



**Transelectrica®**  
Societate Administrată în Sistem Dualist

# **MARKET MONITORING REPORT**

## **Balancing Market**

### **December 2020**

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

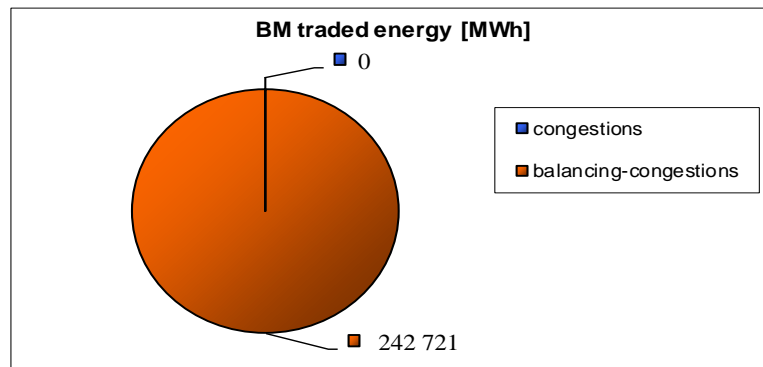
According to the Commercial Code. Transelectrica. the Romanian Transmission System Operator. operates and monitors the activity of 3 types of markets: Balancing Market. Ancillary Services Market and Market for Allocation of Cross-Border Capacities.

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](http://www.transelectrica.ro) (section Transparency).

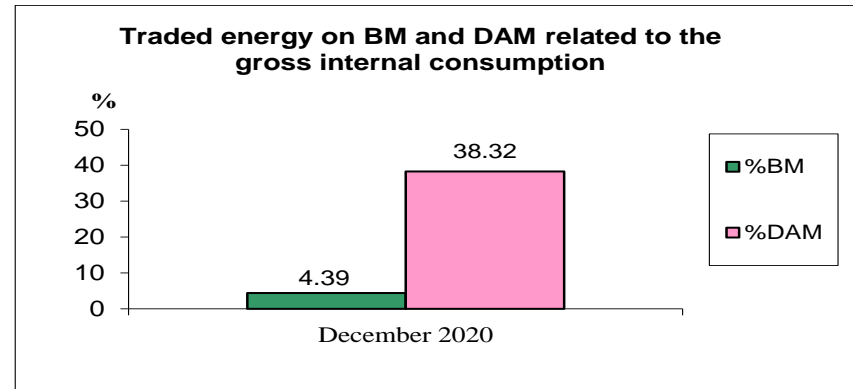
# Balancing Market

## The Balance Generation/Consumption

- The average monthly value of generated power was 7 489 MW and the actual internal gross consumption was 7 429 MW.
- The NDC consumption forecast was close to the actual consumption, the standard deviation being **1.62%**. 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 **3.54%**. The greatest daily deviation regarding the notifications was registered in **29.12 (8.25%)**.
- The energy used in December 2020 for balancing the power system and congestion management was 242 721 MWh (with an average power of 326 MW, which means **4.39%** from the internal gross consumption), from which:
  - The energy traded in December 2020 on Day Ahead Market was 2 117 839 MWh (with an average power of 2 847 MW, which means **38.32%** from the internal gross consumption). Data are shown in EET hours.
  - The total cost of the energy traded on the Balancing Market was 68 010 493 lei (with an average weighted price of 280,2 lei/MWh), from which:
    - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for balancing was de 68 010 493 lei (from which startup cost 0 lei);
    - the cost of the energy paid by C.N.T.E.E. Transelectrica S.A. for congestion management was 0 lei.



December 2020



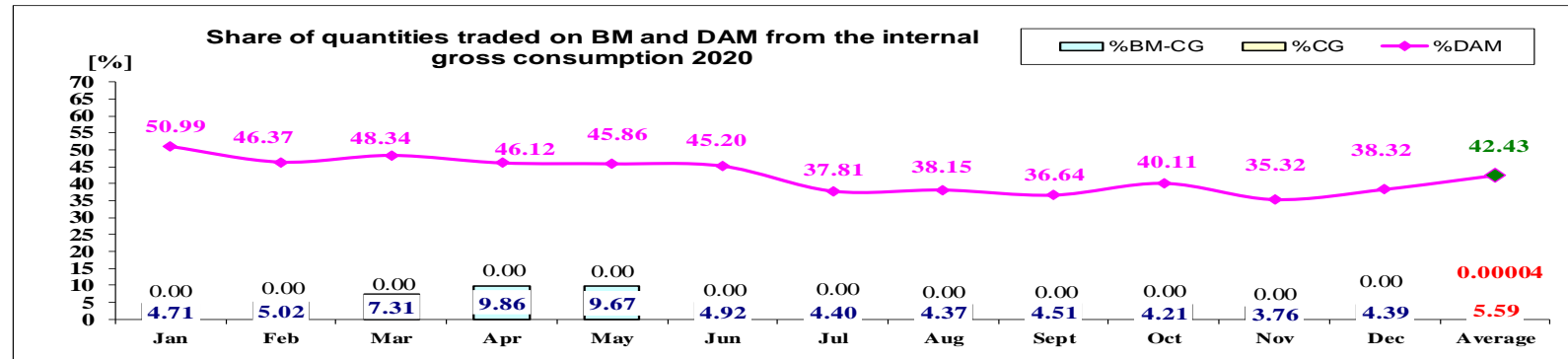
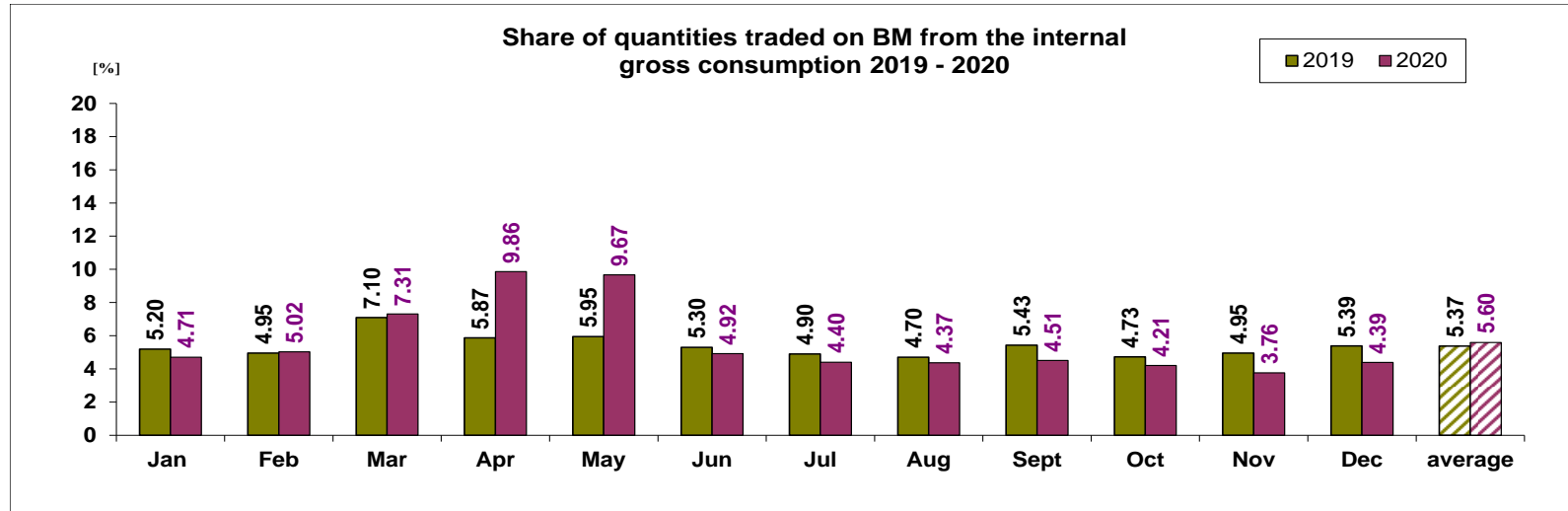


Transelectrica®  
Societate Administrată în Sistem Dualist

# Balancing Market

## 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).



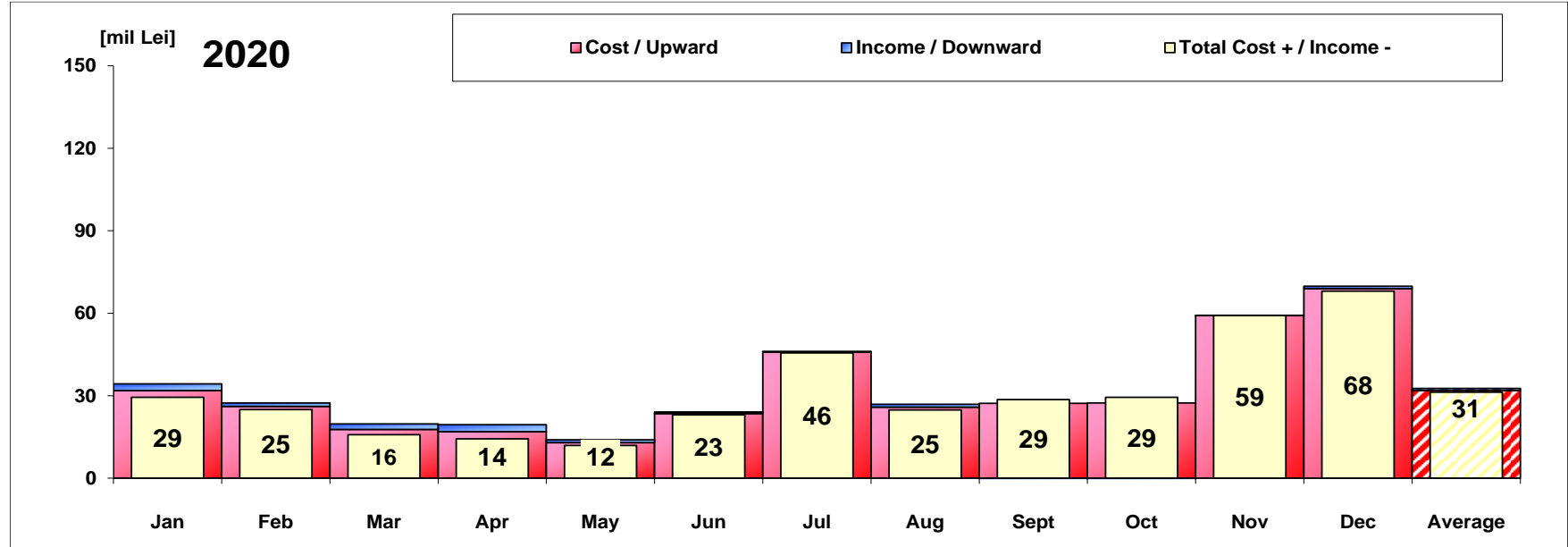
2020													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
%BM	4.71	5.02	7.31	9.86	9.67	4.92	4.40	4.37	4.51	4.21	3.76	4.39	5.60
%DAM	50.99	46.37	48.34	46.12	45.86	45.20	37.81	38.15	36.64	40.11	35.32	38.32	42.43
%CG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00004
%BM-CG	4.71	5.02	7.31	9.86	9.67	4.92	4.40	4.37	4.51	4.21	3.76	4.39	5.59



Transelectrica®

Societate Administrată în Sistem Dualist

# Balancing Energy Market Transactions



[Lei]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average	Total
Cost / Upward	31 888 098	26 145 180	17 762 040	16 885 892	12 922 176	23 543 913	45 840 936	25 852 709	27 215 587	27 361 341	59 192 582	68 913 732	31 960 349	383 524 184
Income / Downward	2 431 458	1 215 818	1 941 606	2 607 194	1 041 810	489 075	275 593	1 023 993	-1 350 525	-2 073 939	26 603	903 238	710 994	8 531 925
CE Cost	0	0	0	0	0	0	0	0	1 650	0	0	0	138	1 650
Cost for energy traded on the Balancing Market (includes startup cost)	29 456 640	24 929 362	15 820 434	14 278 698	11 880 365	23 054 838	45 565 343	24 828 716	28 564 461	29 435 279	59 165 979	68 010 493	31 249 217	374 990 609
Cost+/Income- (BE and CE)	29 456 640	24 929 362	15 820 434	14 278 698	11 880 365	23 054 838	45 565 343	24 828 716	28 566 112	29 435 279	59 165 979	68 010 493	31 249 355	374 992 259

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.

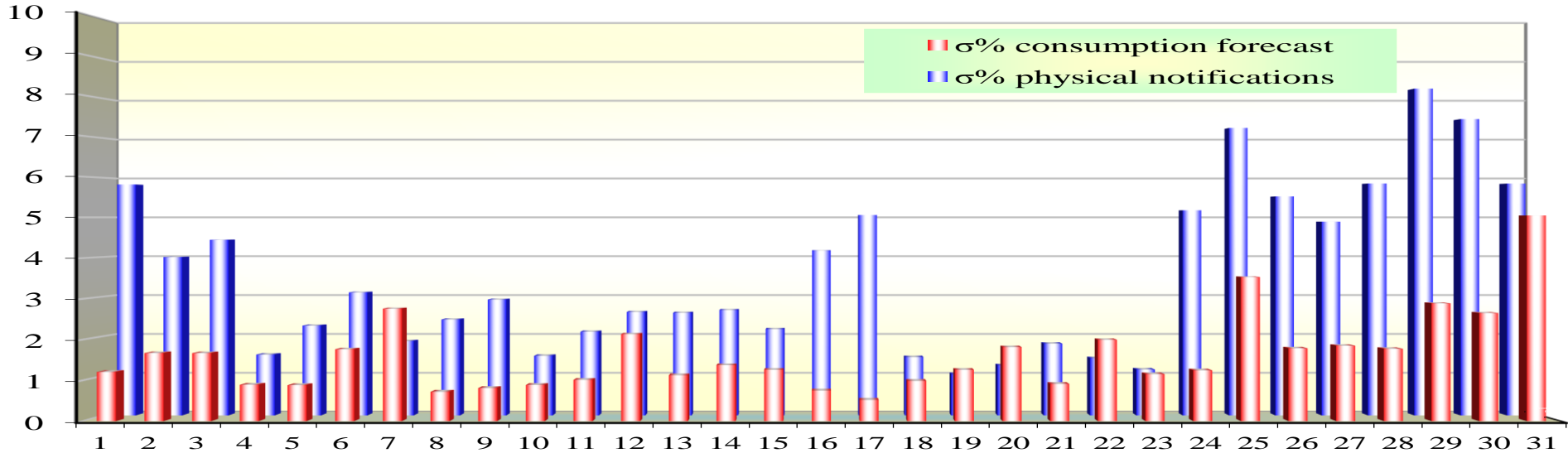


Transelectrica®

Societate Administrată în Sistem Dualist

# Balancing Market

Standard deviation of physical notifications and consumption forecast against the actual consumption in December 2020



dec 2020

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	1.21	1.67	1.67	0.89	0.88	1.76	2.76	0.72	0.81	0.89	1.01	2.13	1.13	1.37	1.26	0.75	0.52	0.99	1.26	1.82	0.91	2.00	1.15	1.24	3.53	1.79	1.85	1.78	2.89	2.65	5.05
σ% physical notifications	5.83	4.00	4.43	1.53	2.27	3.10	1.88	2.42	2.92	1.50	2.11	2.61	2.59	2.66	2.18	4.16	5.06	1.47	1.04	1.26	1.81	1.44	1.16	5.18	7.26	5.53	4.89	5.85	8.25	7.48	5.85

σ<sub>average% consumption forecast</sub> = 1.62

σ<sub>average % physical notifications</sub> = 3.54

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

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

**R = Realized Consumption;**

**N = Physical Notifications;**

**P = Consumption Forecast.**

# Balancing Market

## Balancing energy – Selected prices and quantities

• At the beginning of the month on the Balancing Market operated 65 BRPs, 100 market participants, holding 197 commercially operating dispatchable units. Due to insolvency, starting with 3<sup>th</sup> of December 20230, Electrocentrale GALATI S.A. (30XROSEGALATI - H) was removed from the BRP list, the BMP list, and GALA3, GALA4, GALA5, GALA6 units were removed from DU list.

### December 2020

#### 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	-1.82	0.10	-10.00	53863.68	53863.68	0.00%	4	53.68%	96.19%	53.68%	96.19%	3804	3804
Fast Tertiary	9.18	75.00	-129.70	110149.76	106801.68	3.04%	15	48.82%	92.59%	49.34%	93.01%	3390	3433
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				164013.45	160665.36	2.04%							

#### 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	809.83	1500.00	463.87	30410.96	30410.96	0.00%	4	56.66%	95.88%	56.66%	95.88%	4019	4019
Fast Tertiary	856.85	1179.38	311.59	53596.14	51645.15	3.64%	11	50.64%	85.97%	51.79%	86.06%	3557	3603
Slow Tertiary	-	-	-	-	-	-	-	-	-	-	-	-	-
				84007.10	82056.11	2.32%							





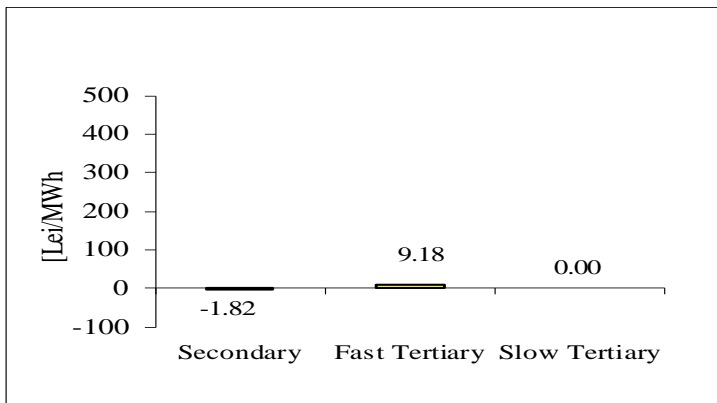
Transelectrica®  
Societate Administrată în Sistem Dualist

# Balancing Market

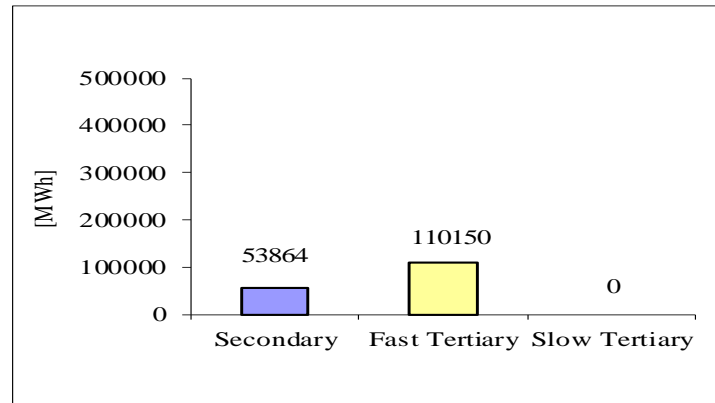
## Balancing energy – Selected prices and quantities in December 2020

December 2020

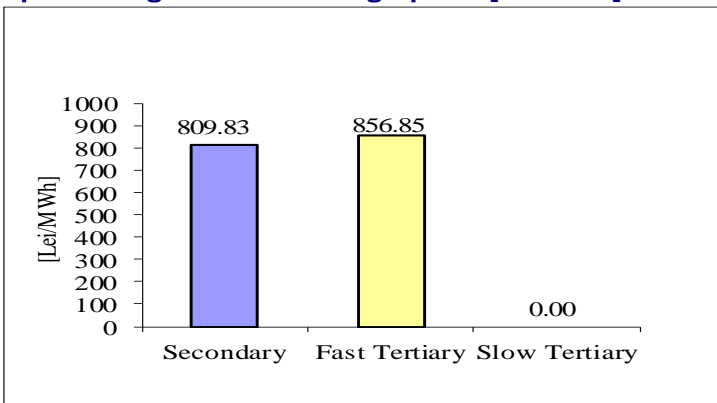
**Downward regulation - average price [lei/MWh]**



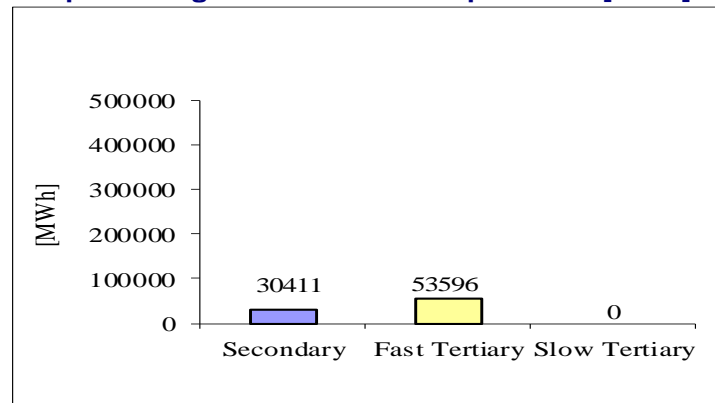
**Downward regulation - selected quantities [MWh]**



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



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



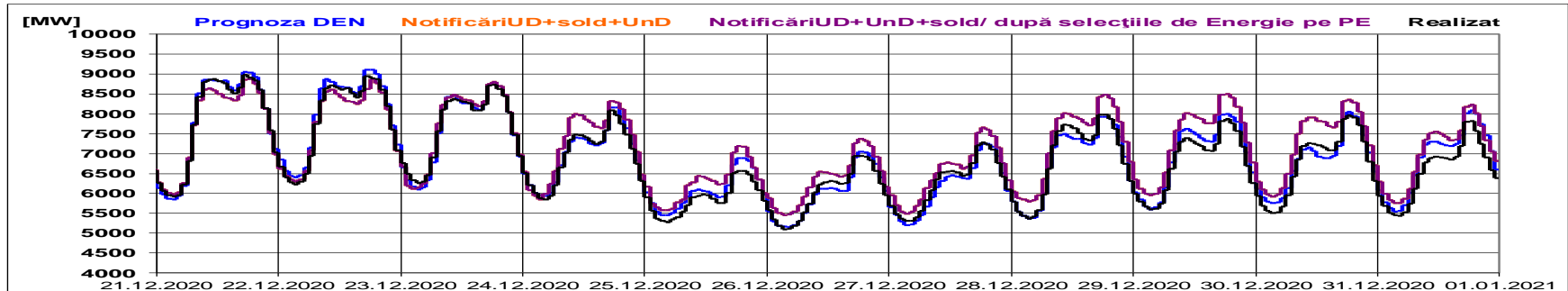
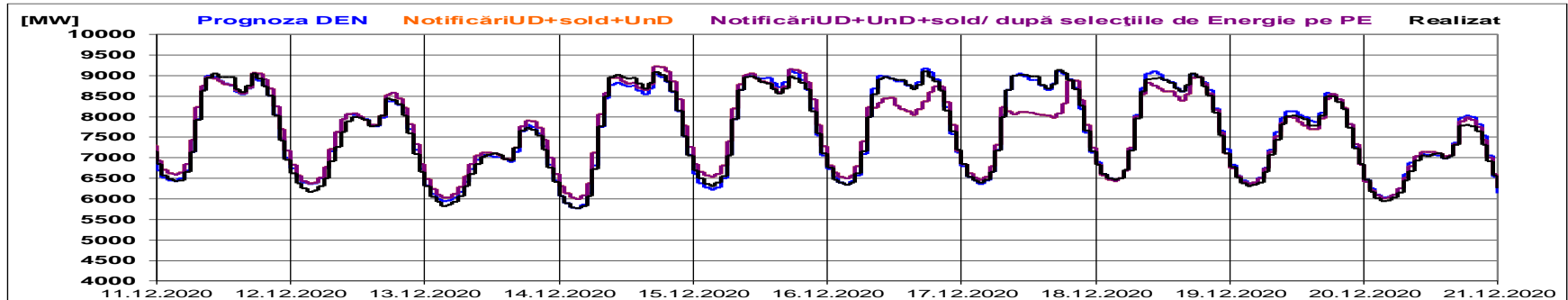
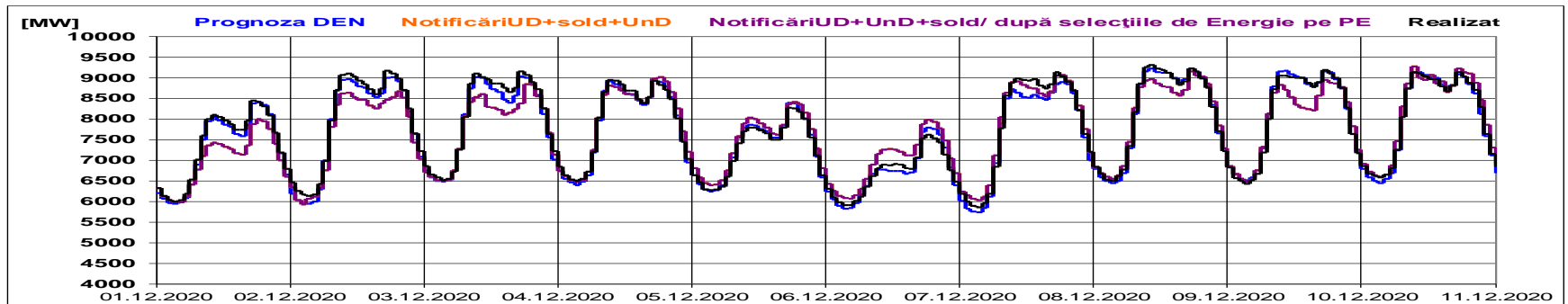


Transelectrica®

Societate Administrată în Sistem Dualist

# Balancing Market

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



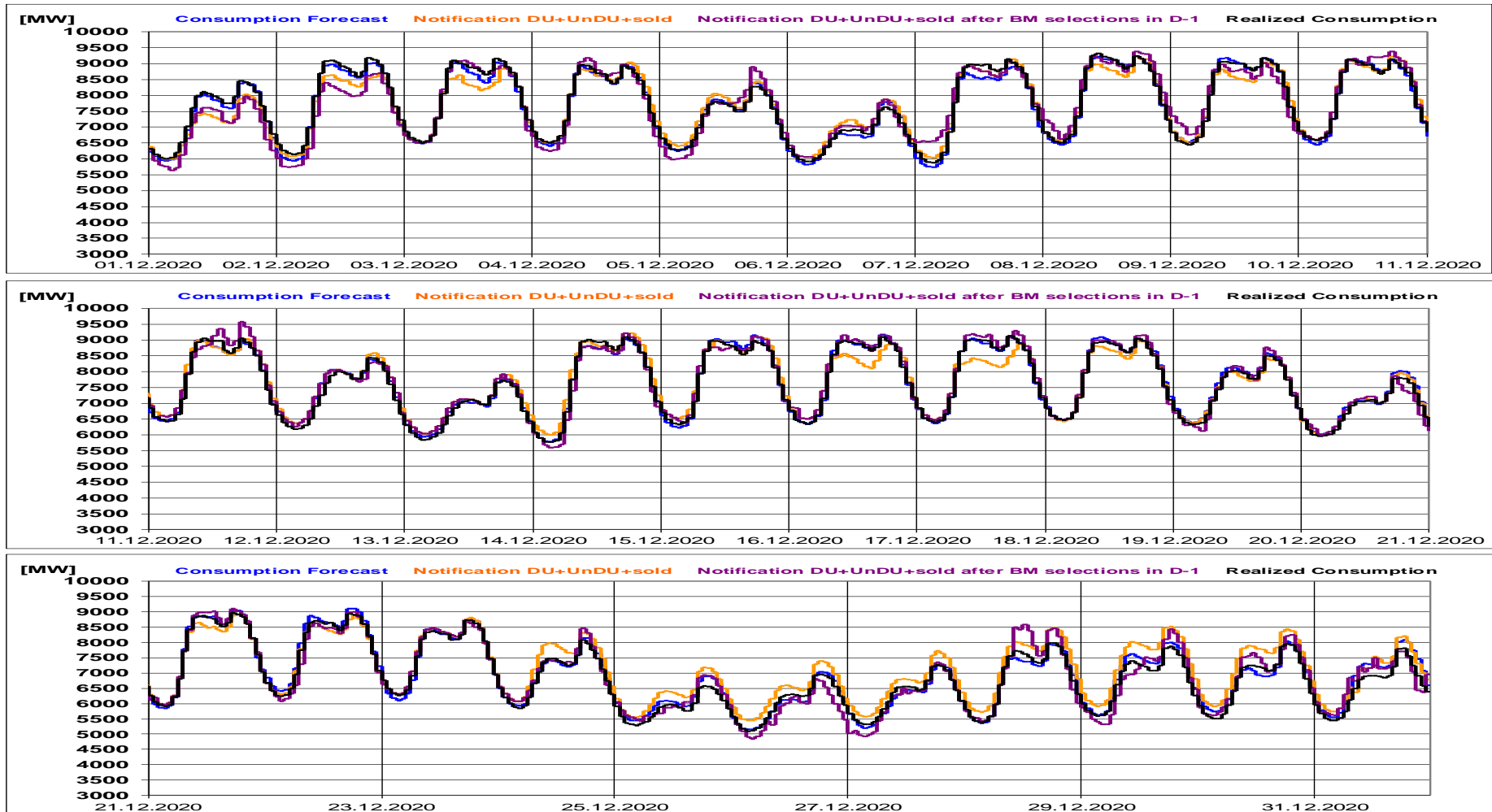


Transelectrica®

Societate Administrată în Sistem Dualist

# Balancing Market

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





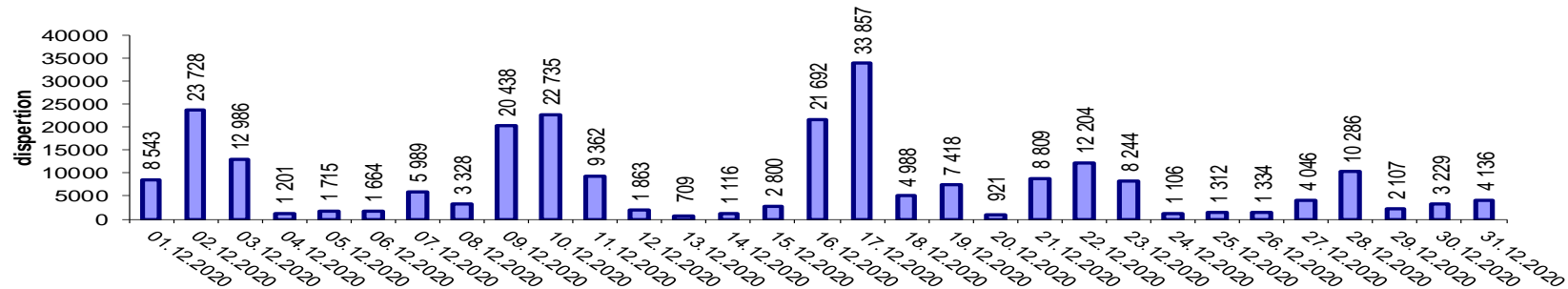
Transelectrica®

Societate Administrată în Sistem Dualist

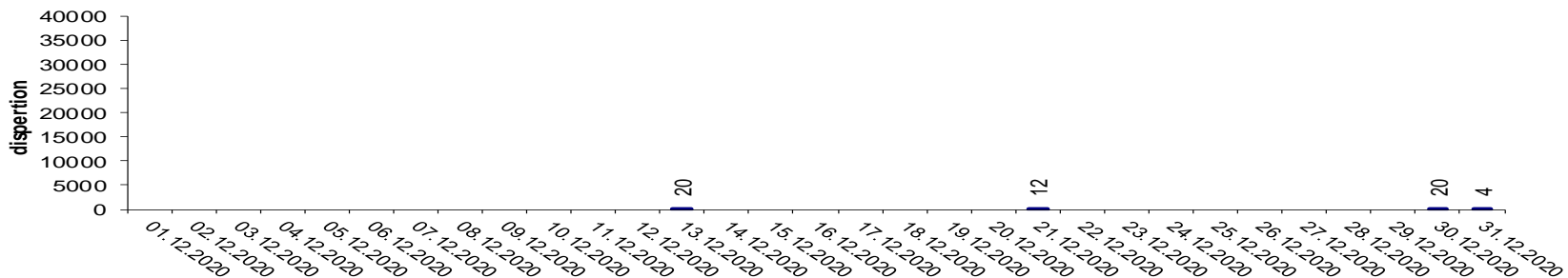
# Balancing Market

## Indicators – Price Volatility for Secondary Regulation

Price Volatility for Secondary Upward Regulation



Price Volatility for Secondary Downward Regulation



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.

Volatility = price dispersion on studied interval:

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



**Email: [Monitorizare.Piata@transelectrica.ro](mailto:Monitorizare.Piata@transelectrica.ro)**

**Fax: 021 3035630**