

Transelectrica®

Societate Administrată în sistem Dualist

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# MARKET MONITORING REPORT

## Balancing Market

### January 2019

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romania2019.eu  
Președinția României la Consiliul Uniunii Europene

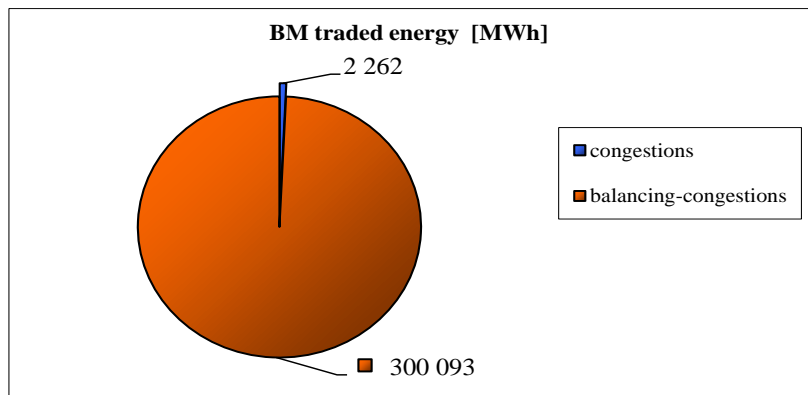
ANRE - Romanian Energy Regulatory Authority  
HHI - Herfindahl-Hirschman Index  
BRP - Balance Responsible Party  
BM - Balancing Market  
DAM - Day Ahead Market  
TSO - Transmission System Operator  
DU – Dispatchable Unit  
PN – Physical Notification  
NDC - National Dispatching Center  
C1 – The market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

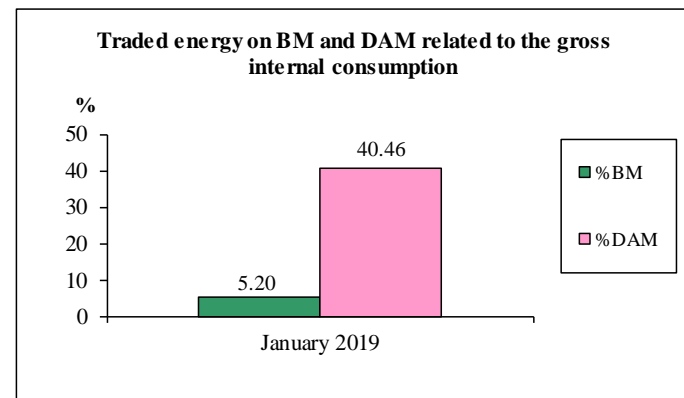
Using the records from the markets data bases, Transelectrica prepares daily, weekly and monthly monitoring reports. A part of the data included in these reports (those data which are not confidential) are published on the website **www.transelectrica.ro** (section Transparency).

## The Balance Generation/Consumption

- The average monthly value of generated power was 7 425 MW and the actual internal gross consumption was 7 821 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **1.63%**. 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 **2.43%**. The greatest daily deviation regarding the notifications was registered in **12.01 (5.11%)**.
- The energy used in January 2019 for balancing the power system and congestion management was 302 355 MWh (with an average power of 406 MW, which means **5.20%** from the internal gross consumption), from which:
  - the energy used for congestion management was 2 262 MWh (with an average power of 3.04 MW, which means 0.04% from the internal gross consumption).
- The energy traded in January 2019 on Day Ahead Market was de 2 354 247 MWh (with an average power of 3 164 MW, which means **40,46%** from the internal gross consumption). Data are shown in EET hours.
- The total cost of the energy traded on the Balancing Market was 99 517 463 lei (with an average weighted price of 329 lei/MWh), from which:
  - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for congestion management was de 1 639 293 lei (with an average weighted price of 725 lei/MWh, which means 1,65% from total cost);
  - the cost for energy traded on the Balancing Market was 97 878 170 lei (from which 173 200 startup cost).

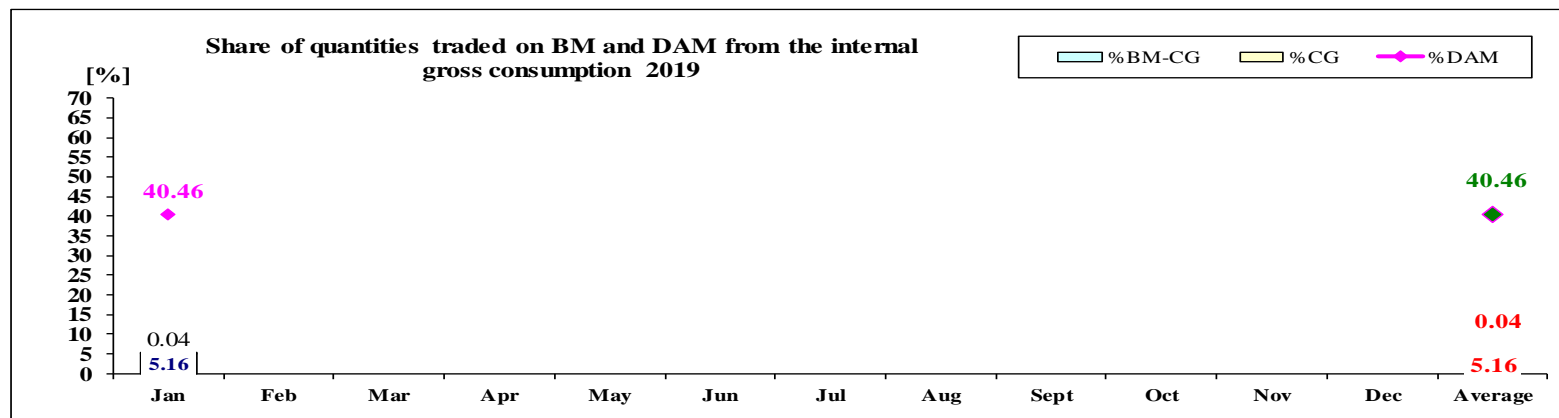
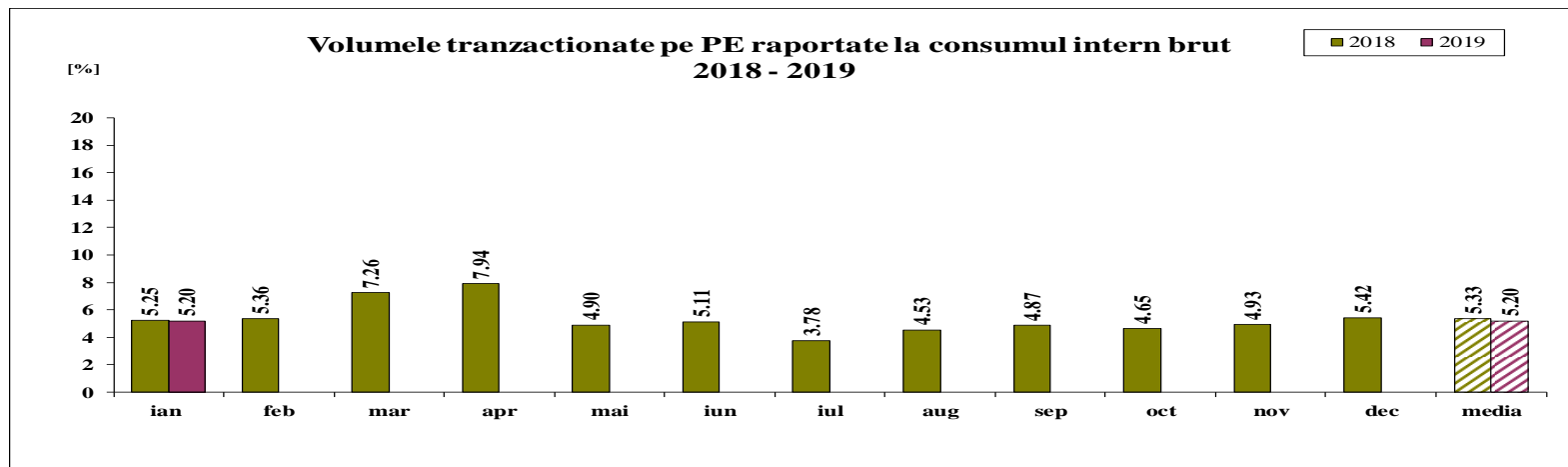


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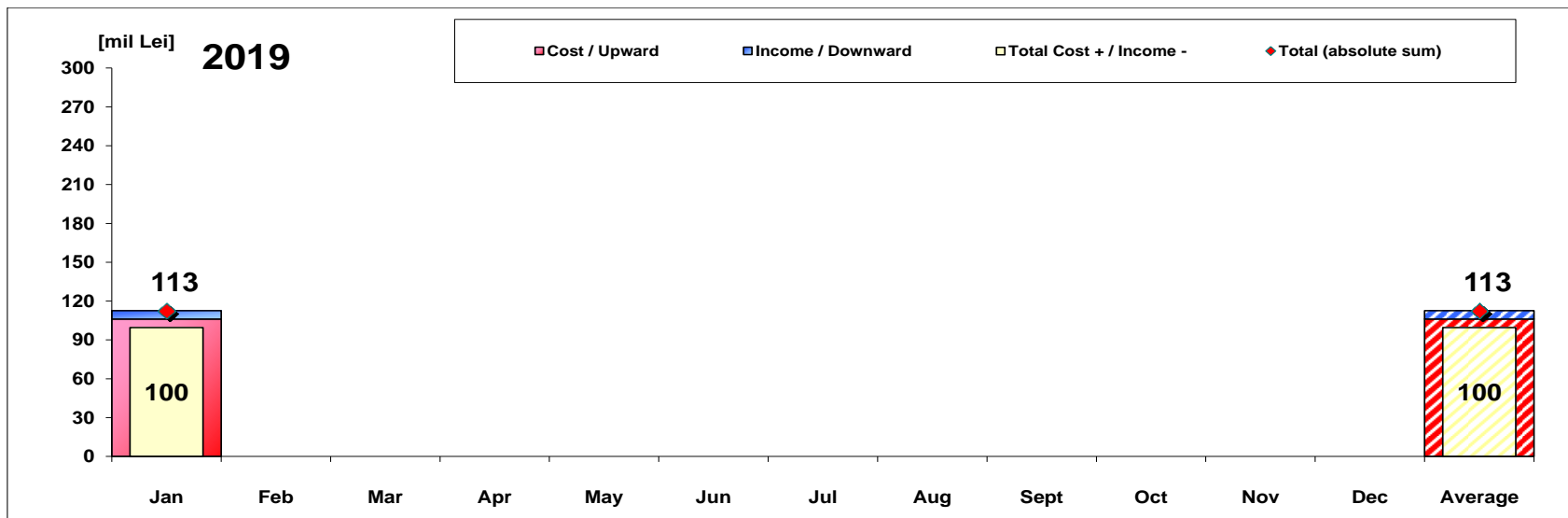


## The Balance Generation / Consumption

• 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												5.20
%DAM	40.46												40.46
%CG	0.04												0.03
%BM-CG	5.16												5.16

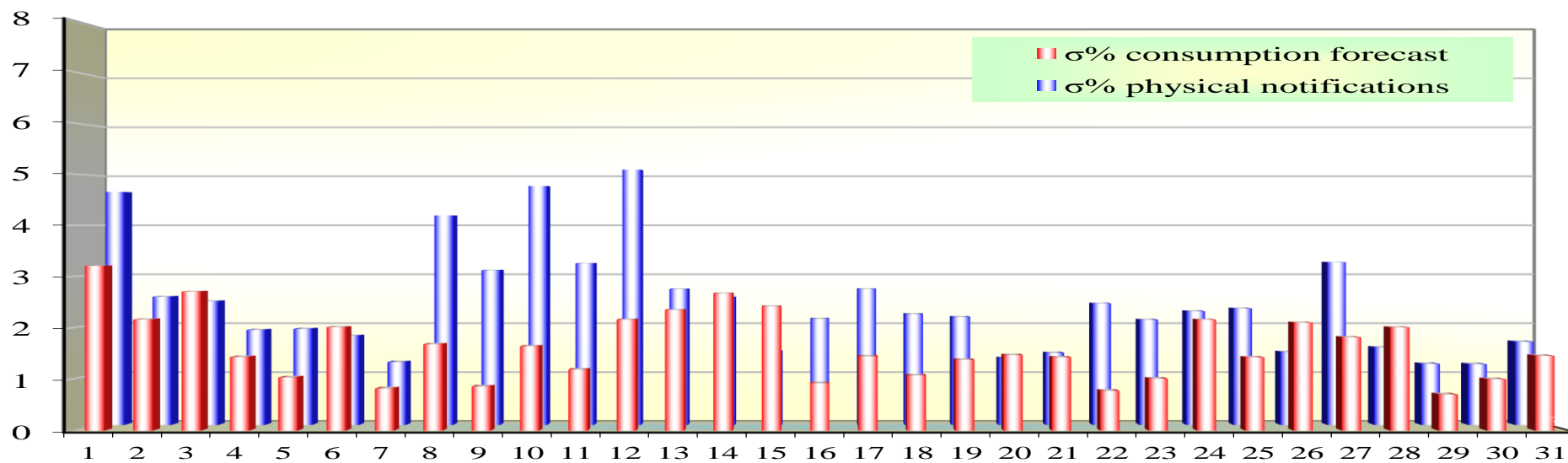


[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	106 045 870												106 045 870	106 045 870
Income / Downward	6 528 407												6 528 407	6 528 407
CE Cost	1 639 293												1 639 293	1 639 293
Cost for energy traded on the Balancing Market (includes startup cost)	97 878 170												97 878 170	97 878 170
Cost+/Income- (BE and CE)	99 517 463												99 517 463	99 517 463
Total (absolute sum) (BE and CE)	112 574 277												112 574 277	112 574 277

BE – Balancing Energy  
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 January 2019



January 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	3.21	2.17	2.71	1.43	1.04	2.01	0.82	1.68	0.86	1.64	1.19	2.16	2.35	2.67	2.42	0.92	1.45	1.07	1.38	1.47	1.43	0.77	1.01	2.16	1.43	2.10	1.82	2.01	0.70	1.00	1.46
σ% physical notifications	4.67	2.57	2.48	1.90	1.92	1.79	1.26	4.20	3.10	4.79	3.23	5.11	2.72	2.56	1.47	2.13	2.72	2.22	2.16	1.34	1.44	2.43	2.11	2.28	2.33	1.46	3.26	1.55	1.22	1.22	1.67

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

**σ<sub>average % consumption forecast</sub> = 1.63**

**σ<sub>average % physical notifications</sub> = 2.43**

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

**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 65 BRPs, 113 market participants, holding 224 commercially operating dispatchable units. Starting with 15<sup>th</sup> of January 2019, DU FAGARAS (30W-FAGARAS---H) was removed from DUs list and BM participant GAS ENERGY ECOTHERM (30XRO-GEE-----8) was removed from BM participant's list, on the grounds that Gas Energy Ecotherm SA, in insolvency, is no longer using the production target from Fagaras.

### January 2019

#### Downward regulation

January 2016

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	44853.29	44853.29	0.00%	5	70.31%	99.31%	70.31%	99.31%	5615	5615
Fast Tertiary	56.39	1100.00	0.10	120480.79	115463.44	4.16%	14	52.11%	99.79%	52.03%	99.80%	3923	3915
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				165334.08	160316.73	3.03%							

#### Upward regulation

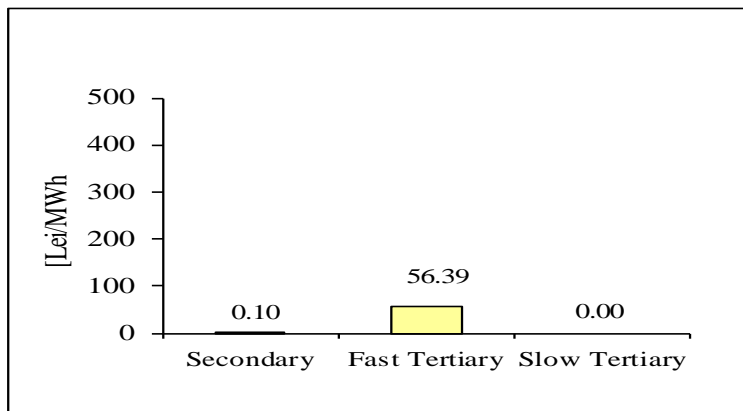
	Monthly	Maximum	Minimum	Total	Actually	Deviation	C1	C3	C1	C3	HHI	HHI	
	average			selected	delivered	%	Number	(selected)	(actually delivered)	(selected)	(actually delivered)	(actually delivered)	
Secondary	797.23	1100.00	500.00	41948.87	41948.87	0.00%	5	68.17%	99.24%	68.17%	99.24%	5397	5397
Fast Tertiary	748.75	1100.00	0.10	87179.71	84282.11	3.32%	14	51.00%	82.15%	52.16%	82.36%	3255	3331
Slow Tertiary	559.45	1060.00	353.00	16089.83	15807.69	1.75%	3	50.21%	100.00%	50.85%	100.00%	3979	3989
				145218.41	142038.67	2.19%							

Note: The maximum price of 1100 lei / MWh recorded for downward transactions was determined by the non-adjustment of the offer for downward by an BMP after the change of notification in the case of a DU with zero initial notification (according to ANRE Order No. 51 / 21.09.2016), resulting in decreasing quantities available at very high prices (prices initially offered for upward power).

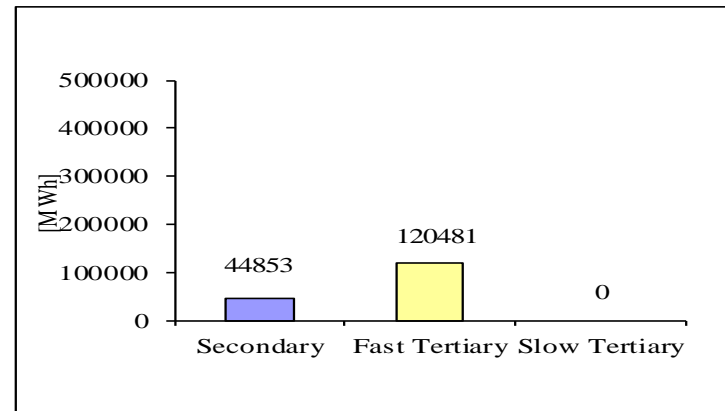


## Balancing energy – Selected prices and quantities in January 2019

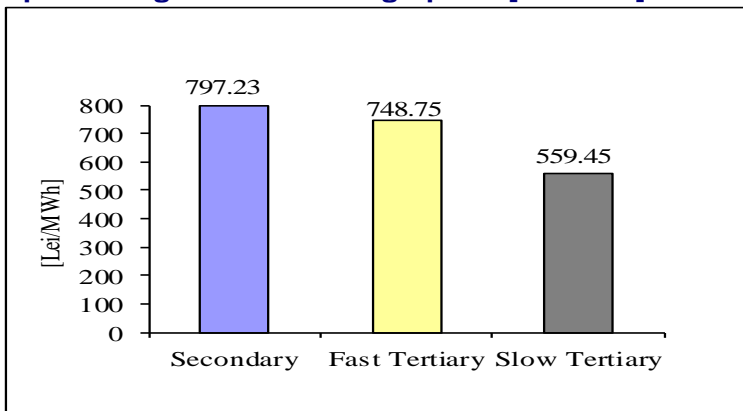
Downward regulation - average price [lei/MWh]



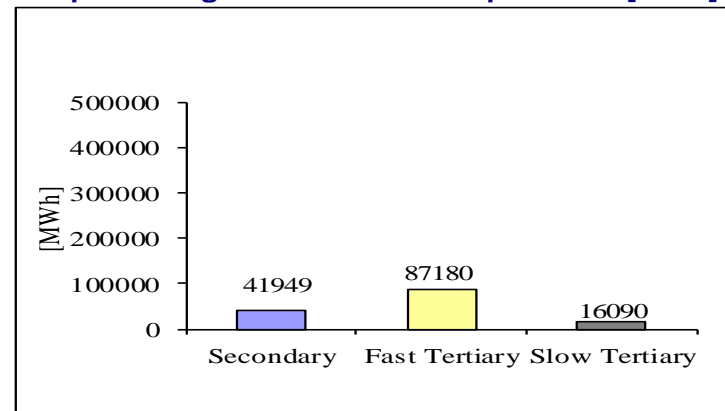
Downward regulation - selected quantities [MWh]



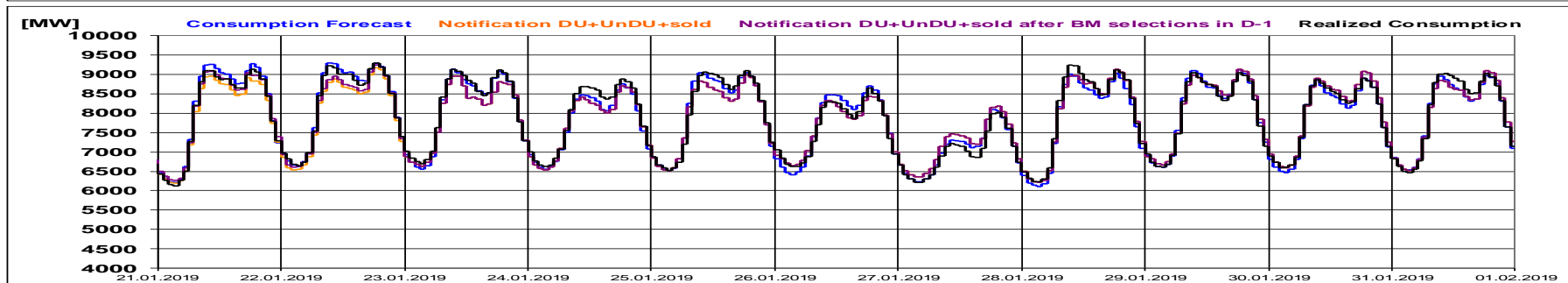
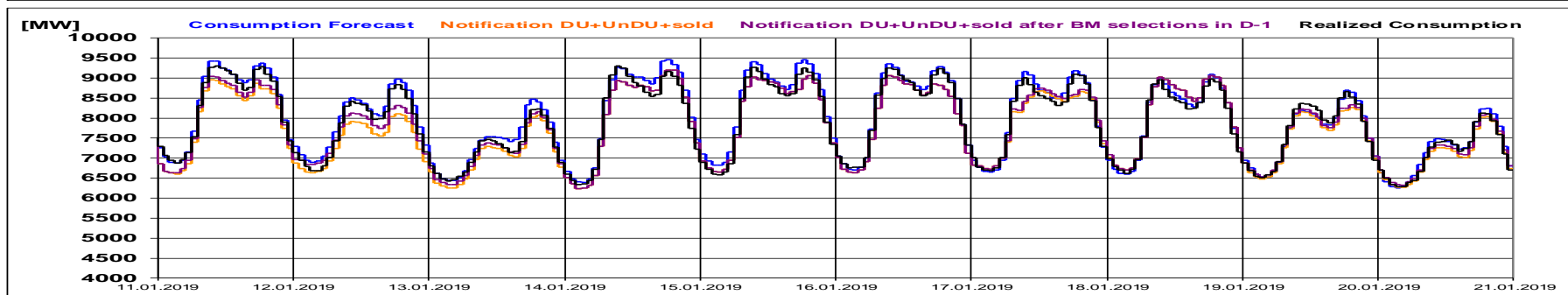
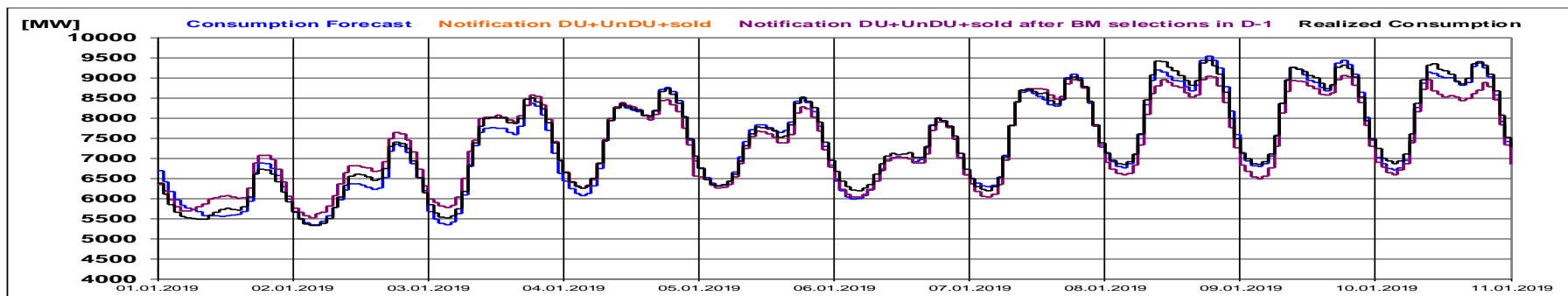
Upward regulation - average price [lei/MWh]



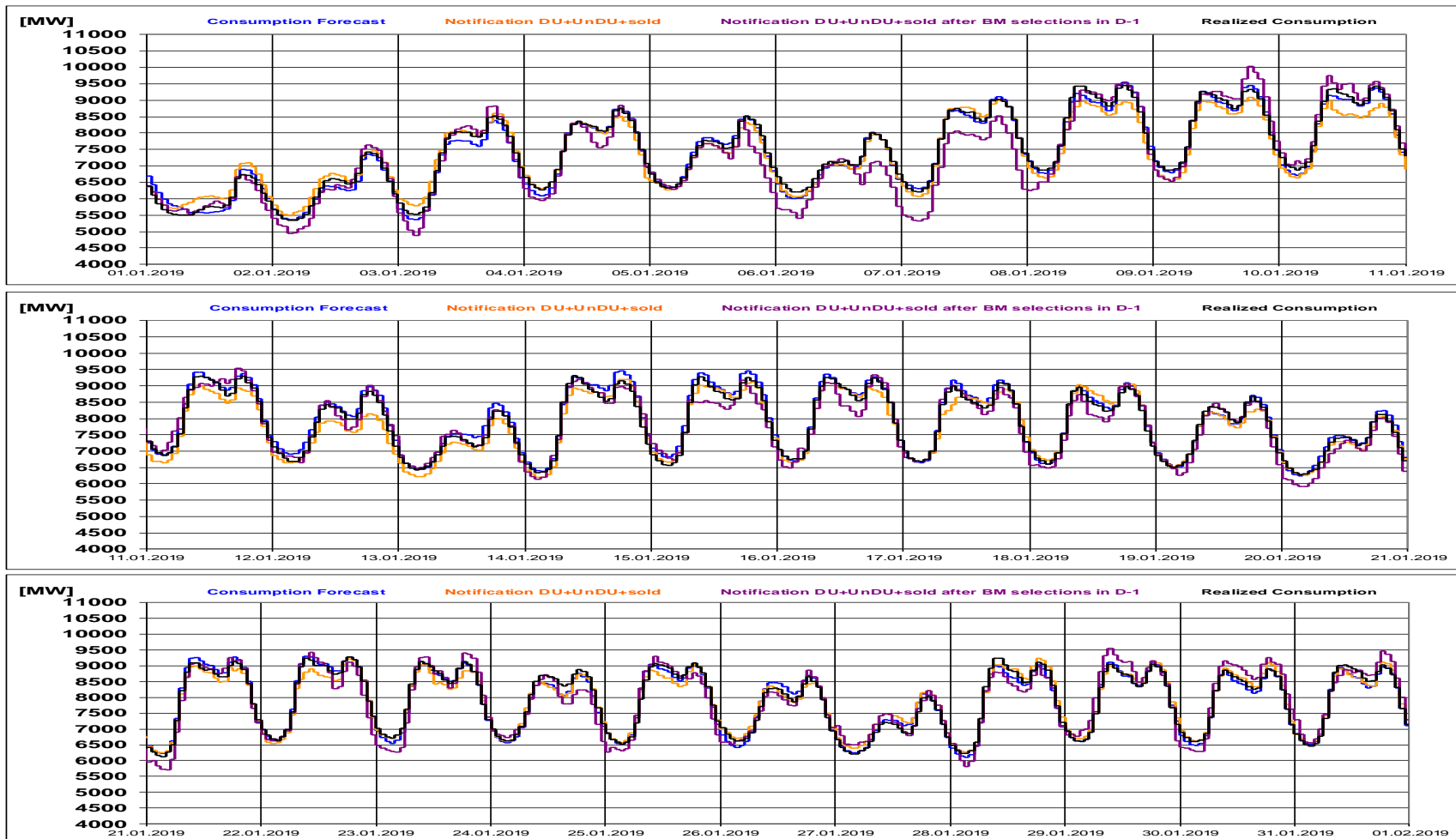
Upward regulation - selected quantities [MWh]



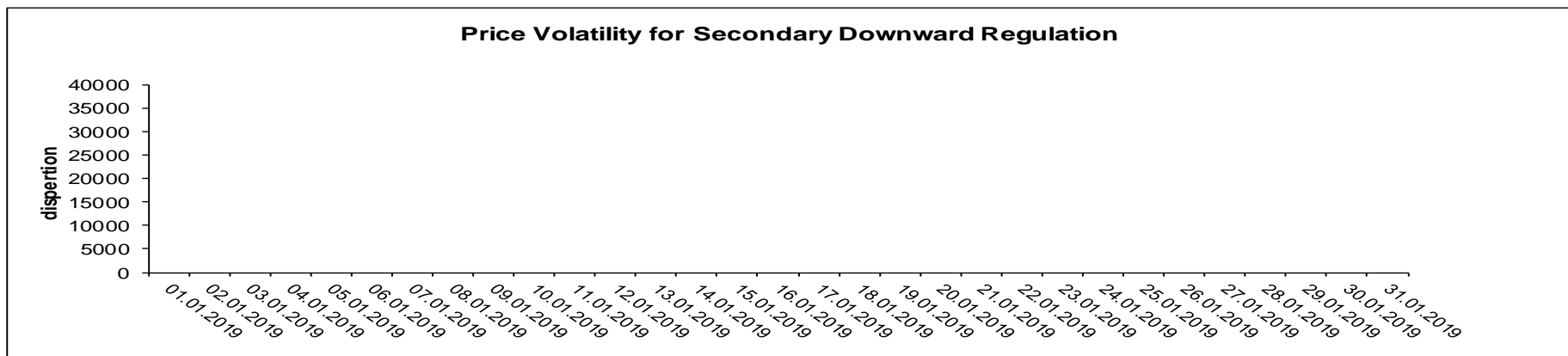
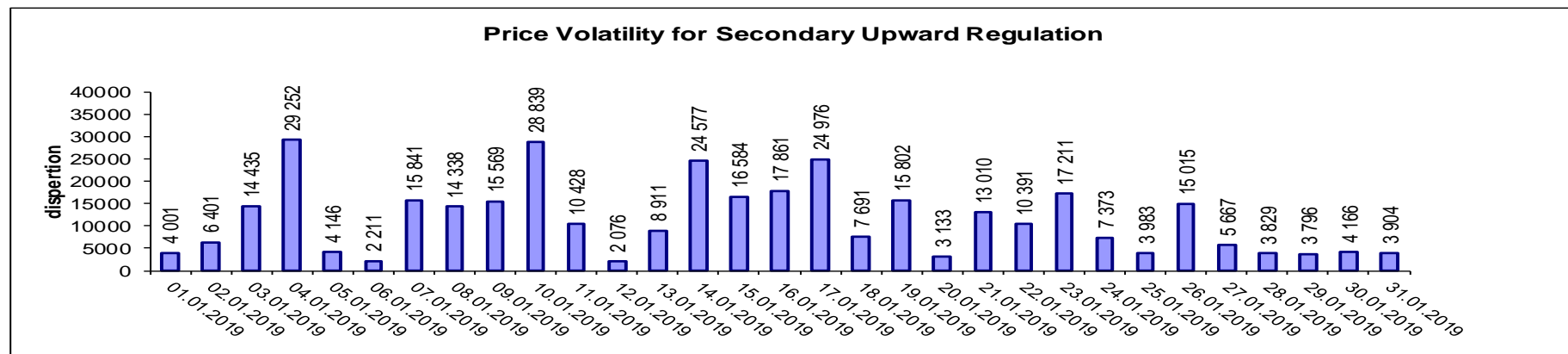
## Realized consumption, forecast, notifications, notifications after BM selections in D-1



## 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:**

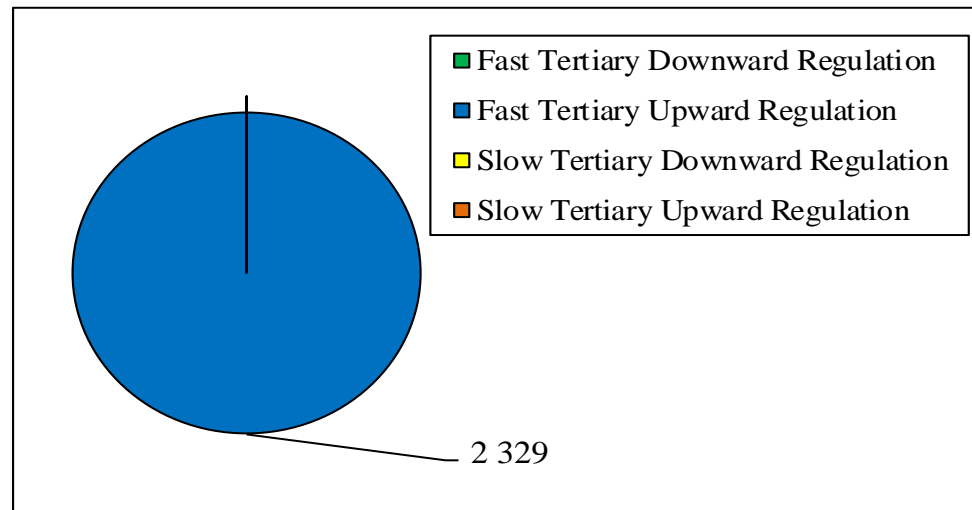
$$\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2$$

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.

## Congestion Management

	Quantities [MWh]		Participants
	<i>Selected</i>	<i>Delivered</i>	<i>Number</i>
Fast Tertiary Downward Regulation	-	-	-
Fast Tertiary Upward Regulation	2329.17	2262.19	2.00
Slow Tertiary Downward Regulation	-	-	-
Slow Tertiary Upward Regulation	-	-	-
	2329.17	2262.19	

### Selected energy [MWh]



Note: The value of delivered energy for congestion management (which induces costs for internal management congestion) is the result of the algorithm used to determine the costs for balancing the power system and internal congestion management.

# Contact

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