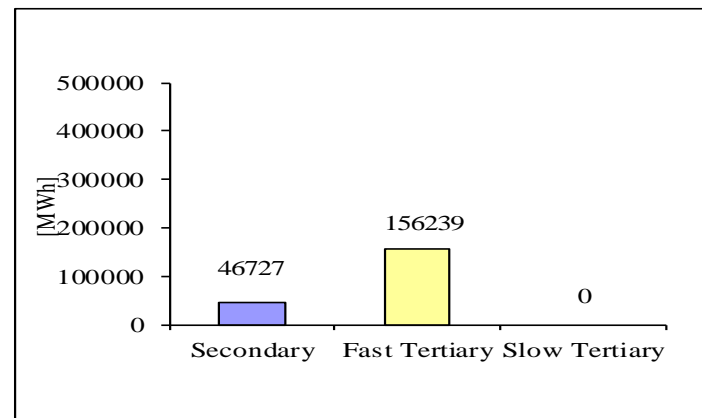
## Balancing energy – Selected prices and quantities in February 2019

February 2019

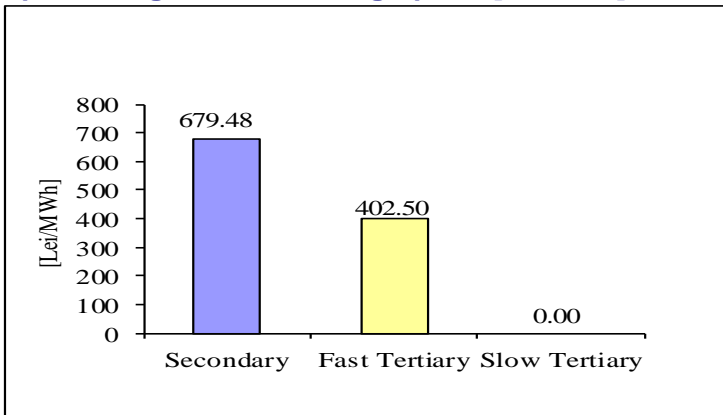
**Downward regulation - average price [lei/MWh]**



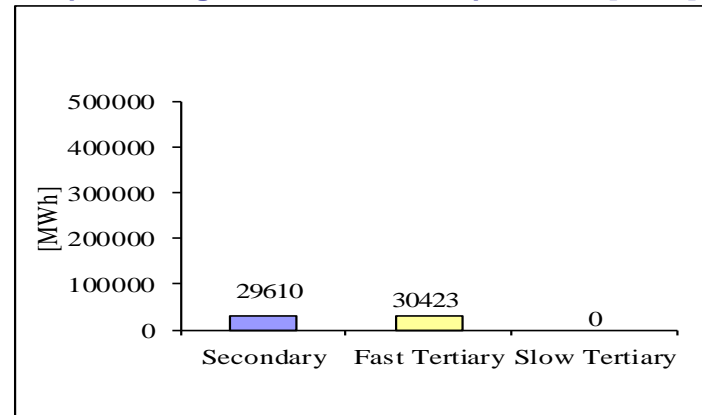
**Downward regulation - selected quantities [MWh]**



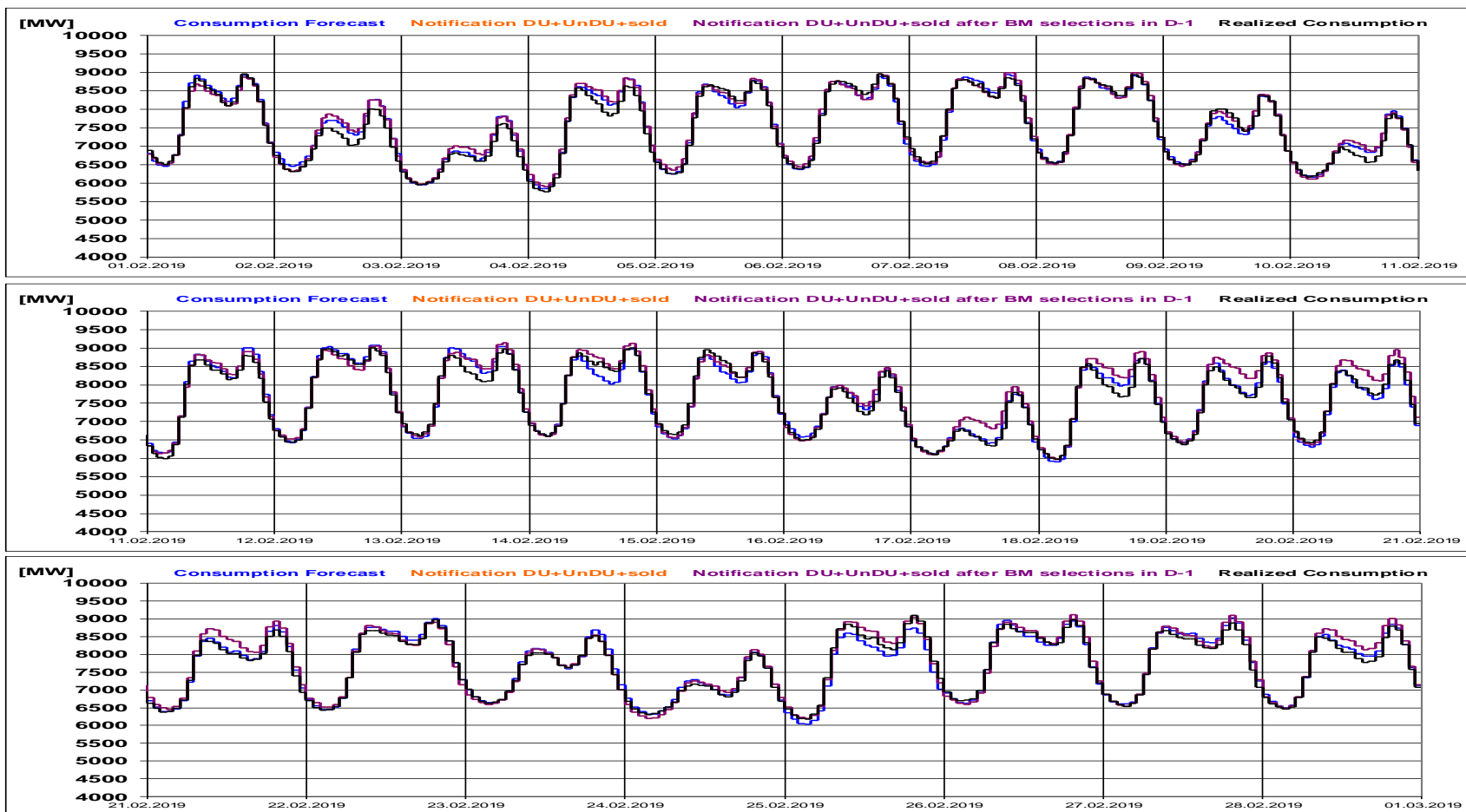
**Upward regulation - average price [lei/MWh]**



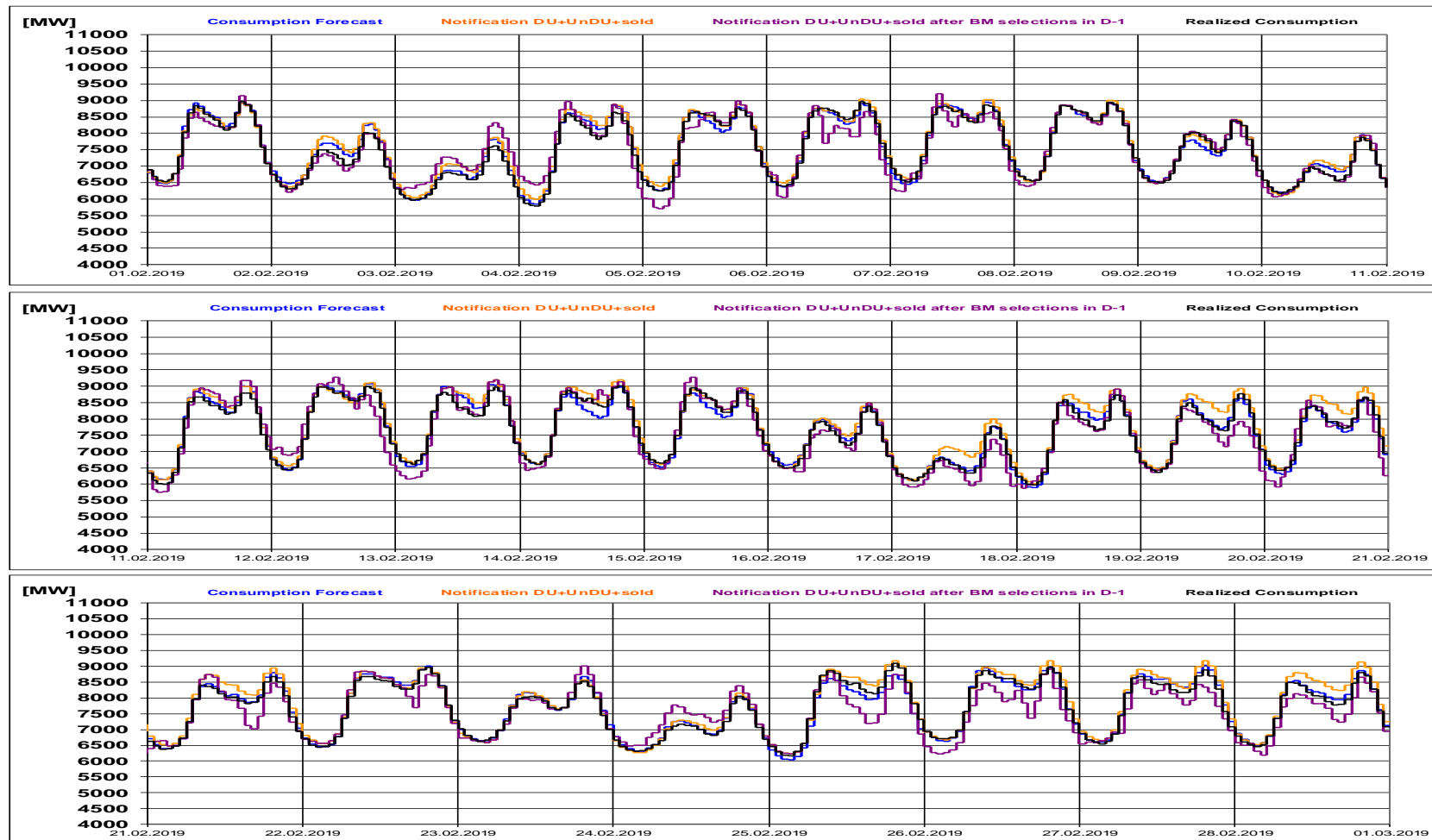
**Upward regulation - selected quantities [MWh]**



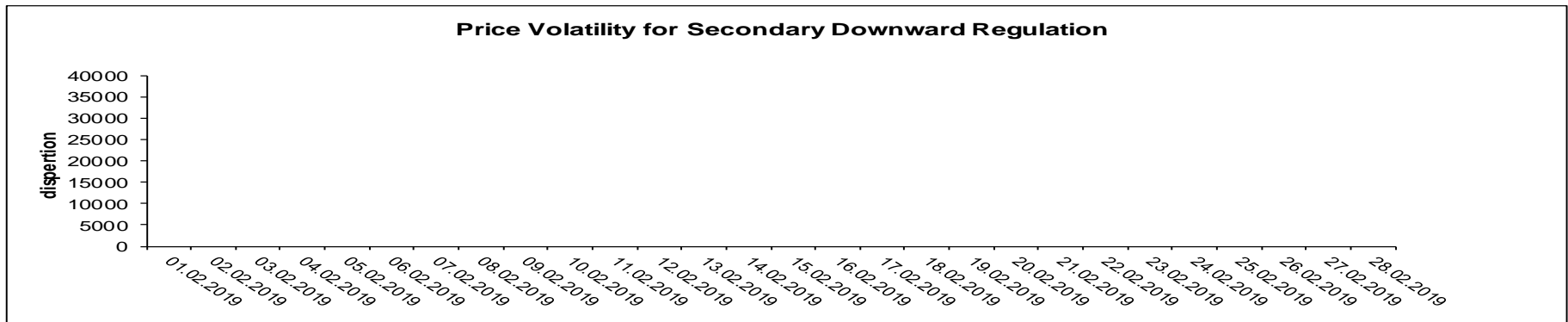
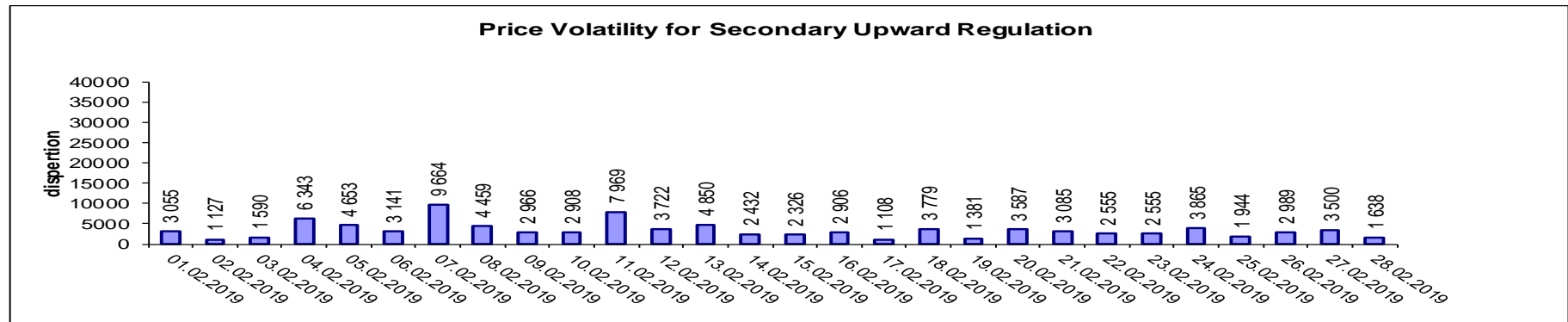
## Realized consumption. forecast. notifications. notifications after BM selections in D-1



## 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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