



ROMANIAN ENERGY REGULATORY AUTHORITY

MONITORING, REMIT DEPARTMENT



ELECTRICITY MARKET MONITORING REPORT

NOVEMBER 2020

- This document represents an unofficial translation of the Romanian version of the document -

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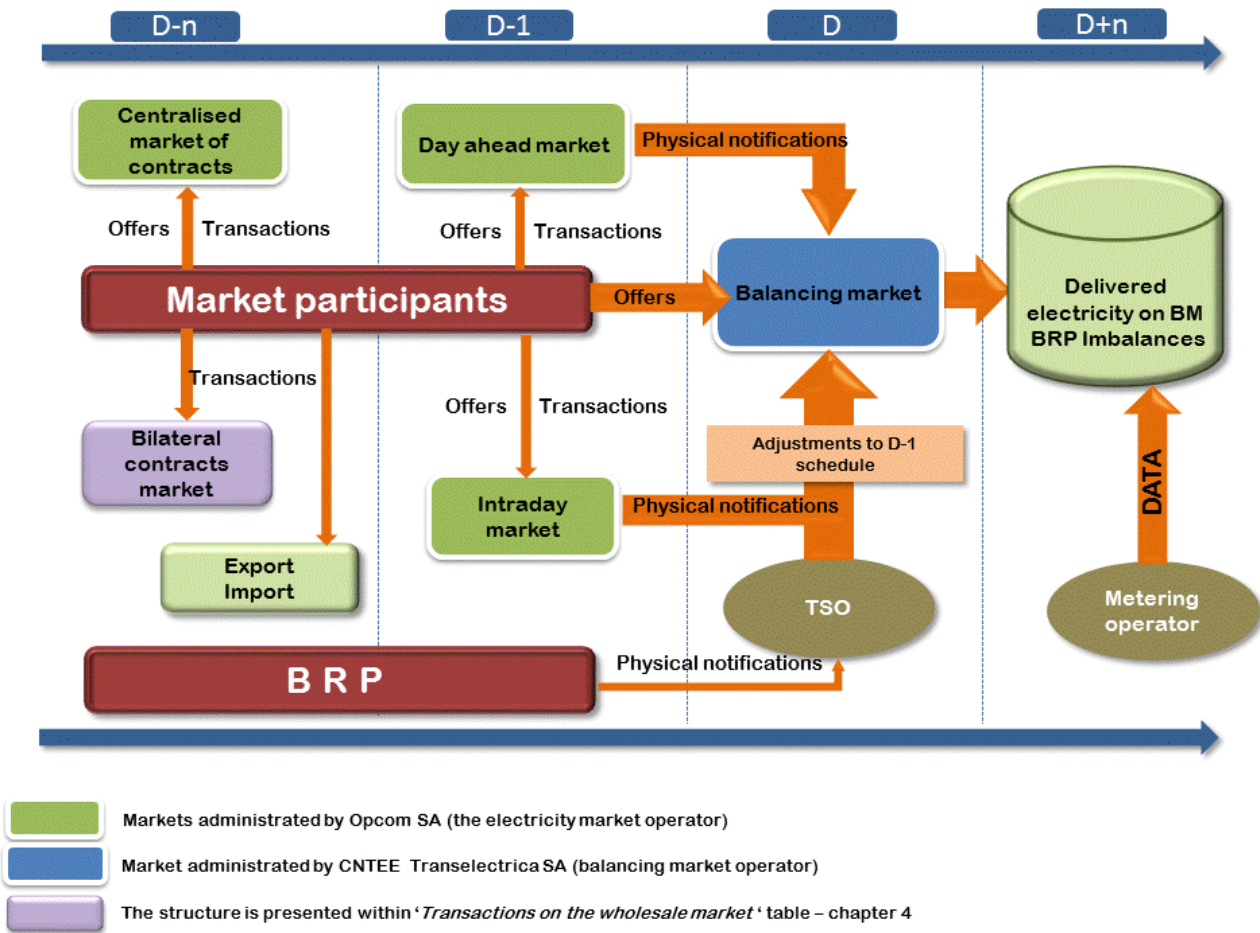
I. MAIN EVENTS IN THE DEVELOPMENT OF THE ROMANIAN ELECTRICITY MARKET

- **GD 365/1998** – vertically integrated monopoly – RENEL – was split into separated distribution and supply companies (SC Electrica SA) and generation companies (SC Termoelectrica SA and SC Hidroelectrica SA) were established within a new company - CONEL SA. Two other electricity generators (SN Nuclearelectrica SA and RAAN) were separately established;
- Transmission, system services and market administration were separately organised, within CONEL SA; the relationships between parties within the electricity sector were settled based on contracts;
- **GD 122/2000** – electricity market opening at 10%;
- **GD 627/2000** – CONEL holding is dissolved;
- **September 2000** – launch of the compulsory electricity spot market in Romania, operated by OPCOM and organized based on pool model;
- **GD 1342/2001** – SC Electrica SA splits in 8 subsidiaries for electricity distribution and supply;
- **GD 1524/2002** – SC Termoelectrica SA reorganizes in several separate legal entities for generation;
- **July 2005** – launch of the new market model, based on:
 - voluntary spot market, with both sides offers and bilateral settlement;
 - mandatory balancing market, with TSO as single counterparty;
 - financial responsibilities for balancing are allocated to the BRP;
- **GD 644/2005** – electricity market opening at 83.5%;
- **November 2005** – launch of the green certificates market;
- **December 2005** – launch of the centralized market for bilateral contracts;
- **March 2007** – launch of the centralized market for partially standardized bilateral contracts with continuous negotiation;
- **GD 638/2007** – fully opening of electricity and gas markets;
- **July 2007** – rules for capacity market established;
- **July 2008** – launch of the mechanism of direct debit and guarantee for electricity transactions on the day-ahead market (OPCOM as central counterparty);
- **August 2008** – process of legal unbundling of distribution and supply companies concluded;
- **August/October 2010** – launch of bilateral coordinated auctions for capacity allocation on interconnections with Hungary and Bulgaria;
- **July 2011** - launch of the intraday market;
 - **GD 930/2010** – SC Electrica Furnizare SA established through the merger of the former last resort suppliers Electrica Furnizare Muntenia Nord, Electrica Furnizare Transilvania Nord and Electrica Furnizare Transilvania Sud;
- **June 2012** – a new entity obtains the generation license and enters on the electricity market - Complexul Energetic Oltenia SA, established in a dual system through the merger of the former SNLO Tg. Jiu, Complexul Energetic Turceni, Complexul Energetic Rovinari and Complexul Energetic Craiova (GD 1024/2011);
- **July 2012** – Law no. 123/2012 on electricity and natural gas enters into force;
- **September 2012** – the application of the first stage of the timetable of phasing out regulated electricity tariffs to final customers who choose not to exercise their eligibility rights, in accordance with the obligations assumed by the Romanian Government in relation with the IMF, World Bank and European Commission;
- **October 2012** – Law no. 160/2012 on the organisation and functioning of the Romanian Energy Regulatory Authority entered into force;
- **November 2012** - a new entity obtains the generation license and enters the electricity market - Complexul Energetic Hunedoara SA, established through the merger of the former Electrocentrale Deva and Electrocentrale Paroseni (GD 1023/2011);
- **December 2012** – launch of the organised electricity market for large customers;
- **July 2013** – launch of centralized market trading with continuous double negotiation of bilateral contracts for electricity;
- **August 2013** – removal of injection transmission tariff for the imported and respectively of the extraction transmission tariff for the exported quantities, and of the corresponding system services;
- **December 2013** – removal of the export tariffs applied by the electricity market operator;

- certification with conditions for CNTEE Tranelectrica SA as an independent transmission and system operator;
- application of last stage of the phasing out calendar for removal of the regulated tariffs applied to the final non-household clients who do not use their eligibility rights;
- **August 2014** – CNTEE Tranelectrica SA certification as NPS transmission system operator following the „independent system operator” model;
- **October 2014** – entry into force of Law no. 127/2014 amending the Law no. 123/2012;
- **November 2014** – the launch of the CZ-SK-HU-RO market coupling project, that encompasses the DAM markets from the Czech Republic, Slovakia, Hungary and Romania;
- **February 2015** – entry into force of the new centralized market for bilateral contracts with its components: Extended Auctions Mechanism (CMBC–EA), Continuous Negotiation Mechanism (CMBC–CN), Fuel Processing Mechanism (CMBC–FP);
- **February 2015** – implementing the centralized market for universal service;
- **November 2016** - entry into force of Law no. 203/2016 amending Law no. 123/2012 on electricity and natural gas;
- **July 2018** - entry into force of Law no. 167/2018 amending and supplementing Law no. 123/2012 on electricity and natural gas;
- **December 2018** – EGO no. 114/2018 regarding the introduction of some measures in the field of public investments and some fiscal-budgetary measures, the modification and completion of some normative acts and the extension of some deadlines;
- **March 2019** – EGO no. 19/2019 amending and supplementing EGO no. 114/2018 on establishing measures in the field of public investment and some fiscal-budgetary measures, the modification and completion of some normative acts and the extension of some deadlines;
- **July 2019** – introduction of the centralized market for electricity from renewable sources supported by green certificates.
- **November 2019** – launch of the Single Intraday Coupling (SIDC) through continuous trading of the Intraday electricity markets of Romania, Bulgaria, Hungary, Croatia, The Czech Republic, Poland, Slovenia, Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Latvia, Lithuania, Norway, Sweden, Holland, Portugal and Spain.
- **January 2020** – EGO no. 1/2020 regarding some fiscal-budgetary measures and for the modification and supplementation of some normative acts.
- **April 2020** - Introduction of the Centralized Market for Electricity Bilateral Contracts – Extended Auctions Mechanism (CMBC-EA-flex).
- **July 2020** – publication of Law no. 155/2020 on the modification and revision of Law no. 123/2012 on electricity and natural gas and on the modification and revision of other legislative acts;
- **September 2020** – insertion of the centralised market for long term contracts for electricity which aims to ensure the transparency of transactions through contracts for the sale and purchase of electricity for long delivery periods and equal opportunities for market participants.

II. WHOLESALE ELECTRICITY MARKET

1. Structure of the wholesale electricity market



K	Electricity Suppliers acting exclusively on the wholesale market	L	Electricity Suppliers acting also on the retail market
1	AIK Energy Ltd	13	Cyeb SRL
2	Axpo Bulgaria EAD	14	Egger Romania SRL
3	Axpo Energy Romania SRL	15	EFT Furnizare SRL
4	CEZ as	16	Elcata MHC SRL
5	Danske Commodities/s Aarhus	17	Electric Planners SRL
6	EDF Trading Limited	18	Electricare CFR SRL
7	Elpetra Energy E.A.D.	19	Electrocarbon SA
8	Energi Danmark A/S	20	Electromagnetica SA
9	Energo-Pro Energy Services EAD	21	Elsid SA
10	Energovia EOOD	22	Energia Gas & Power SRL
11	Energy Deta SRL	23	Energy Distribution Services SRL
12	Energy Supply D.O.O	24	Engie România SA
13	Energy Republic Trading SRL	25	Energy Trade Activ SRL
14	Energy Trading System OOD	26	Energy Grid SRL
15	Eolian Project SRL	27	Enol Grup SA
16	EVN Trading South East Europe	28	Entrex Services SRL
17	Ezpada AG	29	Evobits Information Technology
18	Freepoint Commodities Europe Ltd	30	Getica 95 Com SRL
19	GEN I trgovanje in prodaja elektricne energije doo	31	Grenerg SRL
20	Holding_Slovenske_Elektrarne	32	Hermes Energy International SRL
21	Interenergo Energetski, Inzeniring d.o.o.	33	ICCO Energy SRL
22	Lord Energy SRL	34	ICPE Electrocond Technologies SA
23	MFT Energy A/S	35	Imperial Development SRL
24	MVM Partner Zrt	36	Industrial Energy SA
25	Neptun SA	37	Izvor de Lumina SRL
26	Nis Petrol SRL	38	Luxten LC SA
27	OMV Gas Marketing & Trading GmbH	39	Mazarine Energy Romania SRL
28	Petrol, Slovenska energetska druzba	40	MET Romania Energy SA
29	Ritam-4-TB ood	41	Monsson Trading SRL
30	Statkraft Markets GmbH	42	Next Energy Parteners SRL
31	Verbund Trading Romania SRL	43	Nova Power&Gas SRL
		44	P.C. Management & Consulting SRL
		45	Photovoltaic Green Project SRL
		46	Plenerg SRL
		47	QMB Energy SRL
		48	RCS&RDS SA
		49	RES Energy Solutions SA
		50	Restart Energy One SRL
		51	Romelectro SA
		52	Stock Energy SRL
		53	Tinmar Energy SA
		54	Transenergo Com SA
		55	Transformer Energy Supply SRL
		56	Uzinsider General Contractor SA
		57	Veolia Energie România SA
		58	Werk Energy SRL

L	Electricity Suppliers acting exclusively on the wholesale market
1	A Energy Ind SRL
2	Absolute Energy SRL
3	Aderro G.P. Energy SRL
4	AIK Energy Romania SRL
5	Alive Capital SRL
6	Alro SA
7	Anchor Grup SA
8	Apuron Energy SRL
9	Aqua Energia SA
10	Conarg Real Estate SRL
11	Cotroceni Park SA
12	Crest Energy SRL

*Electricity market participants report to ANRE technical/commercial data according to the *Methodology for wholesale electricity market monitoring*, approved by ANRE Order no. 67/2018, as well as according to the *Methodology for retail electricity market monitoring*, approved by ANRE Order no. 167/2019, with subsequent amendments and additions. The table above does not include the Balancing Responsible Parties (BRP). The updated BRP list is published on the Balancing Market Operator website, CNTEE TRANSELECTRICA SA - www.transelectrica.ro.

The monitored electricity generation license holders are producers holding dispatchable groups who on 31 August 2020 fulfilled the conditions set by CNTEE TRANSELECTRICA SA for participating in the Balancing Market, classified under the following power categories:

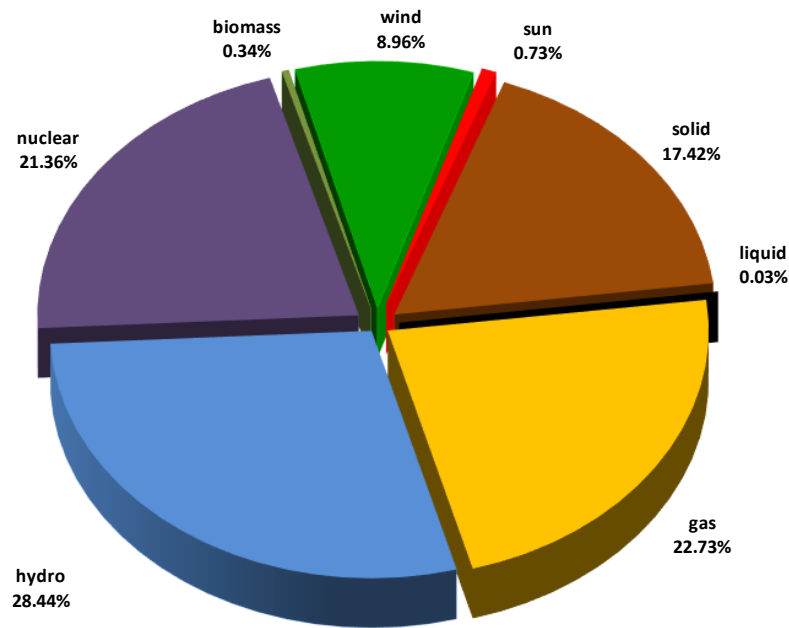
- a. hydro generation group with an installed power higher than 10 MW;
- b. thermal generation group (including biomass and nuclear) with installed power higher than 20 MW;
- c. wind, photovoltaic or internal combustion engine with installed power higher than 5 MW.

In accordance with the provisions of the Regulation on the programming of dispatchable production units, dispatchable consumers and dispatchable storage facilities, approved by ANRE President Order no. 61/2020, with subsequent amendments, CNTEE TRANSELECTRICA SA develops appropriate procedures for establishing the qualification conditions for dispatching.

The category of electricity suppliers acting exclusively on the wholesale market includes electricity supply licensees that are active only on the wholesale market and electricity trading licensees with licenses issued according to ANRE Order no. 13/2015 for the approval of the „General conditions associated to the license for trading electricity”.

3. Generation structure of the National Power System on types of resources

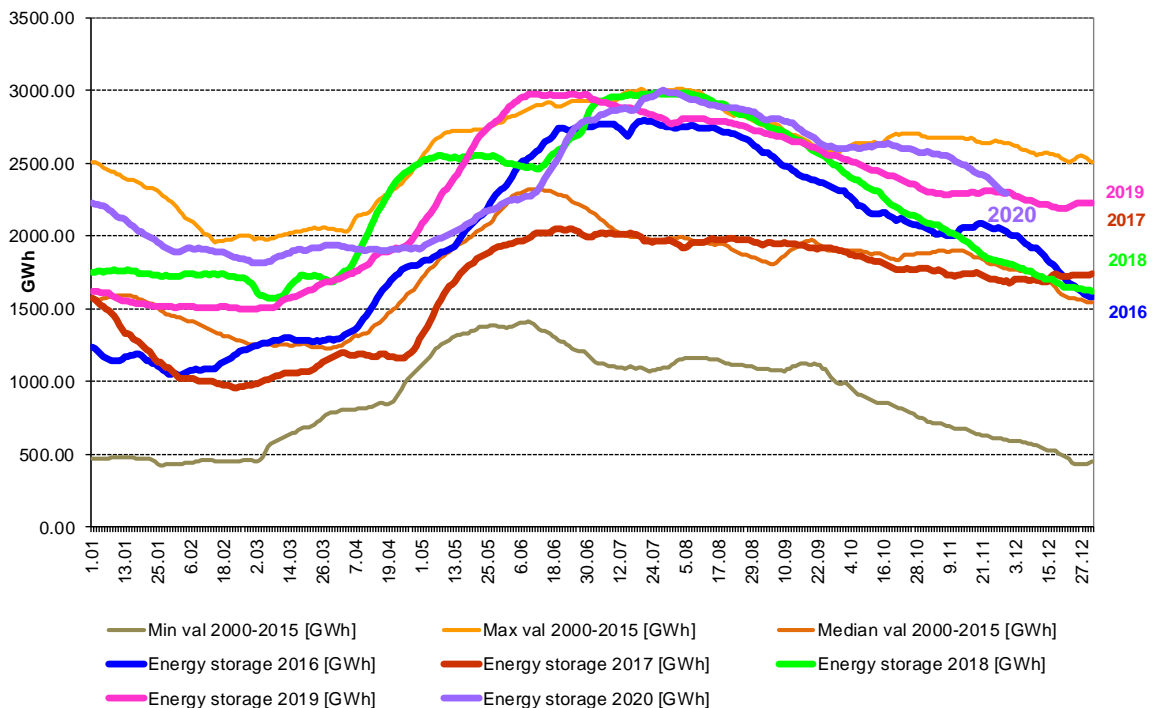
Electricity structure by primary sources
(delivered by generators with dispatchable units)
-November 2020 -



Source: Monthly reports of producers – Electricity Market Monitoring Unit analysis

The electricity generated from hydro resources depends on the energy reserve in the main water reservoirs and at the same time it is influenced by it. The following graph presents the evolution of the daily amounts of energy stored in water reservoirs in 2020 compared to the daily values of the last 4 years and to the minimum, maximum and median values from 2000-2015.

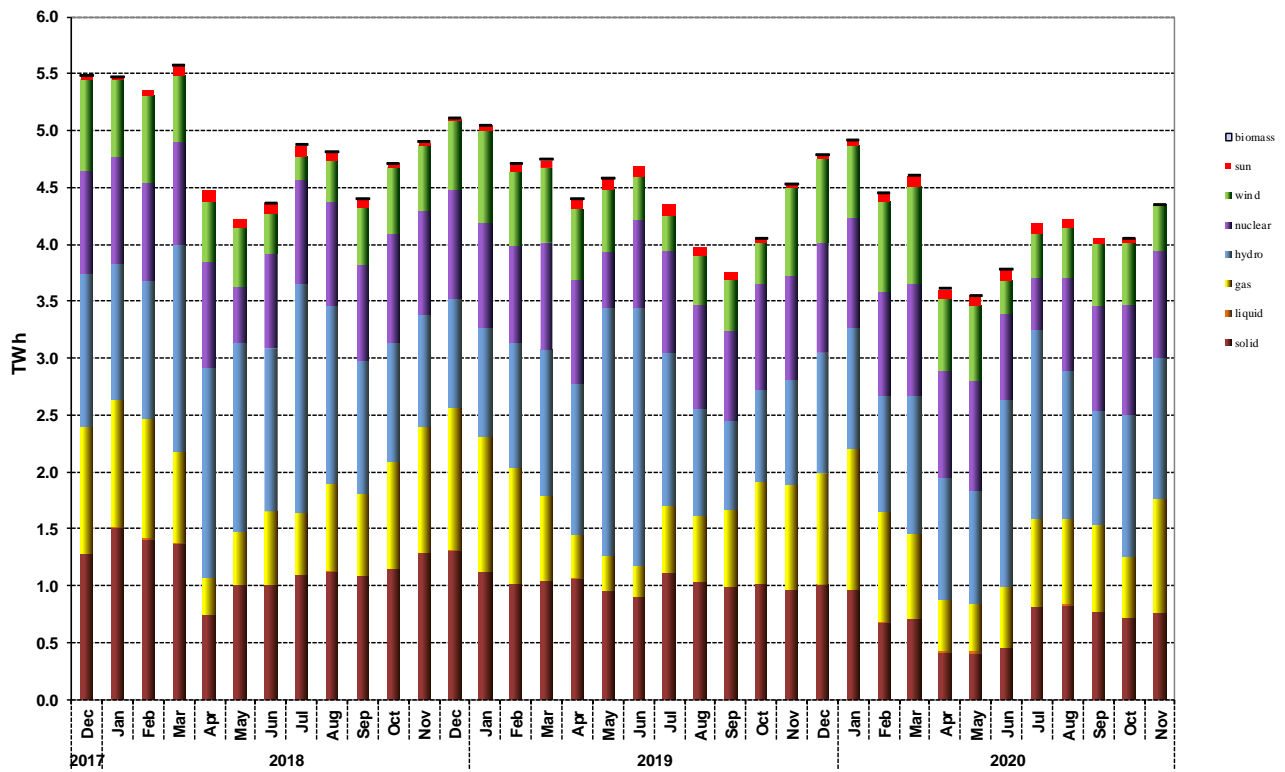
Yearly evolution of daily values of energy stored in the main water reservoir



Source: Monthly reports of Hidroeléctrica S.A. – analysed by the Electricity Market Monitoring Unit

Evolution of the structure of the delivered electricity in the last 3 years is the following:

Evolution of electricity delivered by generators with dispatchable units by primary sources



Source: Monthly reports of generators – data analysed by Electricity Market Monitoring Unit

The following table presents the main data regarding the physical balance of electricity for November 2020, compared to the data for the similar period of 2019:

Nr. crt.	INDICATOR	UM	November 2019	November 2020	%	Jan-Nov 2019	Jan-Nov 2020	%
0	1	2	3	4	$5=4/3*100$	6	7	$8=7/6*100$
1	Generated electricity	TWh	4.82	4.66	96.68	51.92*	48.50	93.41
2	Delivered electricity	TWh	4.53	4.39	96.90	48.83*	45.85	93.89
3	Import	TWh	0.49	0.70	142.85	4.47	6.81	152.34
4	Export	TWh	0.35	0.27	77.14	3.10	4.17	134.51
5	Internal consumption (2+3-4)	TWh	4.66	4.82	103.43	50.20	48.49	96.59
6	Consumption of households:	TWh	1.06	1.18	111.32	11.78	12.41	105.34
6.1	- on US/ regulated regime	TWh	0.67	0.72	107.46	7.66	7.61	99.34
6.2	- on the competitive market	TWh	0.39	0.46	117.94	4.12	4.81	116.74
7	Consumption of non-household customers:	TWh	2.98	3.06	102.68	33.51*	31.52	94.06
7.1	- on US, last resort regime and inactive clients	TWh	0.09	0.07	77.77	0.91	0.79	86.81
7.2	- on the competitive market	TWh	2.89	2.99	103.46	32.60*	30.73	94.26
8	Transmission–Injection component	TWh	4.44	4.30	96.84	47.69	44.79	93.91
9	Transmission–Extraction component	TWh	4.62	4.78	103.46	50.46*	48.85	96.80
10	Transmission grid losses	TWh	0.08	0.08	100.00	0.88	0.85	96.59
11	Heat generated for delivery	Tcal	1022.50	1080.09	105.63	9835.78	8464.86	86.06
12	Heat in co-generation	Tcal	741.97	691.55	93.20	7268.04	6152.75	84.65

Notes:

1. The electricity produced and the electricity delivered are presented in accordance with the reports of the monitored production license holders - the producers who on 31.08.2020 operated dispatchable units on the Balancing Market;
 2. The imported/exported quantities do not include transits and cross-border exchanges of electricity by CNTEE Tranelectrica SA with neighbouring power systems in order to balance the system;
 3. The electricity for which a transport contract is concluded matches the electricity delivered from the plants with installed capacity of more than 5 MW connected to the transmission and distribution networks; the electricity extracted from the network for which a transport contract is concluded coincides with the electricity for which the electricity extraction tariff is charged (according to ANRE Order no. 218/ 2019, with subsequent amendments);
 4. As of 1 March 2019, the consumption of households under US regime is ensured under a regulated regime by suppliers of last resort (according to ANRE Orders no. 11/2019, 217/2019 and no. 88/2020).
- *Differences with November 2019 Electricity Market Monitoring Report are caused by the corrections reported by market participants.*

4. The structure of trades on the wholesale electricity market

The size of wholesale market depends on the sum of all trades of the market participants, exceeding the quantity physically transmitted from generation to consumption; the overall trades also include resales made in order to adjust the contractual position and to obtain a financial benefit.

Starting with the moment of entering into force of Law no. 123/2012 on electricity and natural gas, the structure of wholesale energy market was significantly changed through the introduction of the obligation to conduct all trades on the competitive market in a transparent, public, centralized and non-discriminatory manner. Therefore, after the entry into force of the law, all new trades on the wholesale energy market have to be concluded on the centralized markets, organized by Opcom SA, the only ANRE licensee for electricity market operation in Romania. The centralized markets which are presently functional are DAM (Day Ahead Market), CMBC (Centralized Market of Bilateral Contracts with Extended Auction mechanism - EA, with Continuous Negotiation mechanism - CN and with Fuel Processing mechanism - FP), ID (Intraday Market), CM-OTC – (Centralized Market with Double Continuous Negotiation for Electricity Bilateral Contracts), CM-LCM (Large Consumers Mechanism) and CMUS (Centralized Market for Universal Service). Also at Opcom, starting with September 2019, the centralized market for electricity from renewable sources supported by green certificates has become functional (CME-RES-GC). Also, at Opcom, starting with April 2020, the Centralized Market for Electricity Bilateral Contracts – Extended Auctions Mechanism (CMBC-EA-flex) became functional. Also at Opcom, starting with September 2020, the centralized market for long-term electricity contracts (LTCM) became operational.

Besides the existing centralized markets, which ensure the transparent, public, centralized and non-discriminatory legal requirements, there are bilateral negotiated contracts concluded before the entering into force of the Law, still pending, and export and import contracts. At the same time, by Law no. 155/2020 for the amendment of Law no. 123/2012 on electricity and natural gas and regarding the amendment of other normative acts, a natural/legal person is allowed to contract, as a producer, the electricity produced in a new energy capacity, even if at the time of trading it does not yet have a production license.

By derogation from the obligation of transparent, public, centralized and non-discriminatory trading on the competitive electricity market, in accordance with Law no. 155/2020, market participants that mix the electricity produced by several energy sources or the loads of several clients may conclude bilateral contracts with the owners of those sources, respectively with the suppliers of the clients whose loads they mix.

The same law stipulates the possibility of concluding negotiated bilateral contracts between non-dispatchable producers from renewable energy sources and public authorities holding power plants from renewable energy sources with installed capacities of up to 3 MW per producer and the suppliers of final consumers for the sale of electricity and/or green certificates.

In accordance with the provisions of art. VII of the Order of the President of ANRE no. 65/2020 long-term supply contracts between electricity market participants are also allowed.

The following table presents the volumes traded and the average prices on each type of contracts and on the main components of the wholesale market, in the month under review compared to the previous month and the similar month from the previous year. The aggregated volumes and the average prices on negotiated contracts are those reported by market participants on their own responsibility and with the exception of the contracts concluded under the provisions of Law no. 220/2008, with subsequent amendments and supplementations, they should match the still ongoing contracts which had been concluded before Law no. 123/2012 entered into force.

WHOLESALE MARKET TRADES	October 2020	November 2020	November 2019
1. BILATERAL CONTRACTS MARKET			
traded volume (GWh)	673	677	539
average price (lei/MWh)	185.74	189.19	217.07
% from internal consumption (%)	14.8	14.0	11.6
1.1. Sales on regulated contracts			
traded volume (GWh)	655	665	511
average price (lei/MWh)	185.00	188.79	219.87
% from internal consumption (%)	14.4	13.8	11.0
1.2. Sales on negotiated contracts¹⁾			
traded volume (GWh)	17	12	27
average price (lei/MWh)	213.64	211.21	164.91
% from internal consumption (%)	0.4	0.2	0.6
1.3. Sales on long term supply contracts according to ANRE Order no. 65/2020			
traded volume (GWh)	0	0	-
average price (lei/MWh)	0.00	0.00	-
% from internal consumption (%)	0.0	0.0	-
2. EXPORT			
traded volume (GWh)	389	272	354
average price (lei/MWh)	199.94	209.84	185.96*
% from internal consumption	8.5	5.6	7.6
3. CENTRALIZED MARKETS OF BILATERAL CONTRACTS			
traded volume (GWh)	4522	4089	5116
average price (lei/MWh)	255.96	259.61	248.97
% from internal consumption	99.3	84.9	109.7
3.1. Extended auction mechanism CMBC-EA³⁾			
traded volume (GWh)	1028	1053	1601
average price (lei/MWh)	268.62	270.72	246.49
% from internal consumption	22.6	21.9	34.3
3.2. Extended auction mechanism CMBC-EA-Flex			
traded volume (GWh)	80	99	-
average price (lei/MWh)	244.12	243.35	-
% from internal consumption	1.8	2.1	-
3.3. Continuous negotiation mechanism CMBC-CN³⁾			
traded volume (GWh)	895	851	1324
average price (lei/MWh)	264.11	264.03	236.97
% from internal consumption	19.6	17.7	28.4
3.4. CM-OTC mechanism³⁾			
traded volume (GWh)	2491	2070	2191
average price (lei/MWh)	249.03	253.59	258.03
% from internal consumption	54.7	43.0	47.0
3.5. CME-RES-GC			
traded volume (GWh)	28	16	0.2
average price (lei/MWh)	180.75	174.54	249.2
% from internal consumption	0.6	0.3	0.004

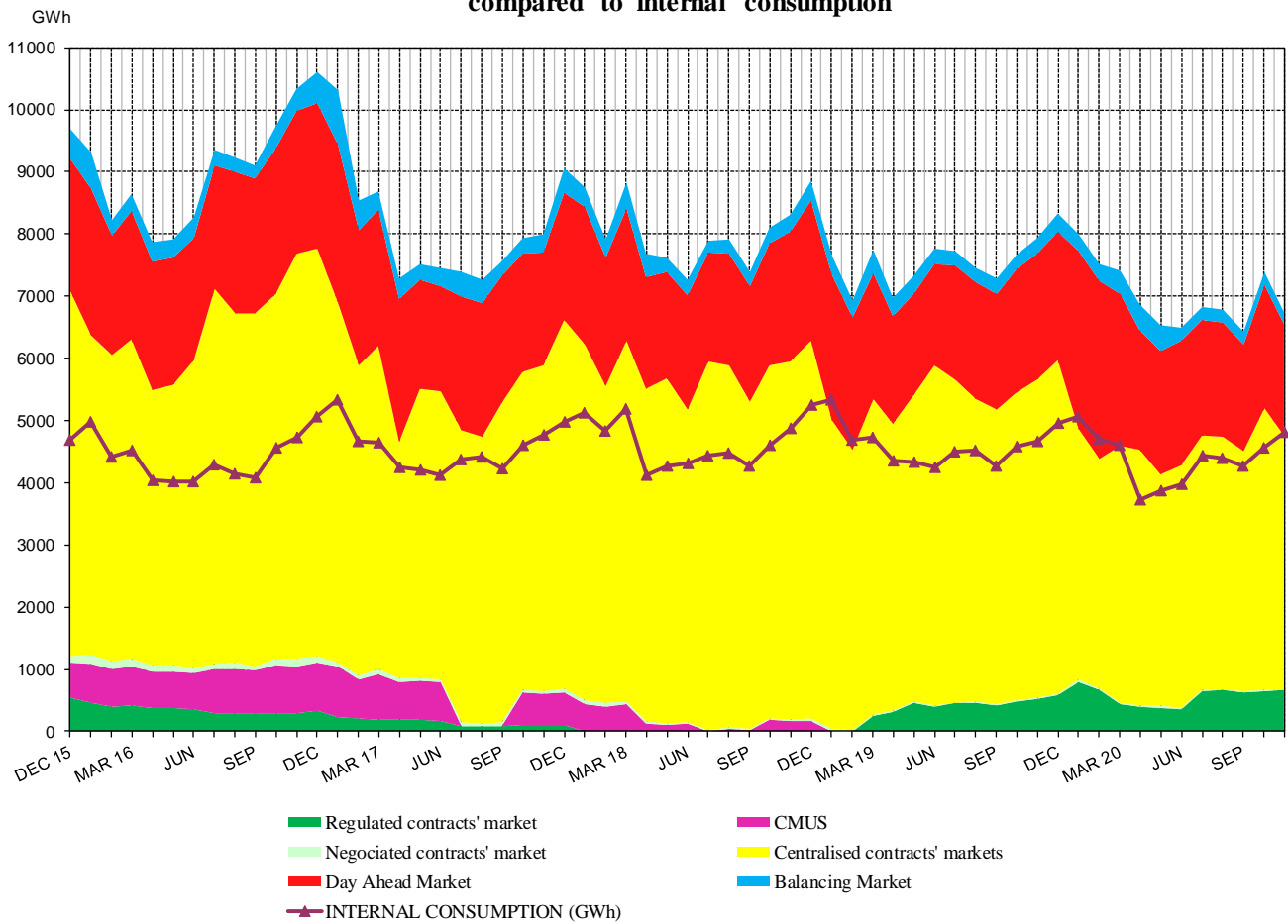
WHOLESALE MARKET TRADES	October 2020	November 2020	November 2019
3.6. LTCM mechanism			
traded volume (GWh)	0	0	
average price (lei/MWh)	0.00	0.00	-
% from internal consumption	0.0	0.0	
4. CENTRALIZED MARKET FOR UNIVERSAL SERVICE - CMUS			
traded volume (GWh)	0	0	0
average price (lei/MWh)	0.00	0.00	0.00
% from internal consumption	0.0	0.0	0.00
5. DAY AHEAD MARKET			
traded volume (GWh)	1984	1788	2019
average price (lei/MWh) ⁴⁾	204.31	236.84	203.53
% from internal consumption	43.5	37.1	43.3
6. INTRADAY MARKET			
traded volume (GWh)	52	45	35
average price (lei/MWh) ⁵⁾	201.29	239.59	151.10
% from internal consumption	1.1	0.9	0.7
7. BALANCING MARKET			
traded volume (GWh)	208	190	252
% from internal consumption	4.6	4.0	5.4
upward volume (GWh)	40	83	59
average price for negative imbalance (lei/MWh)	658.52	657.74	556.18
downward volume (GWh)	168	107	193
average price for positive imbalance (lei/MWh)	-14.23	4.16	5.64
INTERNAL CONSUMPTION (GWh) <i>(distribution and transmission losses included)</i>	4555	4818	4663

- 1) Sales on negotiated contracts do not include supply contracts to final customers and export contracts, the latter being separately identified;
- 2) Volumes and prices' information of export contracts are those reported monthly by wholesale market participants and includes the volumes exported by CNTEE Transelectrica as the shipper agent for the coupled DAM and coupled ID; export volumes are verified with the DAMAS platform notifications some differences may be identified in some cases;
- 3) The monthly data is presented as is reported by the market participants that are monitored, for the electricity delivered in the respective month. The information refers both to trades concluded previously on CMBC and CMBC-CN (according to ANRE Order 6/2011) and to trades concluded on CMBC-EA and CMBC-CN (according to ANRE Order 78/2014, with subsequent amendments). In May 2020, CMBC-EA was replaced with the Centralized Market for Electricity Bilateral Contracts – Extended Auctions Mechanism CMBC-EA-flex (according to ANRE President Order no. 64/2020); trading data specific to CMCB-EA and CMBC-EA-flex are highlighted separately as of May 2020, when CMBC-EA-flex became operational;
- 4) The average monthly price from the table is determined as an arithmetic average of the hourly closing prices and is published by Opcom SA; the average price calculated as a weighted average of the hourly closing prices with the traded volumes was 245.82 lei/MWh in November 2020, and it was also published by Opcom SA;
- 5) The average monthly price is calculated based on the monthly traded volumes and values, published by OPCOM SA.
*Differences with November 2019 Electricity Market Monitoring Report are triggered by the corrections reported by market participants.

The percentage of electricity volumes traded from the internal consumption (see table above) offers a reference for assessing the size of each of the specified markets. Prices presented above include only the injection component of the transmission tariff, in this way being comparable within a month and allowing the comparison with the previous month.

The following graph presents the evolution of the relation between the volumes sold on each market and the estimated internal consumption for the period July 2015 – November 2020:

Monthly evolution of volumes traded on wholesale market compared to internal consumption

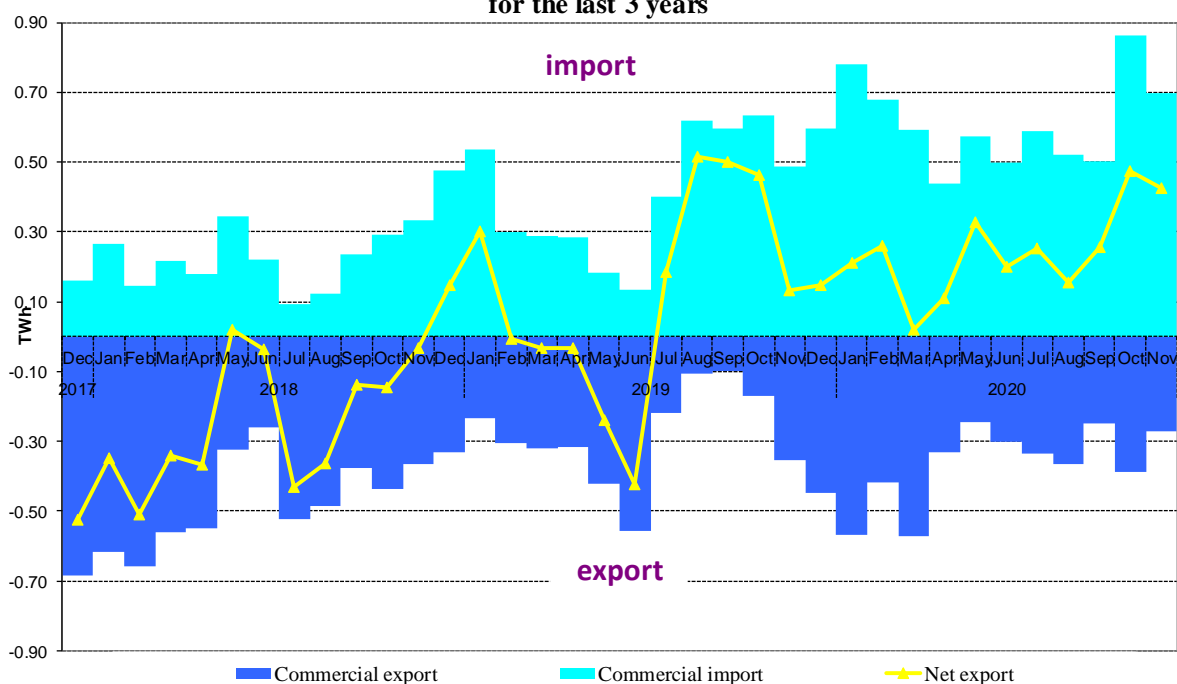


Source: Monthly reports of wholesale market participants, Opcom SA and CNTEE Tranelectrica SA – Analysis of Electricity Market Monitoring Unit

Note: In the above graph, the volumes traded on negotiated contracts' market do not include the export contracts volumes.

The following graph presents the monthly values of commercial export and import, and the net export for the last 36 months:

**Monthly evolution of export, import and net export of electricity
for the last 3 years**



Source: Monthly reports of CNTEE Tranelectrica SA – analysis by Electricity Market Monitoring Unit

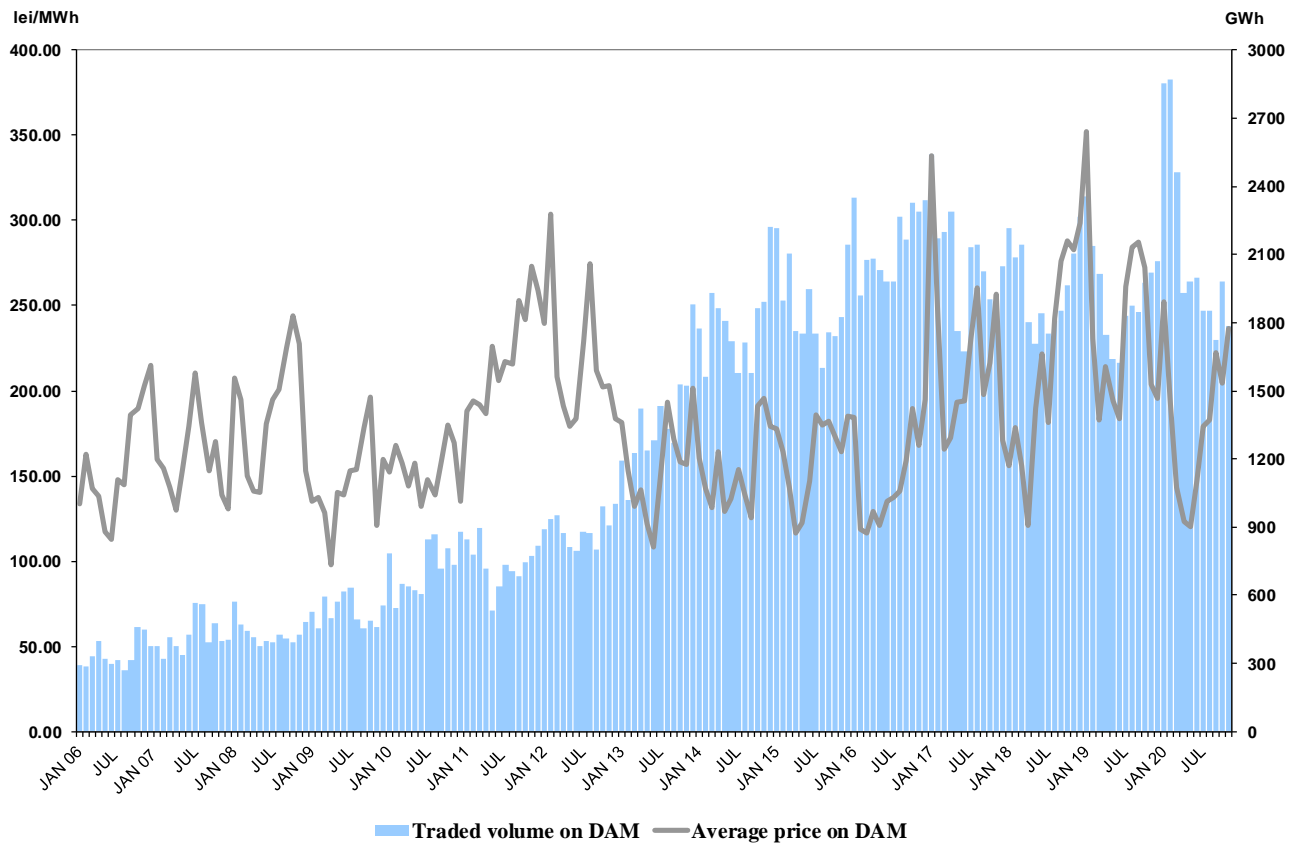
The following table presents commercial export and import trades for the electricity extracted/injected from/in the transmission network. These include the trades of CNTEE Tranelectrica SA as the shipper agent in the price coupling mechanism of DAM and ID. Shipper agent role is reflected in the physical and commercial transfer of electricity for import/export on the interconnections between Romania and Hungary.

IMPORT/EXPORT TRADES	October 2020	November 2020	November 2019
EXPORT			
traded volume (GWh)	389	272	354
average price (lei/MWh)	199.94	209.84	185.96*
% from internal consumption	8.5	5.6	7.6
of which, through coupled DAM			
traded volume (GWh)	45	100	117
average price (lei/MWh)	206.54	201.66	173.87
% from internal consumption	1.0	2.1	2.5
of which, through coupled ID			
traded volume (GWh)	22	19	2
average price (lei/MWh)	210.55	228.19	178.44
% from internal consumption	0.5	0.4	0.03
IMPORT			
traded volume (GWh)	864	699	487
average price (lei/MWh)	215.87	248.37	233.66
% from internal consumption	19.0	14.5	10.4
of which, through coupled DAM			
traded volume (GWh)	186	92	80
average price (lei/MWh)	213.12	251.49	239.79
% from internal consumption	4.1	1.9	1.7
of which, through coupled ID			
traded volume (GWh)	27	21	3
average price (lei/MWh)	192.10	246.75	208.56
% from internal consumption	0.6	0.4	0.06

*Differences with November 2019 Electricity Market Monitoring Report are triggered by the corrections reported by market participants.

The following graph presents the monthly average volumes and prices of trades concluded on DAM starting with January 2006:

Monthly evolution of the traded volume and average prices on DAM



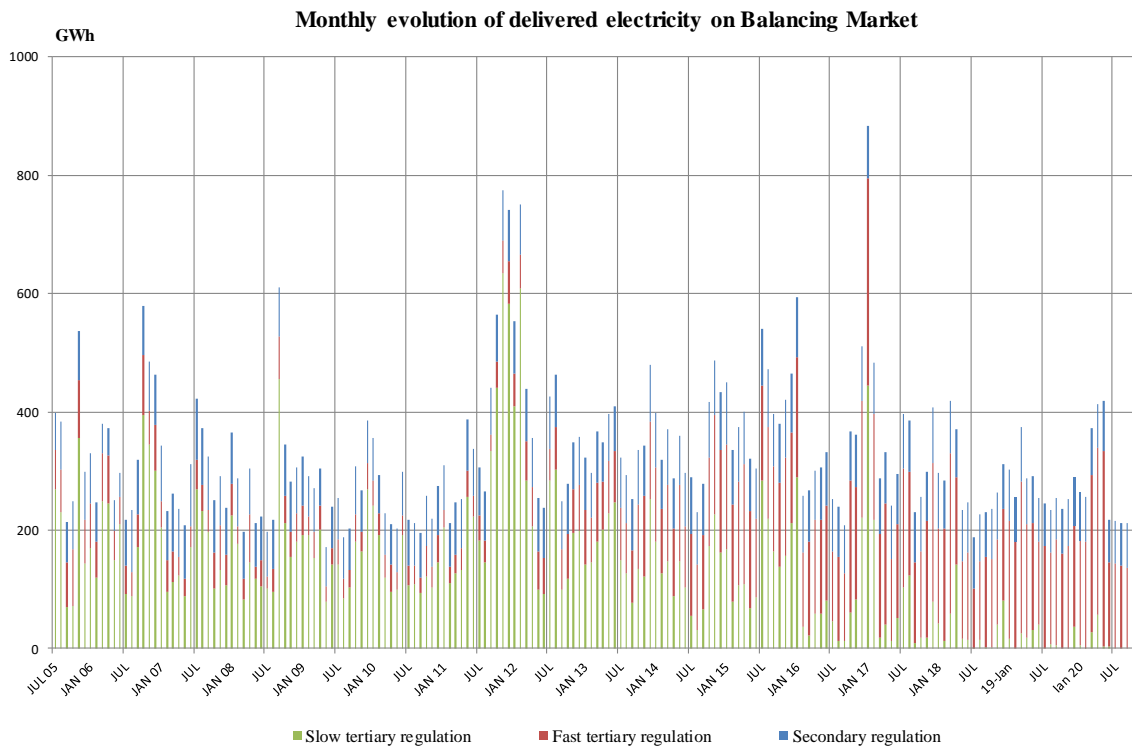
Source: Monthly reports of Opcom SA and CNTEE Tranelectrica SA – analysed by Electricity Market Monitoring Unit

Dispatch orders (accepted offers) received by generators determine the committed electricity on the Balancing Market. After settlement, the actual electricity delivered by generators on the Balancing Market is determined based on the measured (approved) values; the relation between the committed and delivered electricity in November 2020 is presented in the following table:

NOVEMBER 2020	Dispatch order (GWh)	Delivered electricity (GWh)	Deviation (%)
Secondary regulation	74	74	
upward	32	32	
downward	42	42	
Fast tertiary regulation	120	116	3
upward	52	51	3
downward	67	65	3
Slow tertiary regulation	0.06	0.06	0
upward	0.00	0.00	0
downward	0.06	0.06	0
TOTAL	194	190	
upward	85	83	
downward	109	107	
INTERNAL CONSUMPTION		4818	
<i>% share of traded volumes from internal consumption</i>		4.0%	

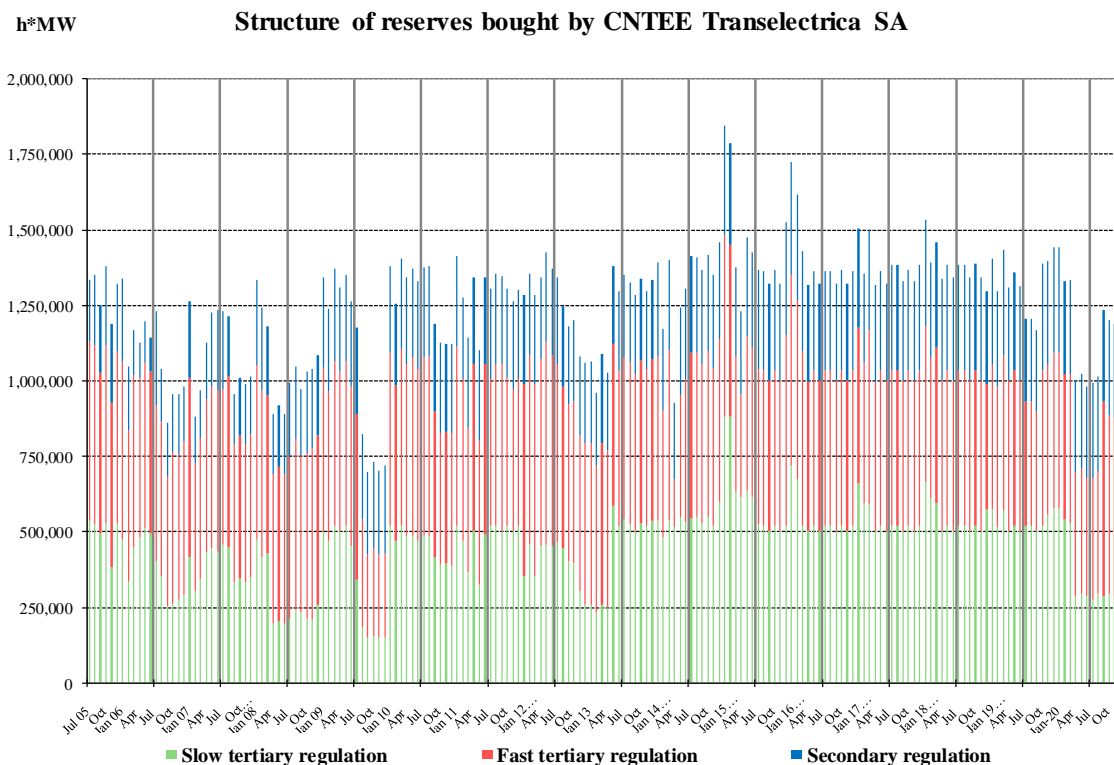
Source: Monthly reports of CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

The structure of the balancing electricity delivered in the system on each type of regulation between July 2005 – November 2020 is presented in the graph below:



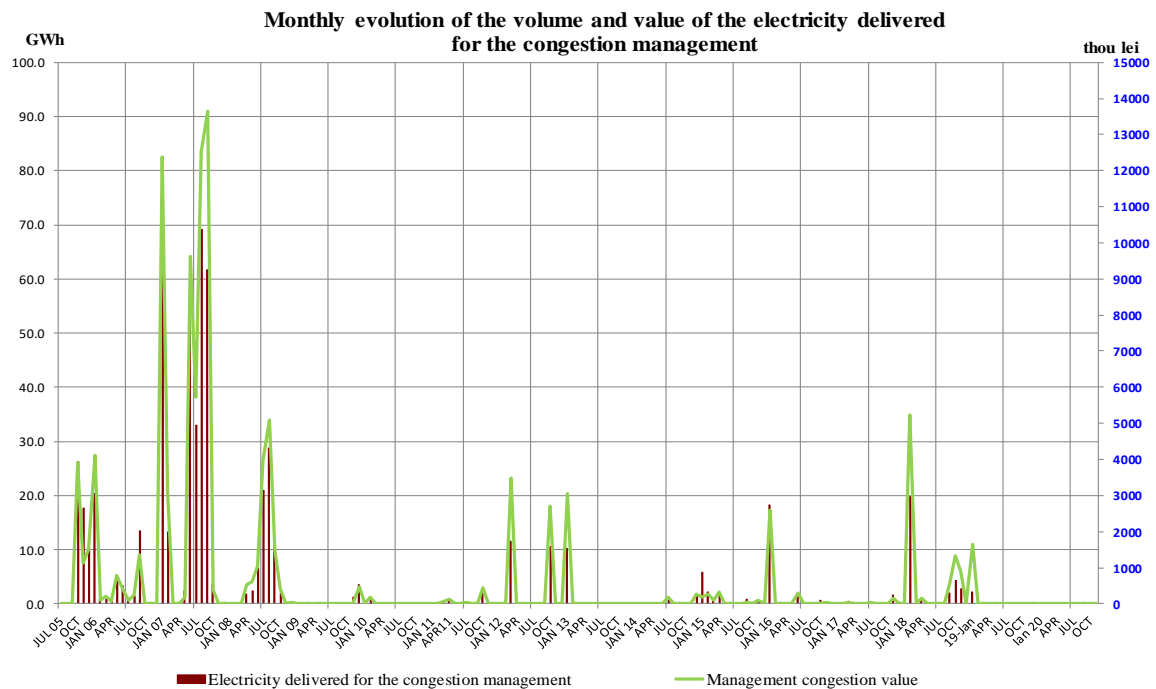
Source: Monthly reports of CNTEE Tranelectrica SA – analysed by Electricity Market Monitoring Unit

The following chart shows the evolution of the reserves (ancillary services representing obligations of the producers to keep available to the dispatcher or to offer on the balancing market the contracted capacities) bought/settled by CNTEE Tranelectrica S.A., for the period July 2005 - November 2020:



Source: Monthly reports of CNTEE Tranelectrica SA – analysis done by the Electricity Market Monitoring Unit

The following graph presents the monthly evolution of the electricity used for congestion management (the electricity traded by the transmission and system operator on the Balancing Market for transmission system's congestion management), starting with July 2005, and the values of these trades made by CNTEE Tranelectrica S.A.



Source: Monthly reports of CNTEE Tranelectrica SA – analysis done by the Electricity Market Monitoring Unit

5. Structure of trades on the wholesale electricity market of different market participant categories

Producers

In November 2020, the structure of electricity sale obligations contracted before the delivery interval by the electricity generators with dispatchable units was the following:

Trade type	November 2019	-GWh- November 2020
Thermal, hydro and nuclear producers, regulated contracts with last resort suppliers	511.43	664.88
Negotiated contracts, to suppliers	27.39	11.99
Contracts concluded on the Opcom centralized markets:	2915.48	2637.72
<i>CMBC-EA</i>	1454.96	871.59
<i>CMBC-EA-flex</i>	-	49.48
<i>CMBC-CN</i>	801.31	527.96
<i>CM-OTC</i>	659.04	1172.30
<i>CME-RES-GC</i>	0.18	16.39
DAM	1318.96	1077.46
ID	28.54	19.01
Supply contracts to final customers, out of which:	325.79	410.13
<i>Households</i>	0.28	0.47
<i>Non-households</i>	325.51	409.66
Total	5127.60	4821.18

Source: Monthly reports of generators – analysed by Electricity Market Monitoring Unit

Suppliers

In November 2020, 94 companies having as the main activity that of electricity supply were active on the electricity market; out of these, 31 are suppliers that only operate on the wholesale electricity market (some of which have a license for electricity trading) and 63 are suppliers that are also active on the retail electricity market (including the last resort suppliers, that are active both on the regulated and the competitive segments of the REM).

Suppliers acting exclusively on WEM

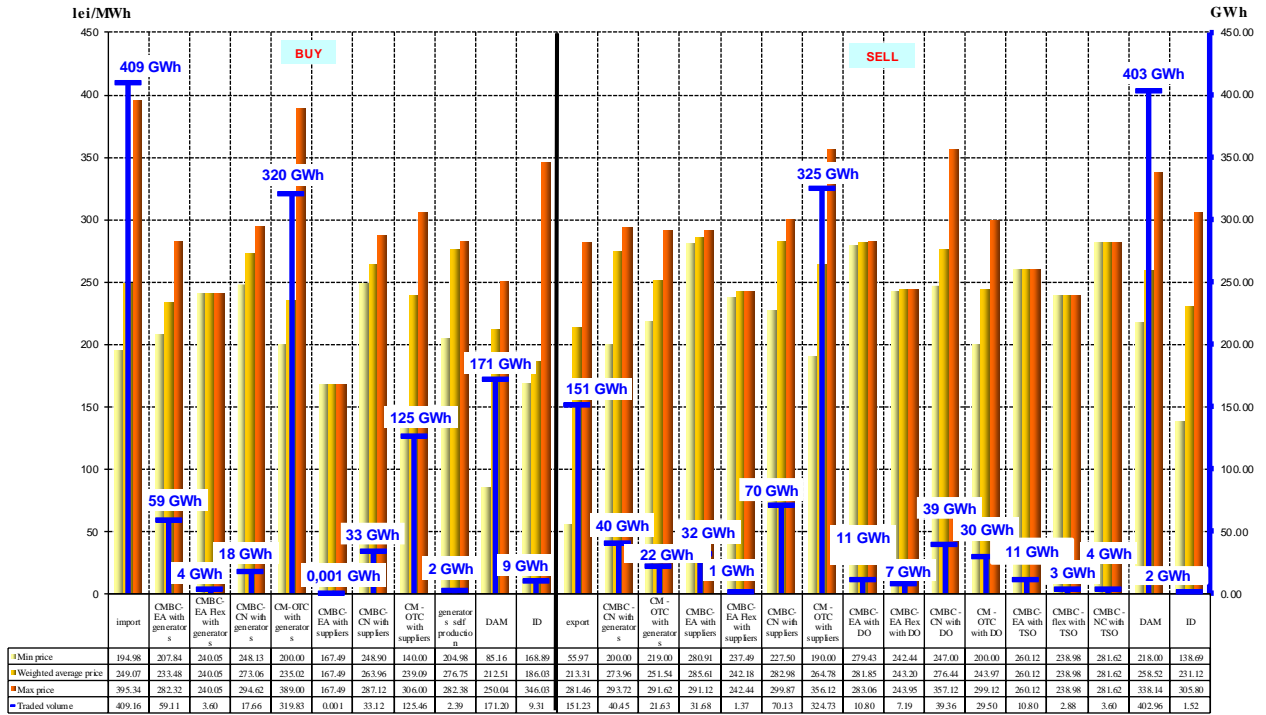
The following table illustrates the activity carried out by suppliers active only on WEM, presenting the structure by market segments/WEM participants of the total acquisitions and sales made by these suppliers in November 2020, compared to the similar period in 2019:

Structure of trades of suppliers acting exclusively on WEM	-GWh-	
	November 2019	November 2020
Buy		
Import	377.88	409.16
Trades concluded on Opcom centralized markets, out of which:	878.77	558.78
- on CMBC-EA with producers	136.80	59.11
- on CMBC-EA-Flex with producers	-	3.60
- on CMBC-CN with producers	216.00	17.66
- on CM-OTC with producers	301.04	319.83
- on CMBC-EA with other suppliers	0.07	0.001
- on CMBC-CN with other suppliers	2.28	33.12
- on CM-OTC with other suppliers	222.58	125.46
production from own sources	2.15	2.39
DAM	426.69	171.20
ID	0.59	9.31
Sell		
Export	223.03	151.23
Trades concluded on Opcom centralized markets, out of which:	1102.24	594.10
- on CMBC-CN with producers	0.00	40.45
- on CM-OTC with producers	79.89	21.63
- on CMBC-EA with other suppliers	13.68	31.68
- on CMBC-EA – Flex with other suppliers	-	1.37
- on CMBC-CN with other suppliers	211.26	70.13
- on CM-OTC with other suppliers	687.77	324.73
- on CMBC-EA with DO	32.40	10.80
- on CMBC-EA – Flex with DO	-	7.19
- on CMBC-CN with DO	48.46	39.36
- on CM-OTC with DO	28.79	29.50
- on CMBC-EA with TSO	0.00	10.80
- on CMBC-EA-Flex with TSO	0.00	2.88
- on CMBC-CN with TSO	0.00	3.60
DAM	361.00	402.96
ID	1.45	1.52

Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

The analysis by types of sources/destinations of the traded volumes, minimum, average and maximum prices in November 2020 of suppliers acting exclusively on WEM are presented graphically below.

Trades concluded by suppliers acting exclusively on WEM
-NOVEMBER 2020-



Source: Monthly reports of suppliers – analysis done by Electricity Market Monitoring Unit

Suppliers active on REM (suppliers of last resort not included)

The table below presents aggregated data regarding the structure by market segments/REM participants of total acquisitions and sales made by these market participants in November 2020, compared with the similar period of 2019:

-GWh-

Structure of trades of suppliers acting on REM (suppliers of last resort not included)	November 2019	November 2020
Buy		
Import	23.76	176.41
Negotiated trades with producers	27.50	12.11
Trades concluded on Opcom centralized markets, out of which:	1947.69	1443.24
- on CMBC-EA with producers	579.47	293.73
- on CMBC-EA-Flex with producers	-	16.47
- on CMBC-CN with producers	370.87	165.60
- on CM-OTC with producers	197.82	416.78
- on CME-RES-GC from producers	1.01	13.46
- on CMBC-EA with other suppliers	33.83	97.72
- on CMBC-EA-Flex with other suppliers	0.00	14.98
- on CMBC-CN with other suppliers	159.15	56.42
- on CM-OTC with other suppliers	605.54	368.09
production from own sources	11.86	19.07
Negotiated trades with non-dispatchable producers (others than under Law 220/2008) *	4.34	1.13
Negotiated trades with non-dispatchable producers (amendments and additions to Law no. 220/2008) **	13.67	11.96
Trades with prosumers	0.004	0.01
DAM	601.09	767.92
ID	27.43	1.43
Sell		
Export	12.33	1.96
Trades concluded on Opcom centralized markets, out of which:	1062.73	783.34
- on CMBC-EA – Flex with producers	-	5.28
- on CMBC-CN with producers	27.36	24.06
- on CM-OTC with producers	51.86	44.76
- on CMBC-EA with other suppliers	60.54	98.37
- on CMBC-EA-Flex with other suppliers	-	17.20
- on CMBC-CN with other suppliers	138.08	90.69
- on CM-OTC with other suppliers	596.48	389.65
- on CMBC-EA with DO	32.40	20.23
- on CMBC-EA – Flex with DO	-	15.83
- on CMBC-CN with DO	75.89	35.04
- on CMBC-OTC with DO	65.73	28.80
- on CMBC-EA with TSO	7.20	9.84
- on CMBC-CN with TSO	7.20	3.60
DAM	75.48	87.24
ID	0.69	0.91
Households	27.12	35.06
Non-households	1450.04***	1528.69

Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

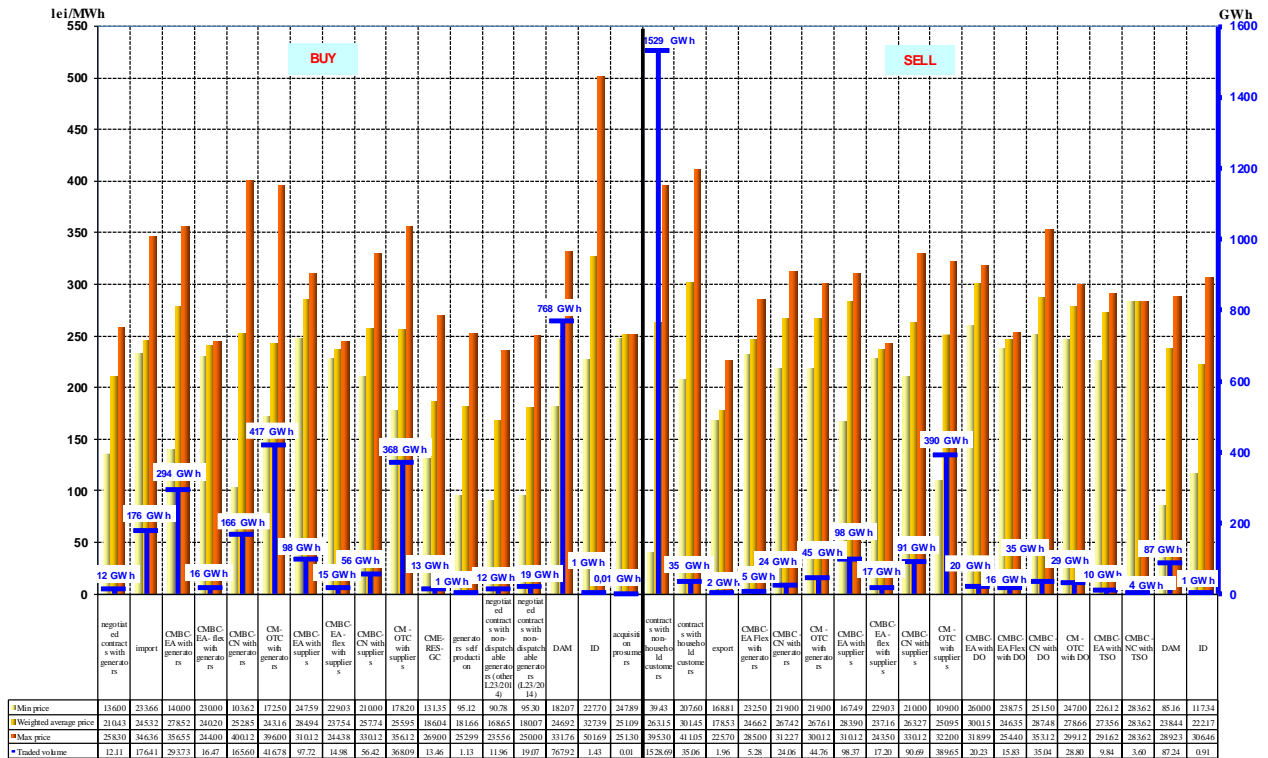
Notes: *negotiated trades with non-dispatchable producers that **do not** fall under Law no. 220/2008, with subsequent modifications and additions.

** Negotiated trades with non-dispatchable producers that fall under Law no. 220/2008, with subsequent modifications and additions.

***Differences with November 2019 Electricity Market Monitoring Report are triggered by the corrections reported by market participants.

The analysis by types of sources/ destinations of the volumes traded, the average, highest and lowest prices in November 2020, for suppliers active on the REM and WEM are shown in the following graph:

Trades concluded by suppliers active on WEM and REM
- NOVEMBER 2020 -



Source: Monthly reports of the suppliers – analysis by Electricity Market Monitoring Unit

Suppliers of last resort

Trades’ structure on the WEM of suppliers of last resort (made before the delivery interval) to supply final clients under the regulated, US, last resort regime and inactive clients is shown in the table below for November 2020, compared with the similar period of 2019:

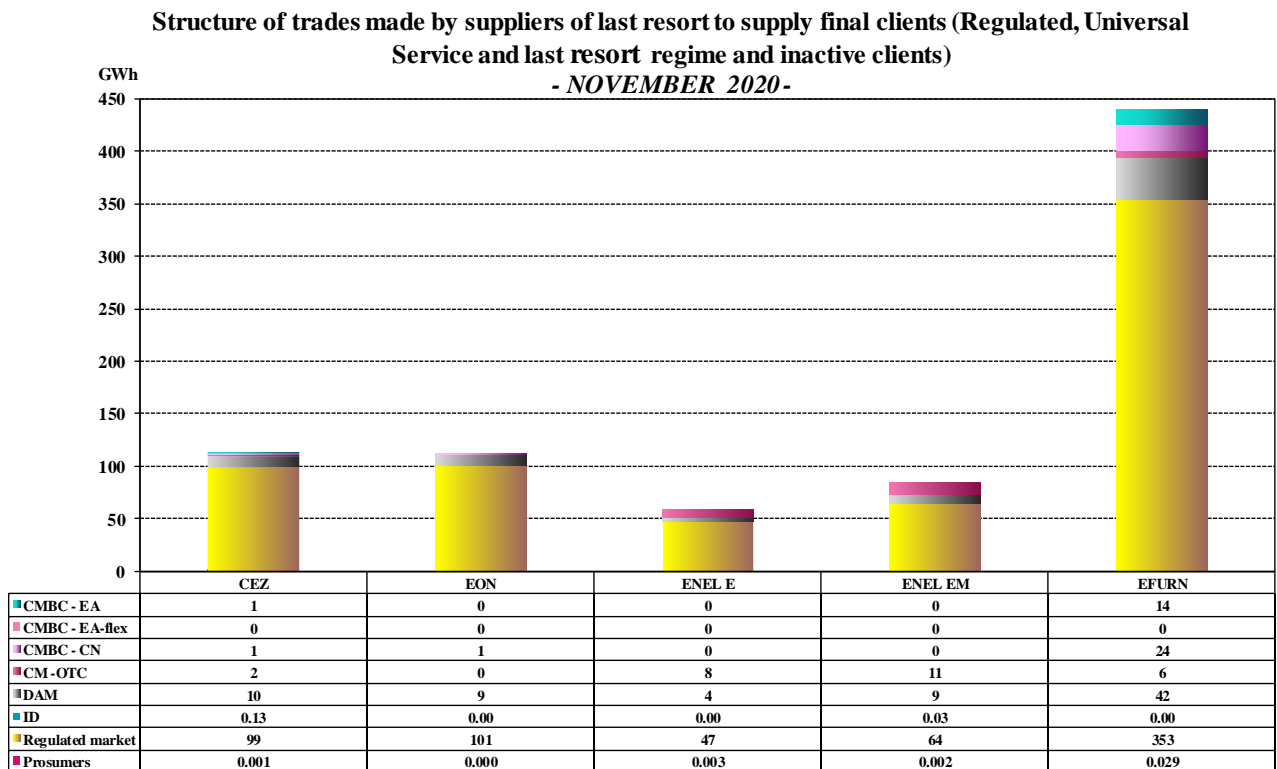
-GWh -

Structure of trades concluded by suppliers of last resort to supply final clients (regulated, Universal Service, last resort regime and inactive clients)	November 2019	November 2020
Regulated contracts with producers	511.43	664.88
Negotiated trades with non-dispatchable producers (changes, additions Law 220/2008)*	0.0004	0.001
Trades concluded on Opcom centralized markets, out of which:	275.34	69.15
- trades on CMBC-EA with producers	115.37	15.36
- trades on CMBC-CN with producers	21.78	8.76
- trades on CM-OTC with producers	14.70	25.70
- trades on CMBC-EA with other suppliers	10.95	0.08
- trades on CMBC-EA Flex with other suppliers	-	0.08
- trades on CMBC-CN with other suppliers	41.61	17.44
- trades on CM-OTC with other suppliers	70.94	1.74
Trades with prosumers	0.02	0.03
Trades concluded on DAM:	-23.65	52.25
- buy	69.28	73.90
- sell	92.93	21.66
Trades concluded on ID:	-0.001	0.15
- buy	0.00	0.15
- sell	0.001	0.00

Note: *negotiated trades with non-dispatchable producers that fall under the provisions of Law no. 220/2008, with subsequent amendments and additions.

***Differences with the October 2019 Electricity Market Monitoring Report are caused by the amended reports sent by market participants*

The structure of the electricity bought by the suppliers of last resort for the final consumers supplied under regulated, US and last resort regime and for inactive clients for November 2020 is presented in the following graph:



Source: Monthly reports of suppliers of last resort – analysed by Electricity Market Monitoring Unit

In accordance with the *Regulation for competitive selection to designate suppliers of last resort*, approved by ANRE Order no. 26/2018 and amended by ANRE Order no. 17/2019, ANRE has designated as obligated suppliers of last resort for each network area, until 30 June 2022, the following suppliers: E.ON Energie Romania SA, Enel Energie SA, Enel Energie Muntenia SA, Electrica Furnizare SA and CEZ Vanzare SA.

ANRE has also designated the following suppliers as optional suppliers of last resort, for different network areas: Electrica Furnizare, CEZ Vanzare SA, E.ON Energie Romania SA, Enel Energie SA, Enel Energie Muntenia SA, Engie Romania SA and Tinmar Energy SRL.

According to the *Methodology for setting the regulated tariffs and the prices applied by suppliers of last resort to final clients* (approved by ANRE Order no. 88/2020), during the period of applying the regulated tariffs (01 July 2020 – 31 December 2020), the consumption of the households that have concluded regulated energy supply contracts with suppliers of last resort is paid at regulated tariffs on voltage levels. The regulated tariffs have been approved by ANRE Orders no. 134, 135, 136, 137, 138, 139 and 140 of 2020 for each network area corresponding to obligated suppliers of last resort, respectively optional suppliers of last resort.

Also, by Order no. 141/2020, ANRE approved the generic tariffs for electricity, which are applied to households by the suppliers who had the quality of suppliers of last resort when the regulated tariffs were approved, but did not have households in their portfolio in this capacity, or by those suppliers who were not suppliers of last resort, but would acquire this capacity later, after the competitive selection process.

Therefore, starting with 1 January 2020, for every network area and voltage level, suppliers of last resort apply in the bills of household and non-household final clients from their portfolio the following

types of approved tariffs/ authorised prices by ANRE, to which are added the regulated tariffs for the transmission service, ancillary service and distribution service:

- *obligated suppliers of last resort – regulated tariffs* to households, *Universal Service price* to non-household final clients that benefit from Universal Service, *inactive clients price* to non-household final clients that did not use their eligibility right and do not fulfil the conditions or did not request to be supplied under the Universal Service regime and the *last resort price* to non-household final clients supplied by the obligated suppliers of last resort because of not having secured the supply from any other source.

Universal Service price and *inactive clients' price* are calculated by adding the electricity acquisition components and the supply component for that client category, to which is also added the adjustment component related to the Universal Service price or inactive clients price.

The last resort price is determined monthly, starting from the weighted average price on DAM for the month for which it is calculated, plus the supply component.

- *Optional suppliers – regulated tariffs* to households and *Universal Service price* to non-household final clients that benefit from Universal Service.

Based on the provisions of ANRE Order no. 216/2019, in order to ensure the consumption of households at regulated tariffs, suppliers of last resort buy the necessary electricity on the basis of regulated sale and purchase contracts concluded with the electricity producers for which ANRE has set obligations to sell fixed quantities at a regulated price for the period between 1 January 2020 – 30 June 2020 and maximum quantities to be sold based on regulated contracts for the period 1 July 2020 – 31 December 2020. Suppliers of last resort ensure households' consumption needs also through acquisitions from prosumers, through contracts concluded on the centralized markets, DAM, ID and BM. ANRE Order no. 27/2018 for the approval of the *Regulation for organizing and conducting the auctions on the centralized market for the universal service* amended the terms of participation of the suppliers of last resort to CMUS for the purchase of electricity estimated to cover the consumption of final clients supplied under a regulated and Universal Service regime, the participation in the auction sessions becoming, thus, voluntary.

The structure of electricity trades of suppliers of last resort on the WEM made before the delivery interval for Universal Service/regulated supply is presented in the following table for November 2020, compared with the similar period of 2019:

Structure of trades concluded by suppliers of last resort for Universal Service/ regulated supply	November 2019		November 2020	
	Quantity [GWh]	Average price [lei/MWh]	Quantity [GWh]	Average price [lei/MWh]
Regulated contracts with producers	511.43	219.87	664.88	188.79
Negotiated contracts with non-dispatchable producers (changes and additions to Law 220/2008)*			0.0001	176.18
Trades on Opcom centralized markets:	225.28	251.19	10.20	266.68
- CMBC-EA with producers	96.82	249.55	3.69	248.52
- CMBC-CN with producers	21.60	218.96	1.88	263.51
- CM-OTC with producers	7.20	259.00	1.56	264.47
- CMBC-EA with other suppliers	10.80	240.11	0.01	290.29
- CMBC-EA Flex with other suppliers	-	-	0.01	237.69
- CMBC-CN with other suppliers	38.16	264.68	2.18	291.95
- CM-OTC with other suppliers	50.70	259.18	0.88	291.07
Trades with prosumers	0.01	223.22	0.03	251.15
Trades on DAM:	-38.54	-	51.02	-
- buy	53.56	238.14	65.13	278.39
- sell	92.10	199.67	14.11	226.91
Trades on ID:	-0.0011	-	0.10	-
- buy	0.00	0.00	0.10	441.20
- sell	0.0011	30.40	0.00	0.00
TOTAL	698.18	234.04	726.24	197.22

Note: *negotiated trades with non-dispatchable producers that fall under the provisions of Law no. 220/2008, with subsequent amendments and additions.

The structure of trades on the WEM concluded by suppliers of last resort before the delivery interval, for supplying electricity to inactive clients in November 2020 compared to the similar period of 2019 is shown in the following table:

Trades' structure of suppliers of last resort to supply inactive clients	November 2019		November 2020	
	Quantity [GWh]	Average price [lei/MWh]	Quantity [GWh]	Average price [lei/MWh]
Negotiated contracts with non-dispatchable producers (changes, additions to Law 220/2008)*	0.0004	179.22	0.0010	182.24
Trades on centralized contracts markets, out of which:	46.62	263.18	57.83	269.15
- on CMBC-EA with producers	18.55	247.52	11.67	259.10
- on CMBC-CN with producers	0.17	237.75	6.88	250.98
- on CM-OTC with producers	5.86	259.93	23.02	272.00
- on CMBC-EA with other suppliers	0.15	301.23	0.07	290.13
- on CMBC-EA Flex with other suppliers	-	-	0.07	237.51
- on CMBC-CN with other suppliers	3.45	270.09	15.26	280.68
- on CM-OTC with other suppliers	18.43	278.62	0.85	271.06
Trades with prosumers	0.002	222.70	0.003	251.79
Trades on DAM, of which:	13.96		1.11	
- buy	14.61	228.57	8.44	271.49
- sell	0.65	136.21	7.33	185.34
Trades on ID, of which:	0.00		0.05	
- buy	0.00	0.00	0.05	437.09
- sell	0.00	0.00	0.00	0.00
TOTAL	60.58	256.19	58.99	280.04

Note:

*negotiated trades with non-dispatchable producers that fall under the provisions of Law no. 220/2008, with subsequent amendments and additions.

The following table presents the electricity acquisition structure of suppliers of last resort before the delivery interval, corresponding to the competitive segment of REM for November 2020, compared to the similar period of 2019:

Structure of trades made by suppliers of last resort for the competitive segment of REM	- GWh-	
	November 2019	November 2020
Buy		
Trades on centralized contracts markets, of which:	1372.51	1344.84
- on CMBC-EA with producers	496.74	399.72
- on CMBC-EA-flex with producers	-	18.00
- on CMBC-CN with producers	155.63	165.77
- on CM-OTC with producers	138.90	386.85
- on CME-RES-GC from producers	5.99	16.85
- on CMBC-EA with other suppliers	29.37	32.25
- on CMBC-EA Flex with other suppliers	-	3.52
- on CMBC-CN with other suppliers	146.30	53.84
- on CM-OTC with other suppliers	399.58	268.04
Negotiated trades with non-dispatchable producers (others than on amendments, additions to Law 220/2008)*	0.00	0.64
Negotiated trades with non-dispatchable producers (amendments, additions to Law 220/2008)**	21.50	20.29
Trades with prosumers	0.02	0.08
Trades on DAM	151.41	174.01
Trades on ID	0.00	1.77
Sell		
Trades on centralized contracts markets, of which:	36.00	74.15
- on CMBC-CN with producers	14.40	15.84
- on CMBC-CN with other suppliers	0.00	3.60

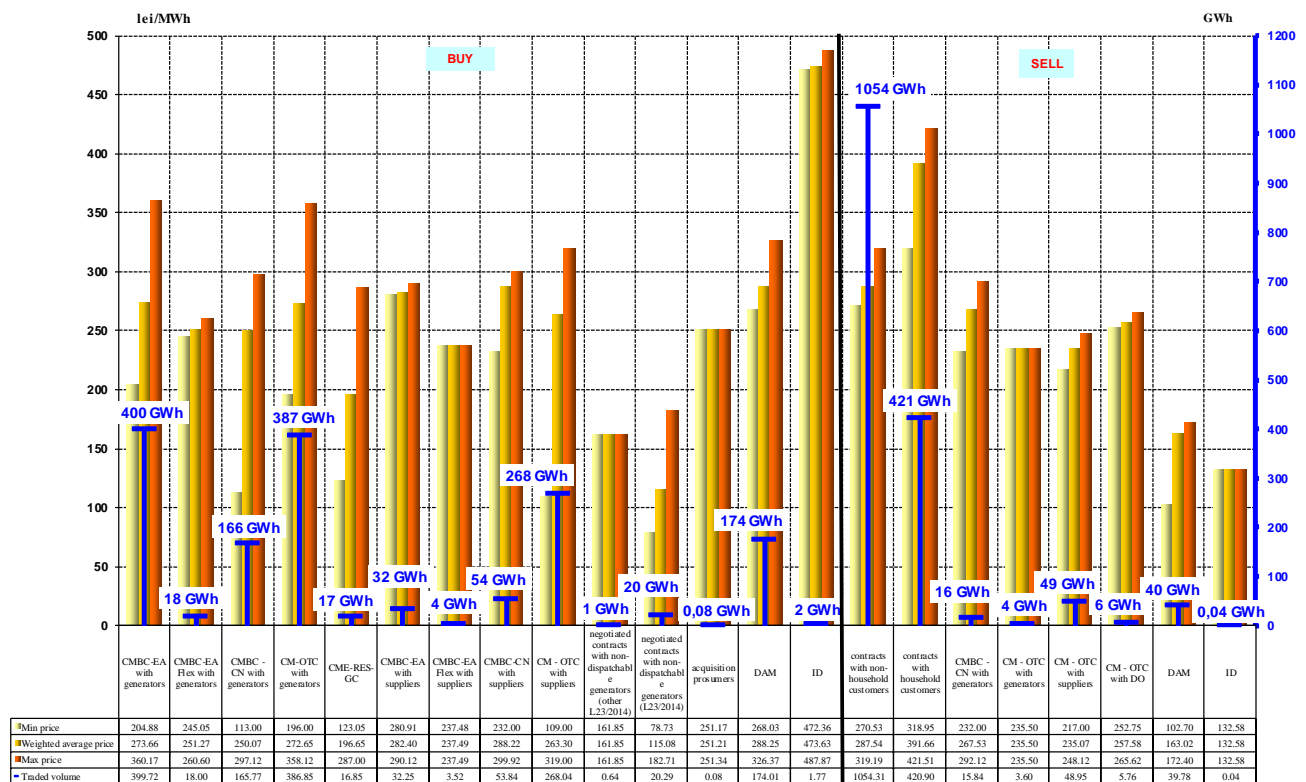
- on CM-OTC with other suppliers	14.40	48.95
- on CM-OTC with DO	7.20	5.76
Trades on DAM	43.95	39.78
Trades on ID	0.01	0.04
Households	364.63	420.90
Non-households	1115.04	1054.31

Note: * negotiated trades with non-dispatchable producers that **do not** fall under the provisions of Law no. 220/2008, with subsequent modifications and additions.

** Negotiated trades with non-dispatchable producers that fall under the provisions of Law no. 220/2008, with subsequent amendments and additions.

The structure by types of sources/destinations of the traded volumes and of the average prices of the suppliers of last resort on the competitive segment of REM is presented in the following graph for November 2020:

Trades made by suppliers of last resort for the REM - competitive segment
- NOVEMBER 2020 -



Source: Monthly reports of suppliers of last resort – analysis done by Electricity Market Monitoring Unit

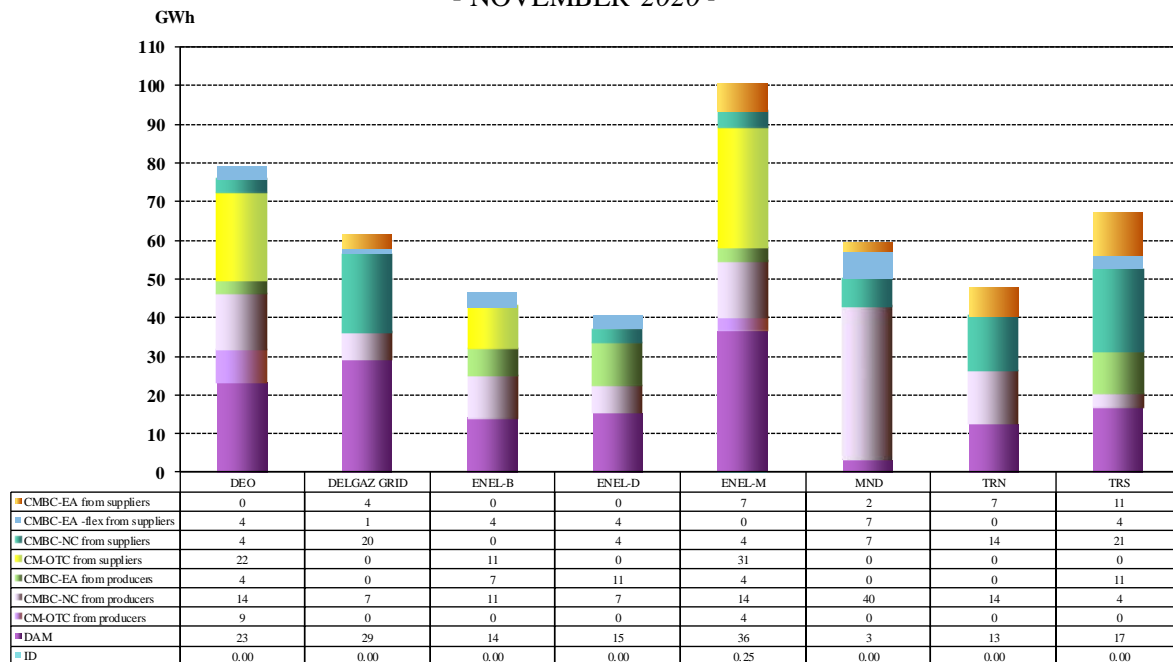
Main distribution operators

The following table shows the electricity acquisition structure of the main distribution operators made before the delivery interval for distribution networks losses, for November 2020, compared with the similar previous period:

- GWh -		
Structure of trades	November 2019	November 2020
Trades on centralized contracts markets:	454.86	351.55
- CMBC-EA with producers	110.91	36.00
- CMBC-CN with producers	42.29	110.88
- CM-OTC with producers	10.81	12.24
- CMBC-EA with suppliers	64.80	30.96
- CMBC-EA- flex with suppliers	-	23.02
- CMBC-CN with suppliers	124.35	74.40
- CM-OTC with suppliers	101.71	64.05
Trades on DAM	97.88	147.04
- buy	104.53	150.49
- sell	6.64	3.45
Trades on ID:	0.07	0.25
- buy	0.07	0.25
- sell	0.00	0.00

Electricity acquisition structure of the main distribution operators in November 2020 is presented in the following graph:

Structure of electricity acquisitions of distribution operators to cover distribution network losses
- NOVEMBER 2020 -



Source: Monthly reports of the main distribution operators – analysed by Electricity Market Monitoring Unit

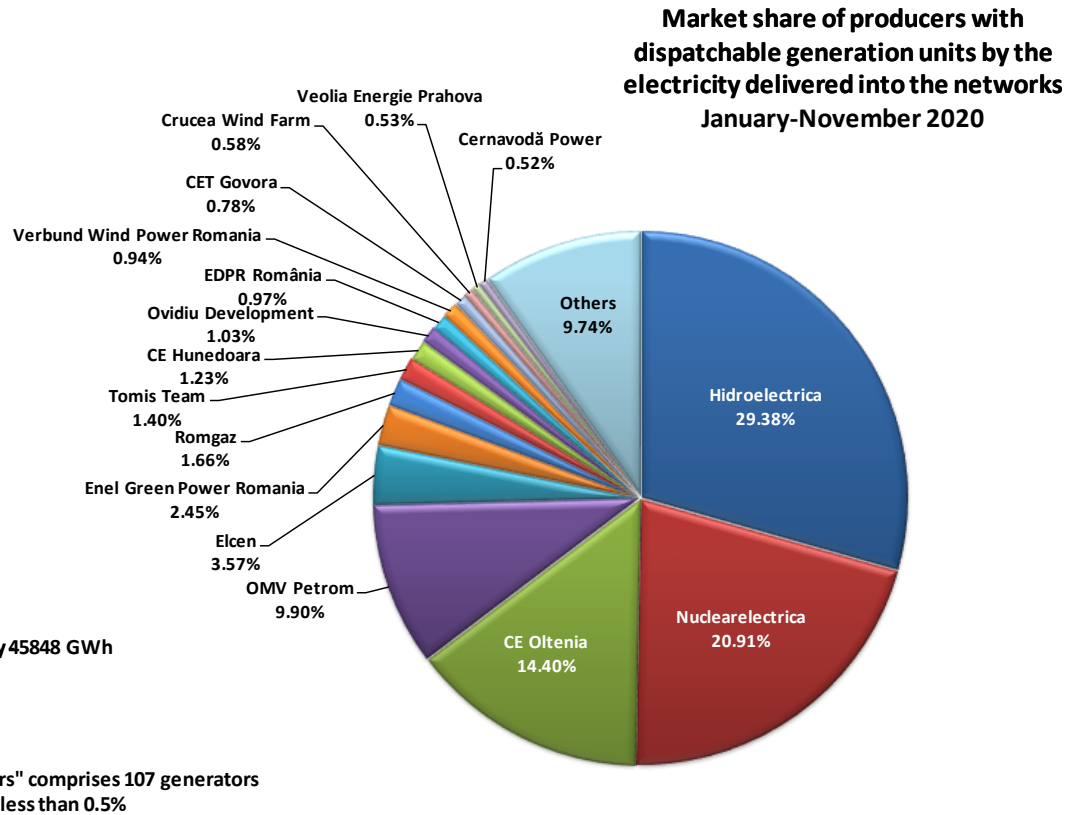
6. Concentration indicators for the wholesale electricity market and its components

Concentration indicators and market shares of electricity producers

The market structure of electricity generation offers an initial basis for the analysis on the degree of competitiveness that is possible on the electricity market.

The following table presents the concentration indicators of electricity generation for November 2020 and the graph presents the market shares of electricity producers with dispatchable generation units, determined based on the electricity delivered into the networks.

Concentration indicators - November 2020 -	C1 (%)	C3 (%)	HHI
Value	28.41	64.93	1692



Source: Monthly reports of producers – analysed by Electricity Market Monitoring Unit

A component of the WEM on which direct competition between producers is displayed is the Balancing Market (BM). The values of concentration indicators on this market for November 2020 are determined based on effectively delivered electricity, for each type of regulation defined within the Commercial Code and they are presented in the following table:

Structure/concentration indicators of BM - November 2020 -	Regulation					
	Secondary		Fast tertiary		Slow tertiary	
	upward	downward	upward	downward	upward	downward
C1 - % -	45	45	44	50	0	100
C3 - % -	96	96	82	95	0	100
HHI	3329	3324	2937	3536	0	10000

Source: Monthly reports of CNTEE Transelectrica SA – analysed by Electricity Market Monitoring Unit

In accordance with the provisions of Emergency Government Ordinance no. 26/2018 on the adoption of measures for the safety and security of the electricity supply of NPS, ANRE President Decision no.

1211/2020 was issued regarding the acquisition at a regulated price for the period between July – December 2020 from the producer CE Hunedoara SA of a quantity of ancillary services representing slow tertiary reserve for a capacity of 400 MW. Also, CNTEE Transelectrica SA organized auctions to buy secondary and fast tertiary reserves.

In the following table, are shown the concentration indicators by types of reserves (secondary, fast tertiary and slow tertiary) for November 2020.

Concentration indicators on Ancillary Services Market - November 2020 -		Secondary reserve	Fast tertiary reserve	Slow tertiary reserve
regulated component	contracted quantity (h*MW)	-	-	288000
	C1 (%)	-	-	100.0
	C3 (%)	-	-	100.0
competitive component	contracted quantity (h*MW)	310200	590200	-
	C1 (%)	44.8	66.0	-
	C3 (%)	95.5	90.9	-
	HHI	3313	4724	-

Source: Monthly reports of CNTEE Transelectrica SA – analysed by Electricity Market Monitoring Unit

Concentration Indicators for the Day Ahead Market

The Day Ahead Market (DAM) is a voluntary market, open for both buying and selling, for all license holders and for foreign undertakings who have been granted by ANRE Decision the confirmation of the right to supply or trade electricity in Romania, under the conditions established by the applicable regulations.

The concentration indicators on this market reflect the level of competition between sellers and between buyers respectively, the dynamics of both influencing the price level. The following table presents C1, C3 and HHI for the buying and for the selling side of DAM, based on quantities traded by participants on this market.

Concentration indicators on DAM - November 2020 -	C1 (%)	C3 (%)	HHI
Selling	9.48	26.76	410
Buying	17.14	33.64	577

Source: Monthly reports of Opcom SA

7. Prices evolution on wholesale electricity market

Starting with 19 November 2014, the Romanian DAM is coupled with the spot markets from Hungary, Slovakia and the Czech Republic based on the price coupling mechanism, known as 4M MC. This coordinated correlation mechanism uses an unique Pan-European method for price coupling of regions (called *Price Coupling of Regions* - PCR) in order to fulfil the harmonization of national European markets and create the internal European electricity market. The coupled functioning is based on the coupling algorithm recommended by ACER (Euphemia) and its goal is maximizing the social welfare of the entire area of the coupled markets.

The coupling mechanism is developed through the coupling operators OTE-Czech Republic, EPEX Spot (operating as services supplier for OKTE-Slovakia and HUPX-Hungary) and, from 17 February

2017, OPCOM-Romania (PCR member from 1 February 2016). After successfully implementing the changes and tests performed, OPCOM operates in its own name the coupling solution implemented in the 4M MC operational mechanism, all processes being performed under the security conditions of the coupled functioning of the day-ahead markets. Coupling operators are acting as *Coordinators* on a monthly rotation basis.

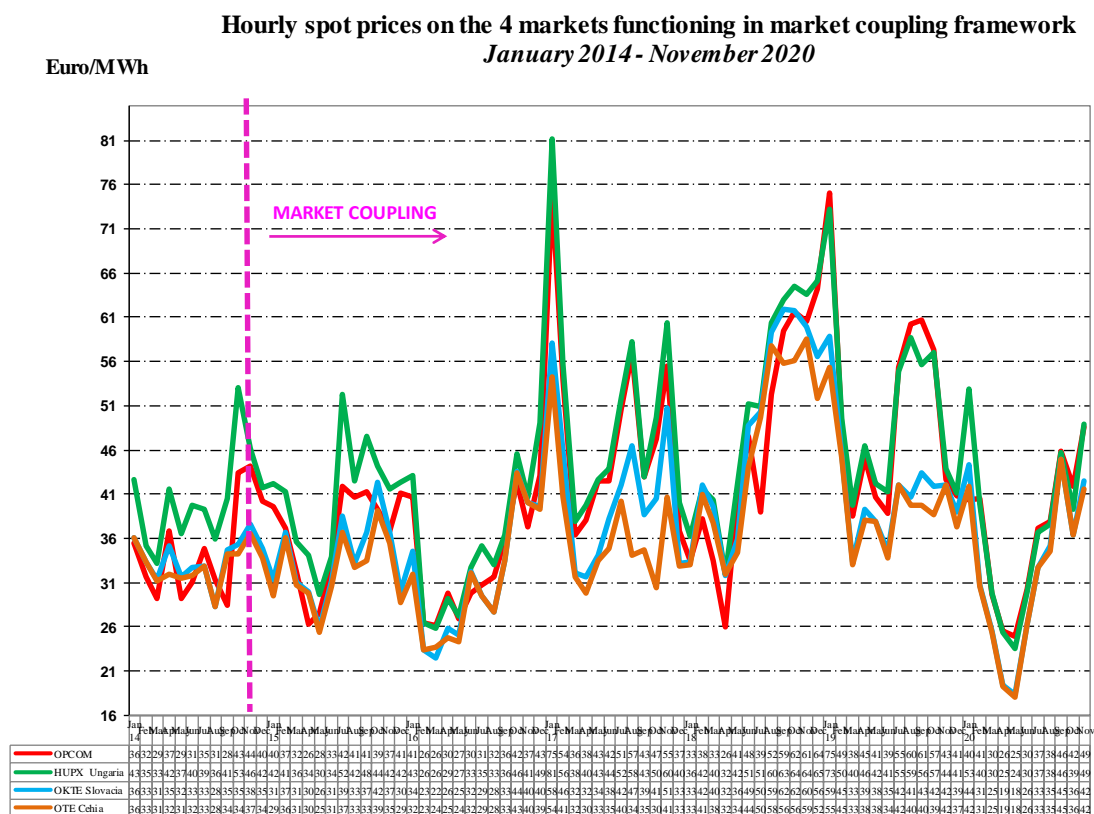
According to EU legislation, coordinated cross-border capacity allocation is under the governance of the TSOs from the 4 countries and the allocation model used is that of implicit allocation on DAM of the available interconnection capacity.

To better meet the purpose of the DAM coupling mechanism, respectively the electricity transfers at the level and direction determined by the known conditions of generation and consumption and based on the coupled markets prices - starting with 1 February 2016, TSO operators from Romania and Hungary (CNTEE Transelectrica SA and Mavir ZRt) under the recommendations of the regulators from both countries, ANRE and MEKH, agreed to reserve a quota of the interconnection capacity for DAM allocation. The same rule was adopted for interconnection capacity allocation on the Bulgarian border.

Therefore, for each month of the year, reserved capacity for DAM allocation is determined as a difference between available transmission capacity (ATC) calculated monthly for each sub-period and 80% from the lowest ATC value resulted for the sub-periods of the respective month, plus the capacity allocated at the annual auction, returned to TSO.

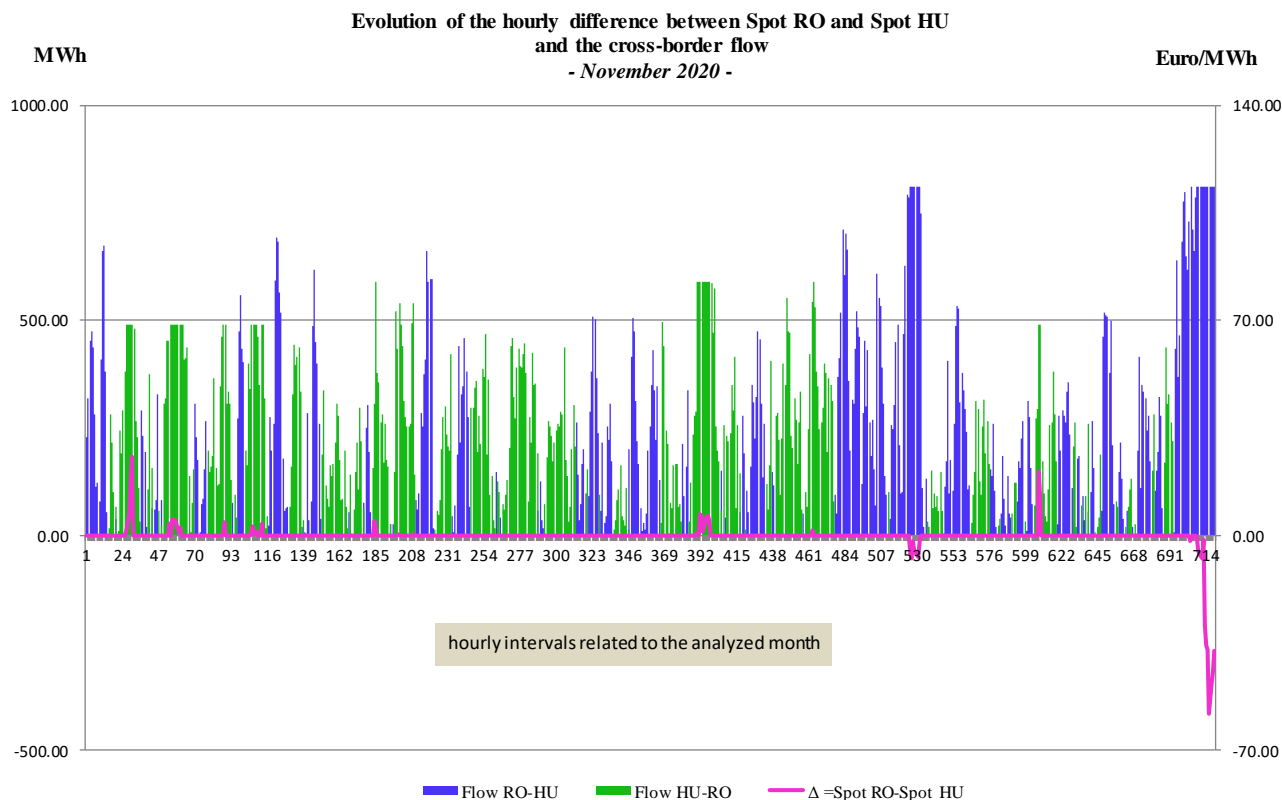
Particularly, for the Hungarian border, if 80% of the lowest value of the ATC calculated monthly for sub-periods is lower than 80 MW, interconnection capacity for monthly allocation will be 80% from the ATC calculated for each sub-period, to which is added the allocated capacity at the yearly auction returned to TSO.

The next graph presents the monthly average spot prices of the 4 markets involved in the 4M MC coupling mechanism starting with 1 January 2014, before and after the onset of coupled operation.



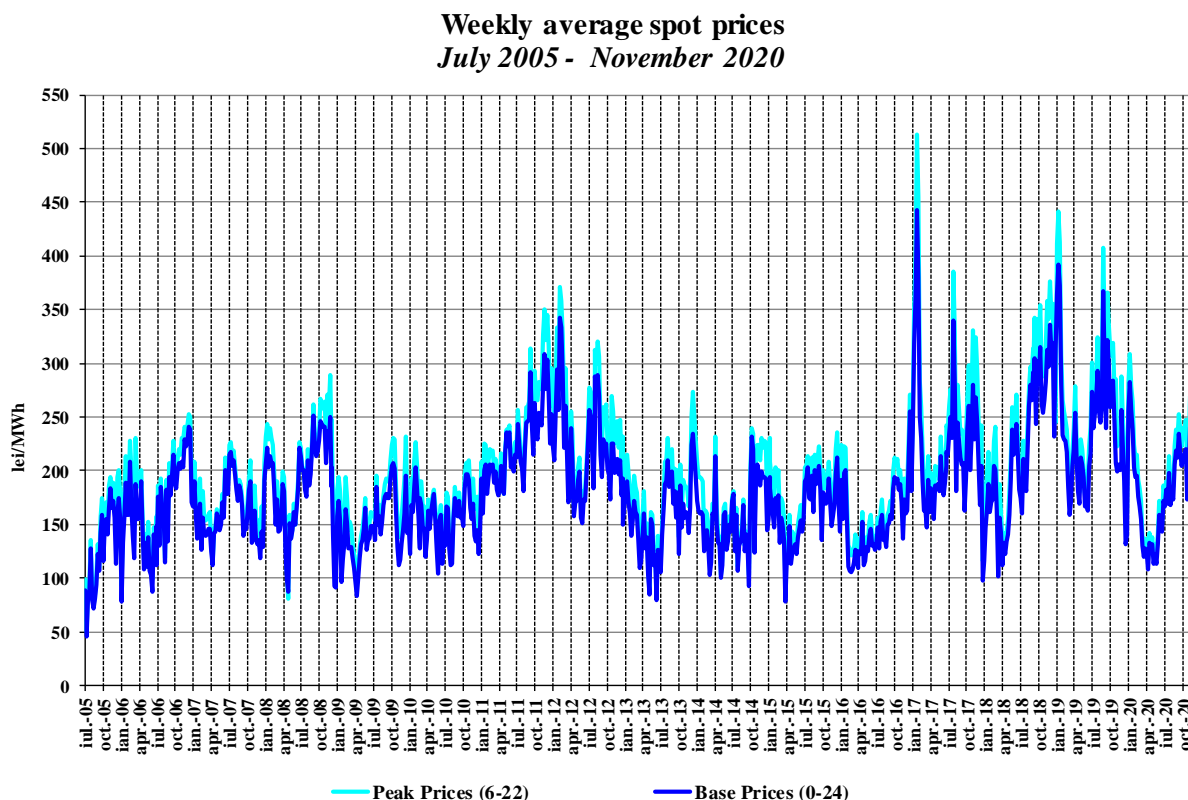
Source: Monthly reports of Opcom SA – analysed by Electricity Market Monitoring Unit

Next, the following graph presents the hourly evolution of the difference between the closing prices of the coupled DAM on the Romanian and Hungarian area, correlated with the cross-border flows on the Romanian – Hungarian border, on both directions, for November 2020.



Source: Data published by Opcom SA – analysed by Electricity Market Monitoring Unit

The following graph presents the evolution of weekly average spot prices starting with July 2005:



Source: Daily reports of Opcom SA – analysed by Electricity Market Monitoring Unit

After entry into force of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (CACM Regulation), the elaboration and approval by all the regulatory authorities or by ACER of its subsequent documents has started, allowing the Single Day-ahead price coupling and the correlation process of the Intraday markets by continuous trading.

New ID trading rules are in line with EU legislation (CACM Regulation) and with the subsequent secondary legislation approved by ACER decisions: no. 05/2017 (applying the provisions of Art. 54 - harmonised maximum and minimum clearing prices for all bidding zones participating in the single intraday coupling), no. 4/2018 (applying Art. 59 - setting the intraday cross-zonal gate opening and intraday cross-zonal gate closure times), and no. 8/2018 (applying the provisions of Art. 37 – adopting the methodology and the common set of requirements for the price coupling algorithm and for the continuous trading matching algorithm).

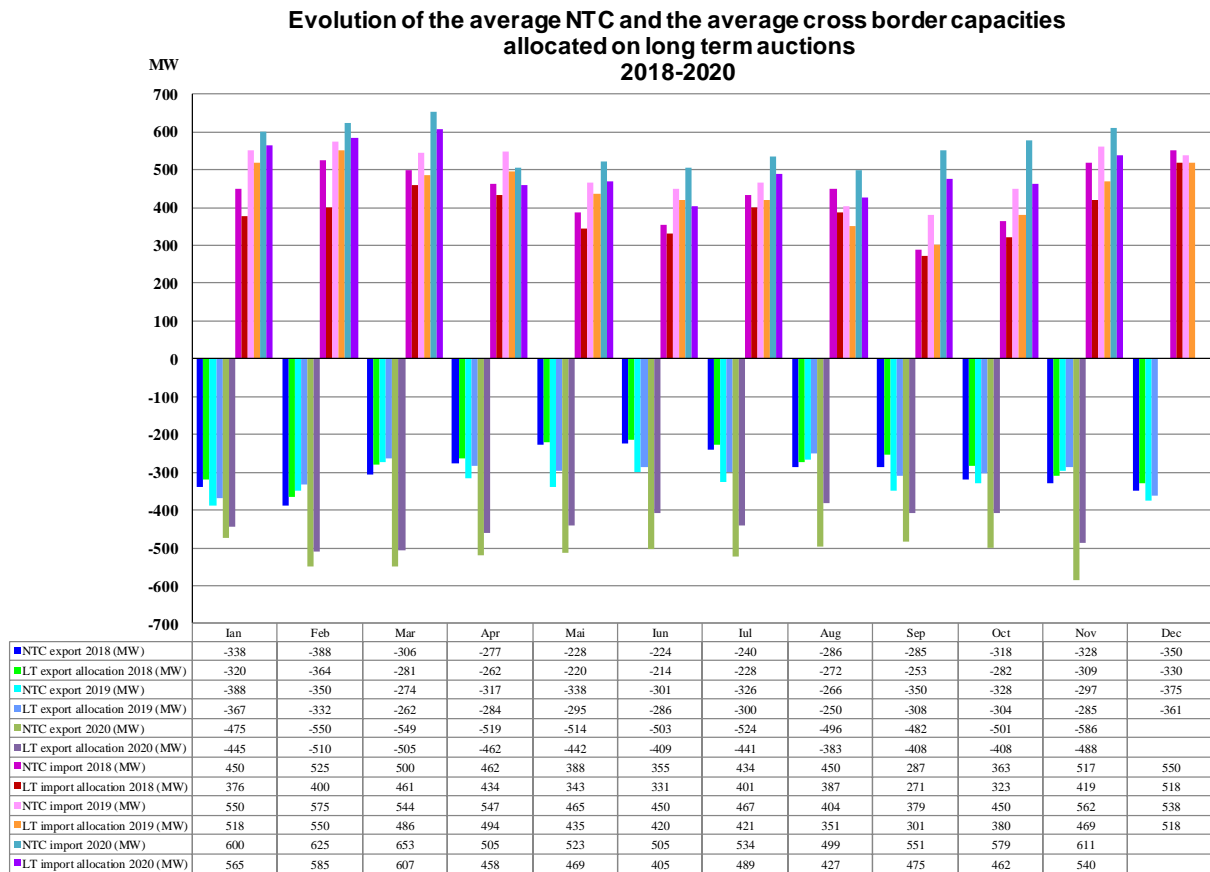
Being an integrated part of the European project SIDC (Single Intra-Day Coupling), formerly known as XBID, designed to implement the cross-European transmission on the intraday horizon, starting with 15:00 CET of the trading day 19 November 2019, Romanian ID operates coupled with the electricity markets from other 20 EU countries participating in the project: Bulgaria, Hungary, Croatia, the Czech Republic, Poland, Slovenia, Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Latvia, Lithuania, Norway, Sweden, Holland, Portugal and Spain.

Therefore, on the Romanian borders with Hungary and Bulgaria, the intraday auctions are performed based on the SIDC coupled mechanism by implicit allocations, with continuous trading matching algorithm, using common IT system, capacity management module, cross-border transfer module and order book.

On the Romanian borders with Hungary and Bulgaria, the auctions for the annual and monthly allocation are made by the Joint Allocation Office (JAO), which has become, starting with 1 October 2018, the Single Allocation Platform (SAP) that organizes auctions for cross-border capacity allocation for all European TSOs.

On the Romanian border with Serbia, the allocation is performed through coordinated bilateral auctions for 100% of the cross-border capacity. The auctions for annual, monthly and intraday horizon are organized by CNTEE Transelectrica SA, and the daily auctions are organized by the EMS (Serbian TSO), in accordance with the agreements signed between the two TSOs. On the Romanian border with Ukraine the allocation is performed by CNTEE Transelectrica SA through auctions for long term allocation, the use of interconnection capacities depending on the written agreement of Ukrenergo (Ukrainian TSO).

The following chart shows the monthly average values of the net transfer capacity (NTC) of the NPS with the aforementioned neighbouring energy systems and the average transfer capacity allocated at long-term export and import auctions.

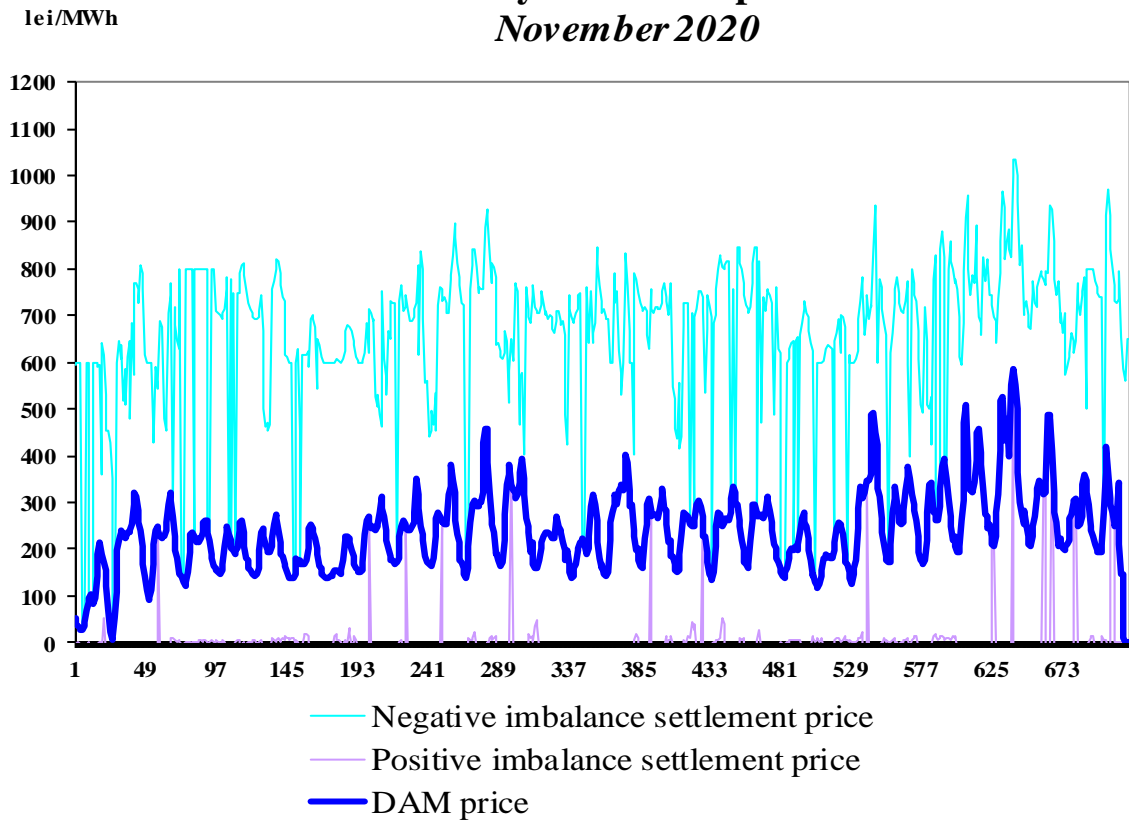


Source: Monthly reports of CNTEE Tranelectrica SA – analysed by Electricity Market Monitoring Unit

In order to cover the differences between planned/contracted values of consumption and generation and their values in real time, the system operator (CNTEE Tranelectrica SA) operates the balancing market (BM),” buying” or ”selling” electricity at prices determined by the merit order of dispatchable producers offers. The market participants generating imbalances, grouped in BRPs, have to bear the imbalances costs. For the negative imbalances, they have to pay the price resulting from the upward offers accepted on the BM, while for the positive imbalances they receive the price resulting from the downward offers accepted on the BM.

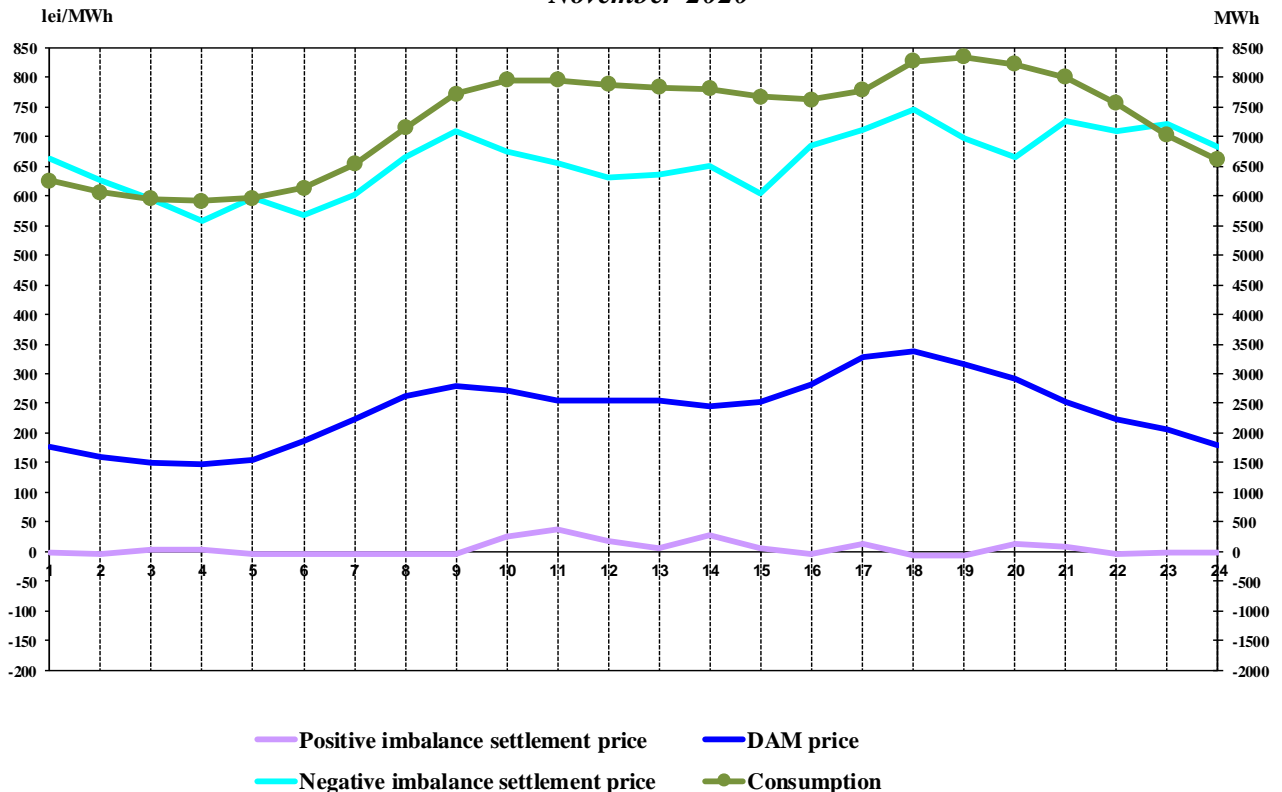
The settlement prices (market closing price on DAM, negative imbalance price and positive imbalance price) are represented on the same graph, thus showing the two markets correlation degree. In the first graph the settlement prices are expressed in hourly values, in the second graph in hourly average values compared to internal consumption, and in the last graph in average monthly values.

Hourly settlement prices November 2020



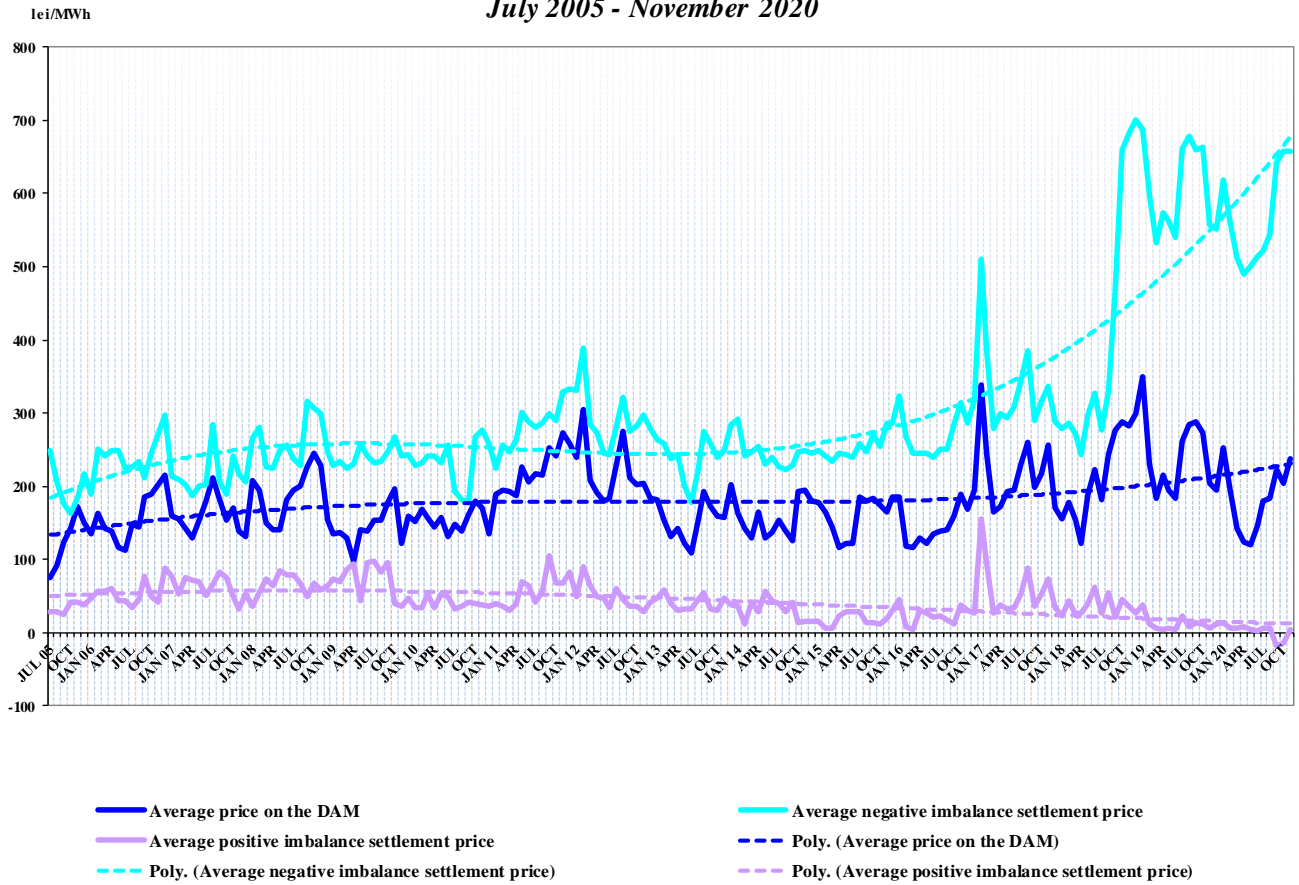
Source: Daily/monthly reports of Opcom SA – analysed by Electricity Market Monitoring Unit

Hourly average settlement prices and internal consumption November 2020



Source: Monthly reports of Opcom SA and CNTEE Tranelectrica SA – analysed by Electricity Market Monitoring Unit

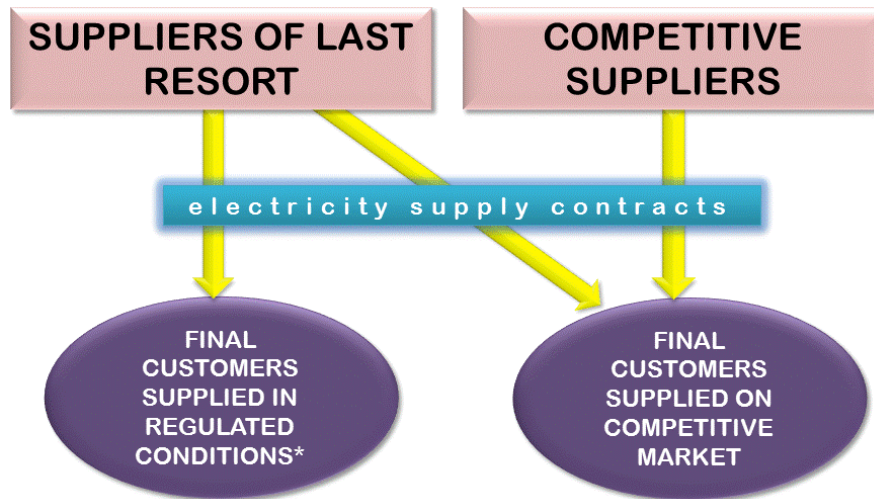
Monthly average prices on DAM and BM
July 2005 - November 2020



Source: Monthly/daily reports of Opcom SA – analysed by Electricity Market Monitoring Unit

III. RETAIL ELECTRICITY MARKET

1. Structure of the retail electricity market

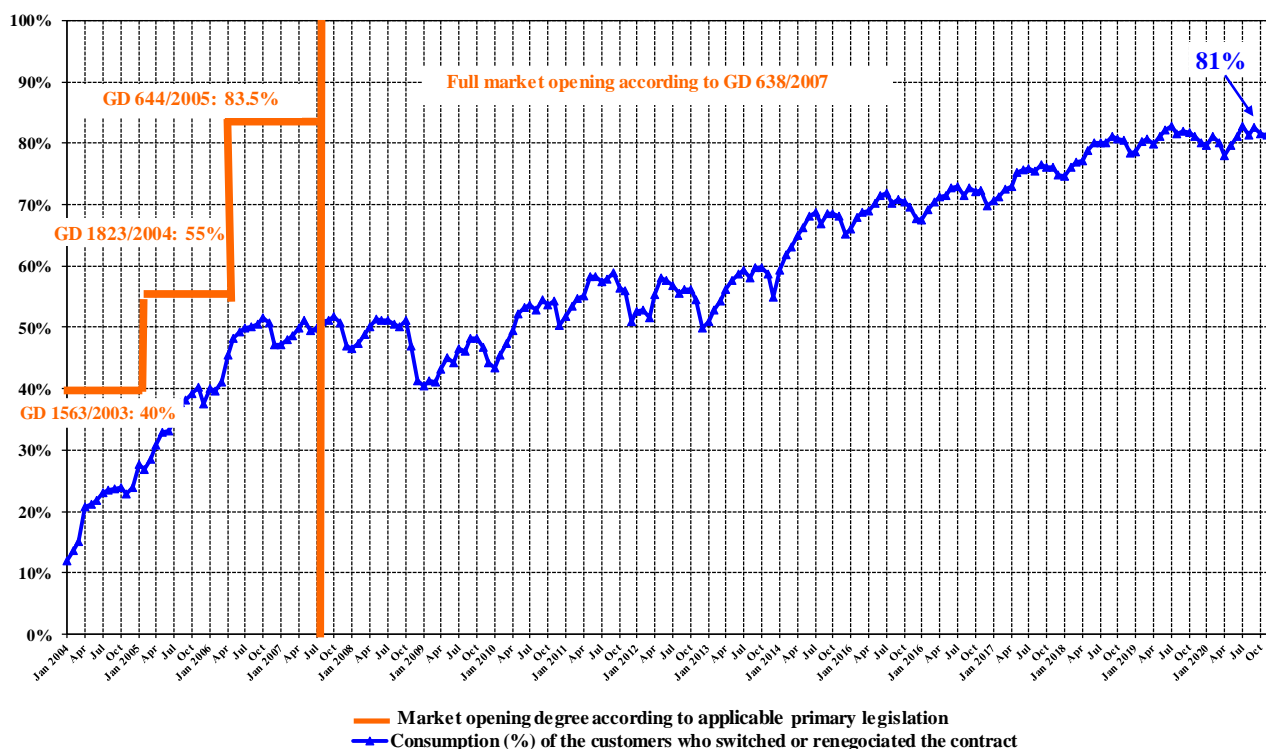


* according to art. 53 (2) and art. 55 (1) from Electricity and Gas Law no. 123/2012

2. Electricity market opening degree

The following graph contains the quota of the consumption (from total consumption) of the customers who switched their supplier or renegotiated their contracts with the suppliers of last resort, January 2004 – November 2020. The values presented are cumulated from the beginning of the market opening process and are presented monthly:

Evolution of the opening degree of the electricity market
January 2004 - November 2020



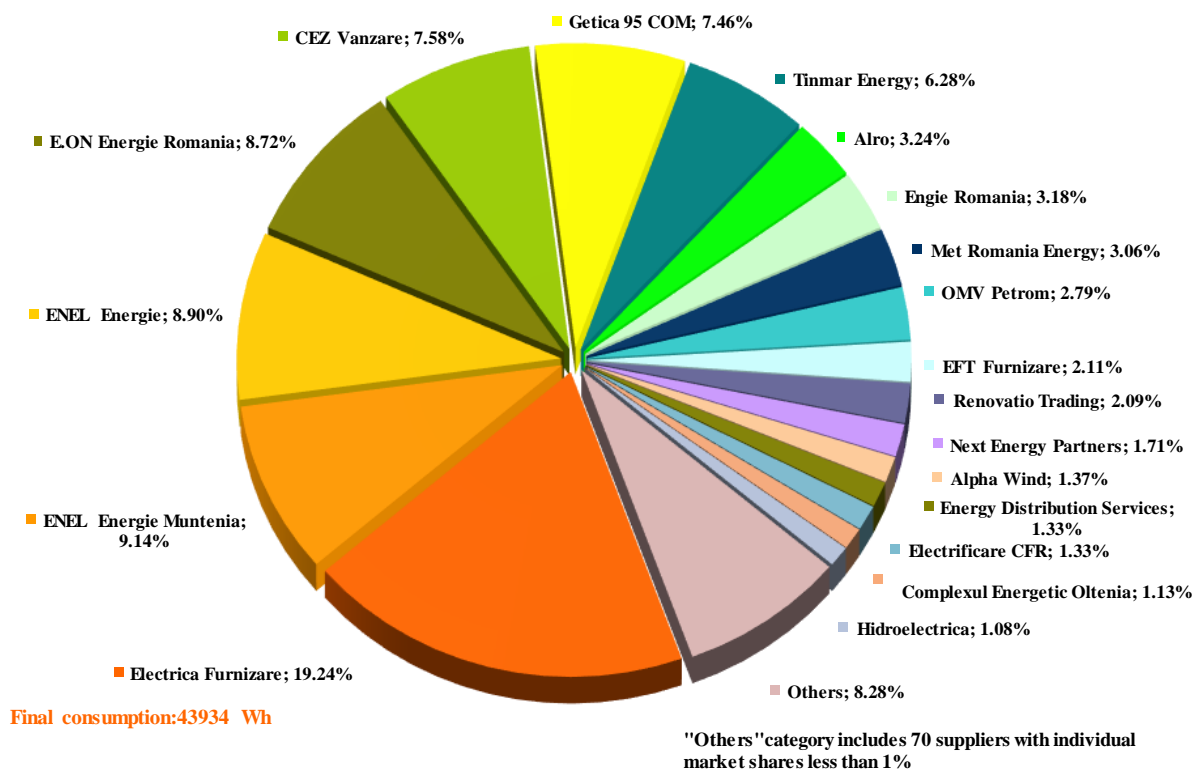
Source: Monthly reports of suppliers of final customers – analysed by Electricity Market Monitoring Unit

3. Market shares of electricity suppliers

In the following three graphs are presented the market shares of electricity suppliers on the retail market, calculated:

- a) for all licensees monitored, suppliers and producers active on REM, including suppliers of last resort, in terms of electricity supplied to final clients under regulated, Universal Service and last resort regime and inactive clients and to consumers who have switched their supplier or have negotiated their contract;

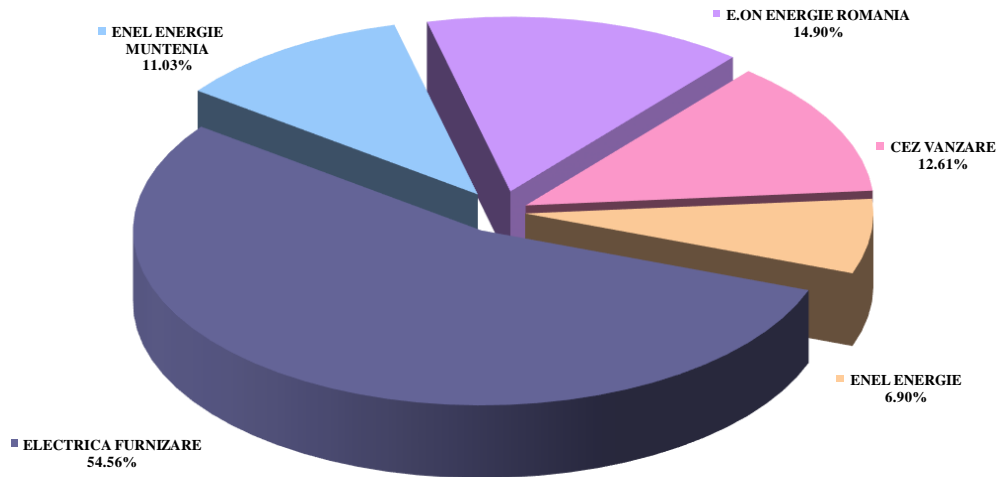
**Market shares of suppliers for final customers
JANUARY - NOVEMBER 2020**



Source: Monthly reports of suppliers for final customers – analysed by Electricity Market Monitoring Unit

- b) for suppliers of last resort - based on the electricity supplied to final clients under regulated, Universal service and last resort regime and inactive clients;

**Market shares of suppliers of last resort for the electricity supplied to regulated, Universal service, and last resort regime clients and to inactive clients
JANUARY - NOVEMBER 2020**

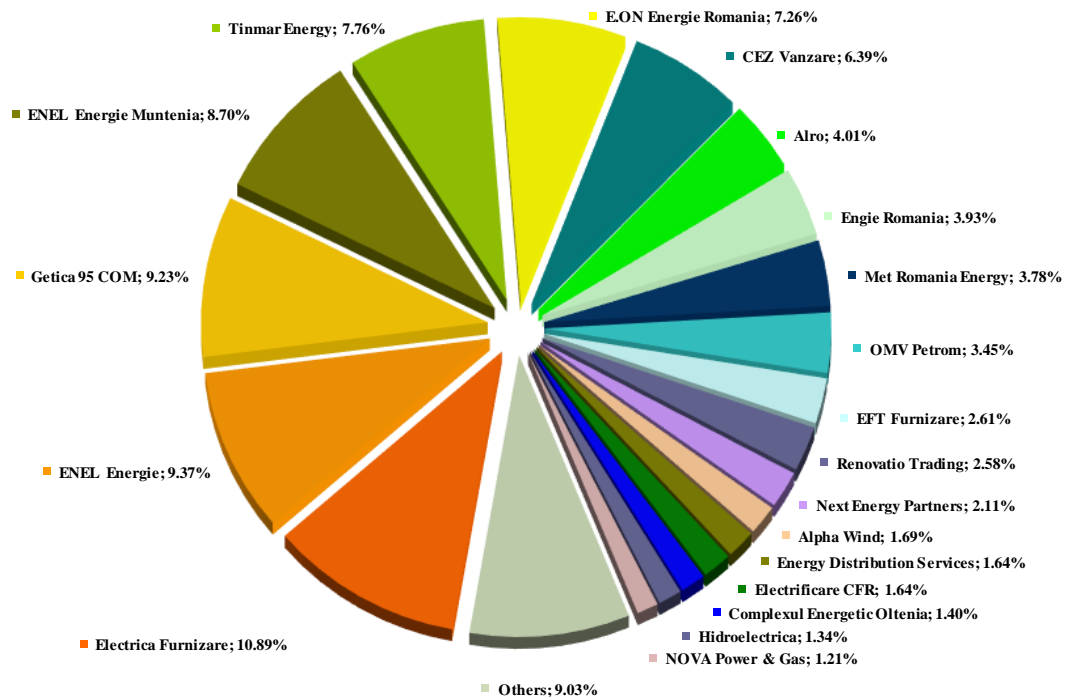


Consumption of regulated, Universal service and last resort regime clients and of inactive clients: 8399 GWh

Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

- c) For all licensees monitored, suppliers and producers, active on the competitive segment of the REM, including suppliers of last resort - depending on the electricity supplied to clients who have switched suppliers or negotiated their contracts.

**Market shares of suppliers on the competitive market
JANUARY - NOVEMBER 2020**



Consumption on competitive market: 35535 GWh

Structure indicators:

HHI - 613; C3 - 29%; C1 - 11%

"Others" category includes 69 suppliers with individual market shares less than 1%

Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

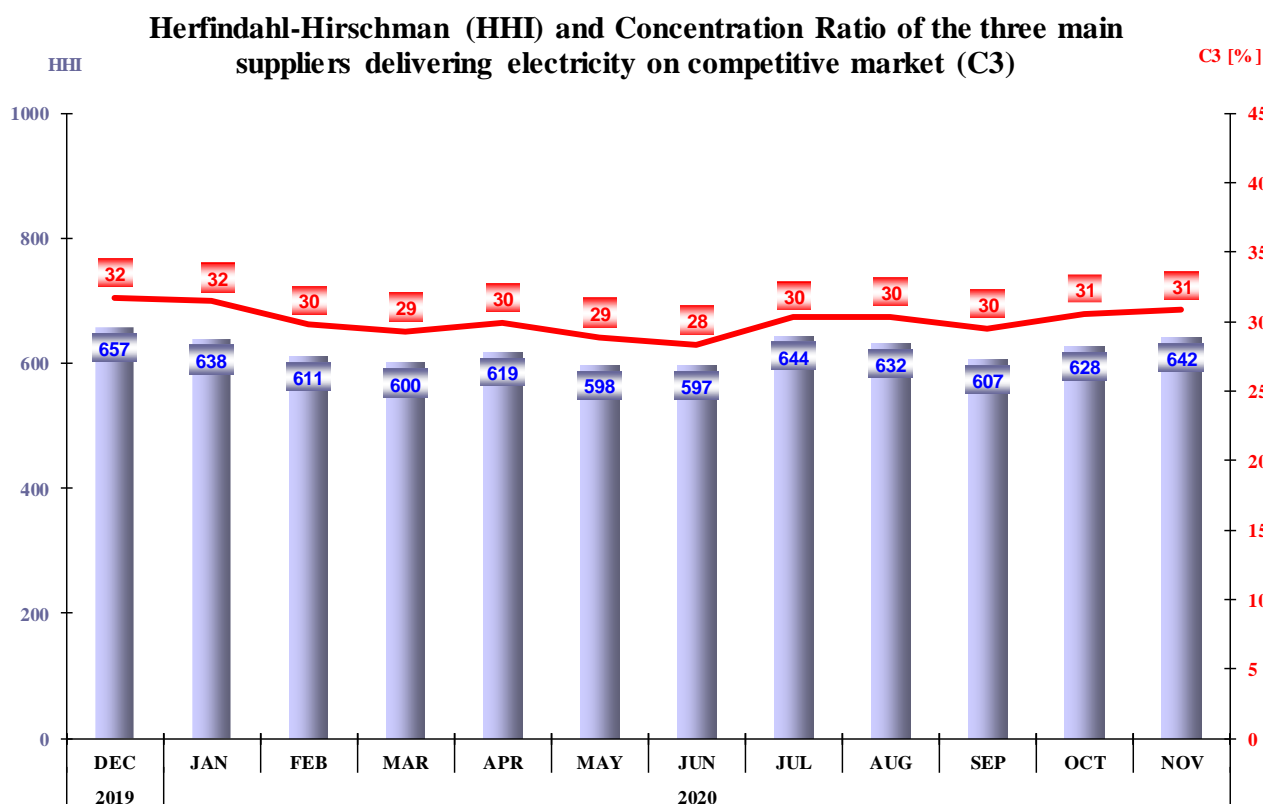
It is noted that in the calculation of the market indicator values the principle of dominance was not considered and the electricity supplied on the basis of which was established each supplier's market share includes the self-consumption of the large industrial consumers who also hold a supply license and who have decided to buy the necessary electricity on the wholesale market as competitive suppliers. Quantification of suppliers' activity within the competitive segment of REM compared to that on the WEM can be done by determining the share of sales to final consumers in the total sales trades. Therefore, the following table shows the number of suppliers active on the REM, structured according to the size of the activity on this market in November 2020.

Number of suppliers	Share of sales to final customers from total sales trades			
	100%	75% - 100%	50% - 75%	<50%
Competitive	14	18	12	14
Of last resort	0	5	0	0

Source: Monthly reports of the suppliers – analysed by Electricity Market Monitoring Unit

4. Concentration indicators of the competitive retail electricity market

The monthly evolution of the concentration indicators (C3, HHI) determined on the competitive component of the REM is presented for November 2020 in the following graph:



Source: Monthly reports of the suppliers – analysed by Electricity Market Monitoring Unit

The tables below show the values of market structure indicators for the competitive component of REM and the number of active suppliers in November 2020, calculated for each consumption band defined by the Regulation (EU) 2016/1952, for non-household and household customers:

Indicators - November 2020	Consumption bands - Non-household customers							
	IA	IB	IC	ID	IE	IF	IG	Total
C1 - % -	34	21	16	15	23	13	16	12
C3 - % -	67	53	36	36	52	35	43	33
HHI	1915	1263	800	740	1251	787	1019	619
Consumption - GWh -	111	406	301	704	375	331	765	2993
No. of SUPPLIERS	67	72	64	55	24	18	15	85
No. of suppliers of last resort	5	5	5	5	5	4	2	5
No. of competitive suppliers	45	49	43	39	14	10	7	57
No. of producers	17	18	16	11	5	4	6	23

Indicators - November 2020	Consumption bands - Household customers					
	DA	DB	DC	DD	DE	Total
C1 - % -	33	34	36	32	37	33
C3 - % -	81	78	80	71	70	76
HHI	2404	2387	2571	2138	2114	2319
Consumption - GWh -	83	168	117	68	20	456
No. of SUPPLIERS	38	34	35	38	36	48
No. of suppliers of last resort	5	5	5	5	5	5
No. of competitive suppliers	27	25	25	29	26	35
No. of producers	6	4	5	4	5	8

Source: Monthly reports of the suppliers – analysed by Electricity Market Monitoring Unit

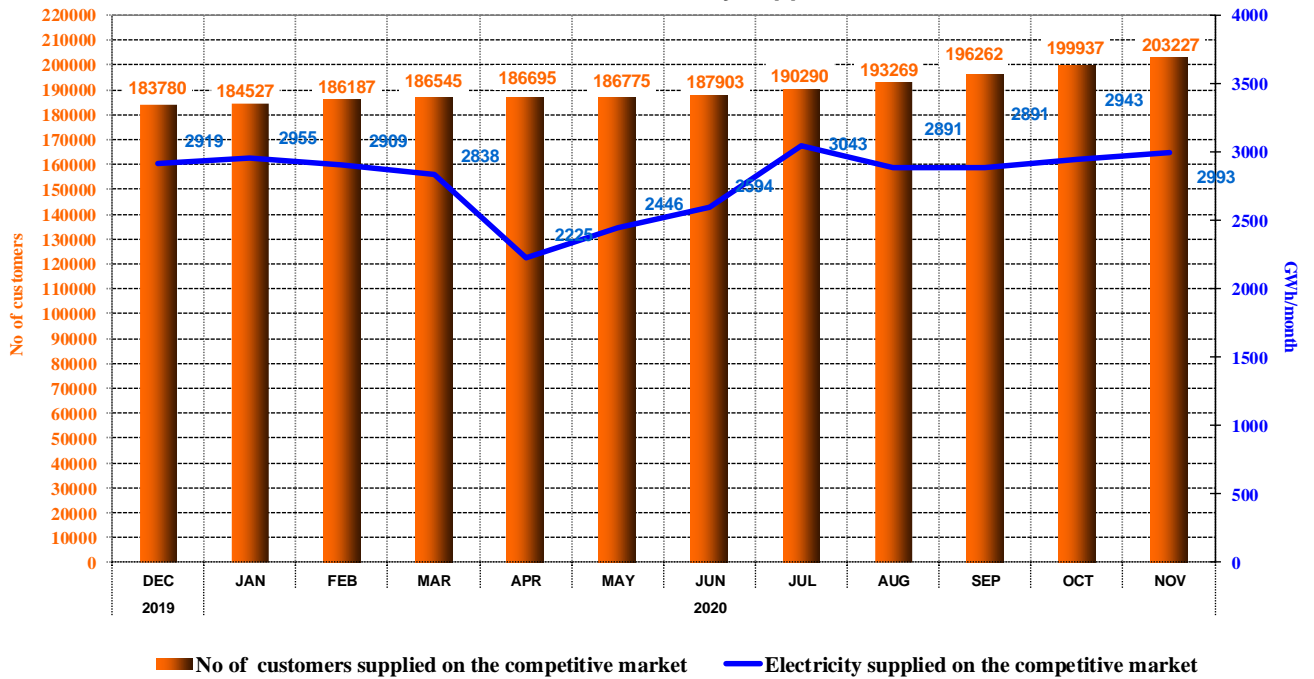
5. The evolution of the number of clients and of the electricity delivered

The number of final clients supplied under competitive conditions is shown on a monthly basis over the last 12 months. Also, it is presented the structure on categories of clients for November 2020, according to the provisions of Regulation (EU) no. 2016/1952 of the European Parliament and of the Council. The tables below present in detail the consumption ranges corresponding to each consumption band:

Non-household customers	Annual electricity consumption (MWh):	
IA		<20
IB	>=20	<500
IC	>=500	<2000
ID	>=2000	<20000
IE	>=20000	<70000
IF	>=70000	<150000
IG	>=150000	

Household customers	Annual electricity consumption (kWh):	
DA		<1000
DB	>=1000	<2500
DC	>=2500	<5000
DD	>=5000	<15000
DE	>=15000	

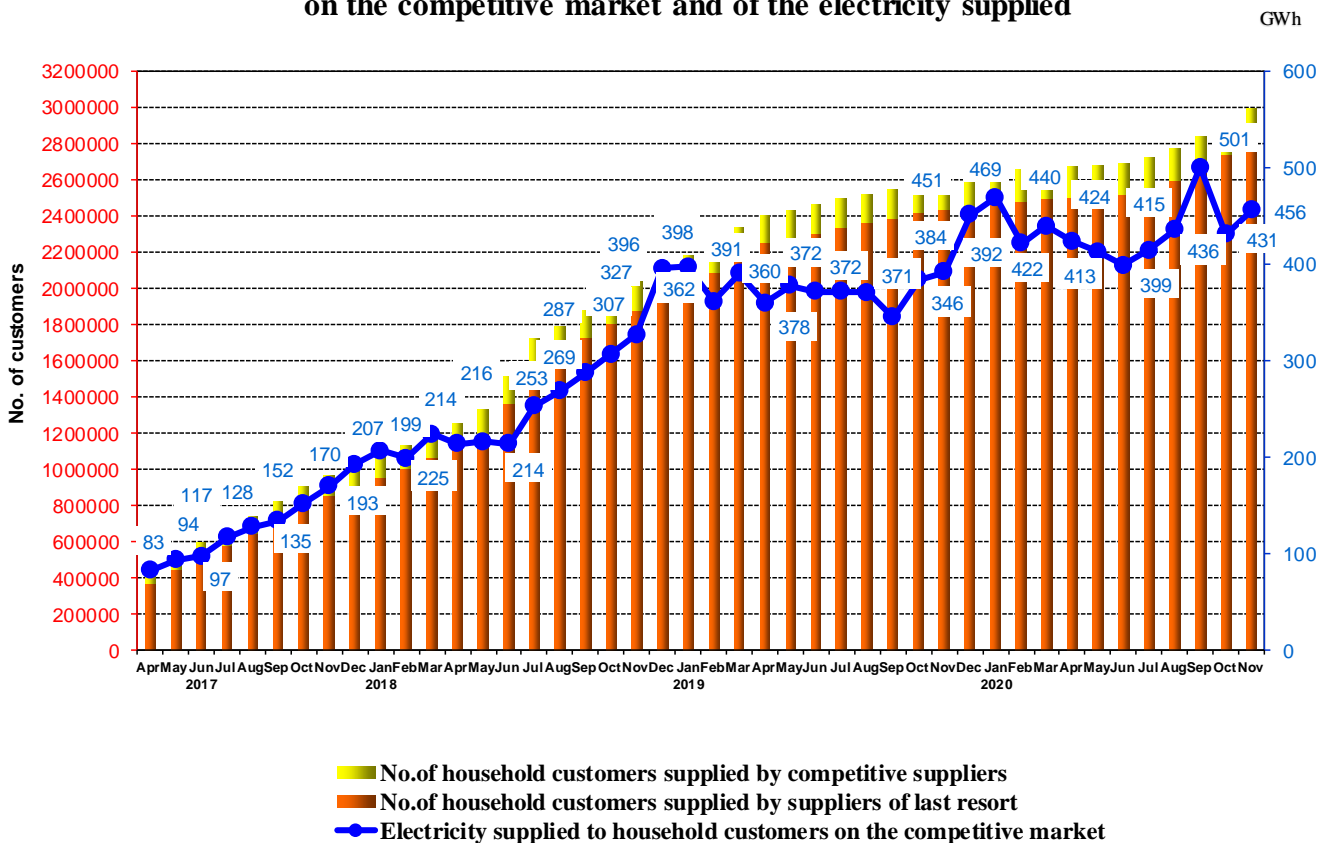
Evolution of the number of non-household customers on the competitive market and of the electricity supplied



Source: Monthly reports of competitive suppliers – analysed by Electricity Market Monitoring Unit

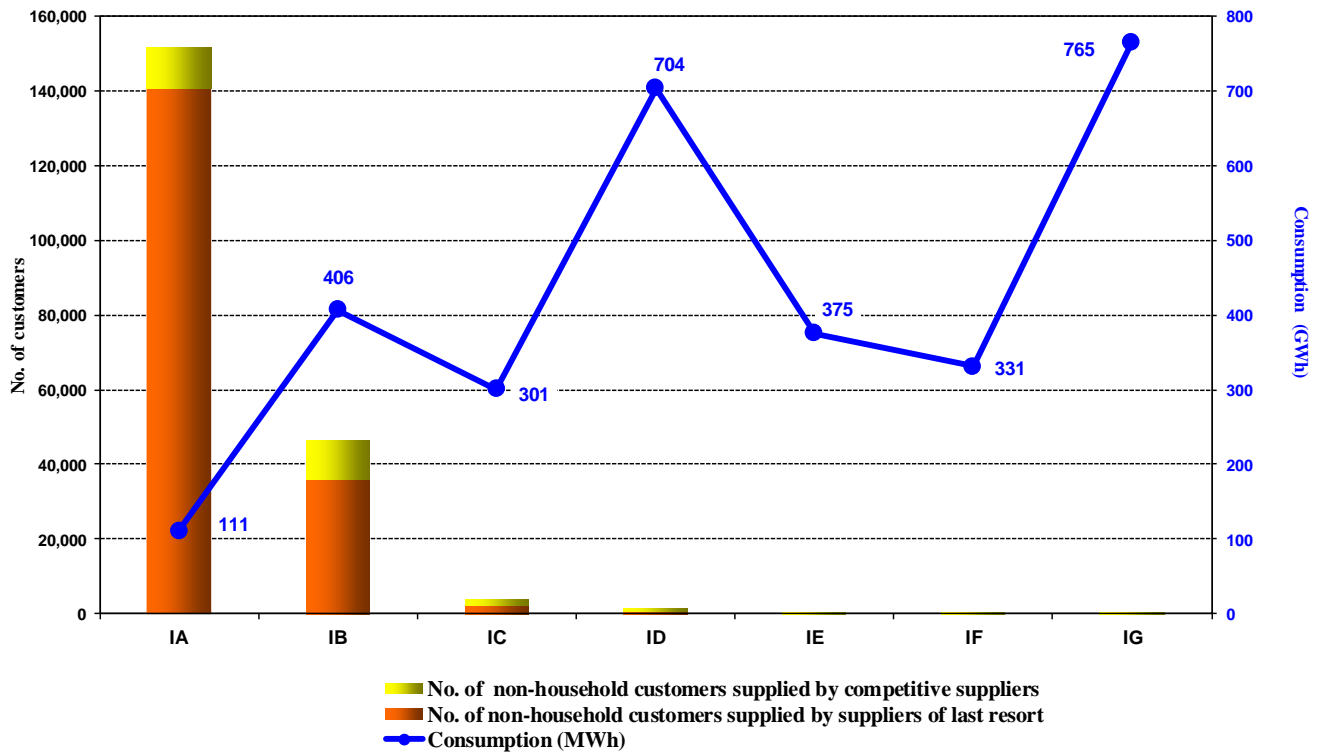
Electricity sales under competitive conditions to households April 2017 – November 2020 are shown in the following graph:

Evolution of the number of household customers on the competitive market and of the electricity supplied



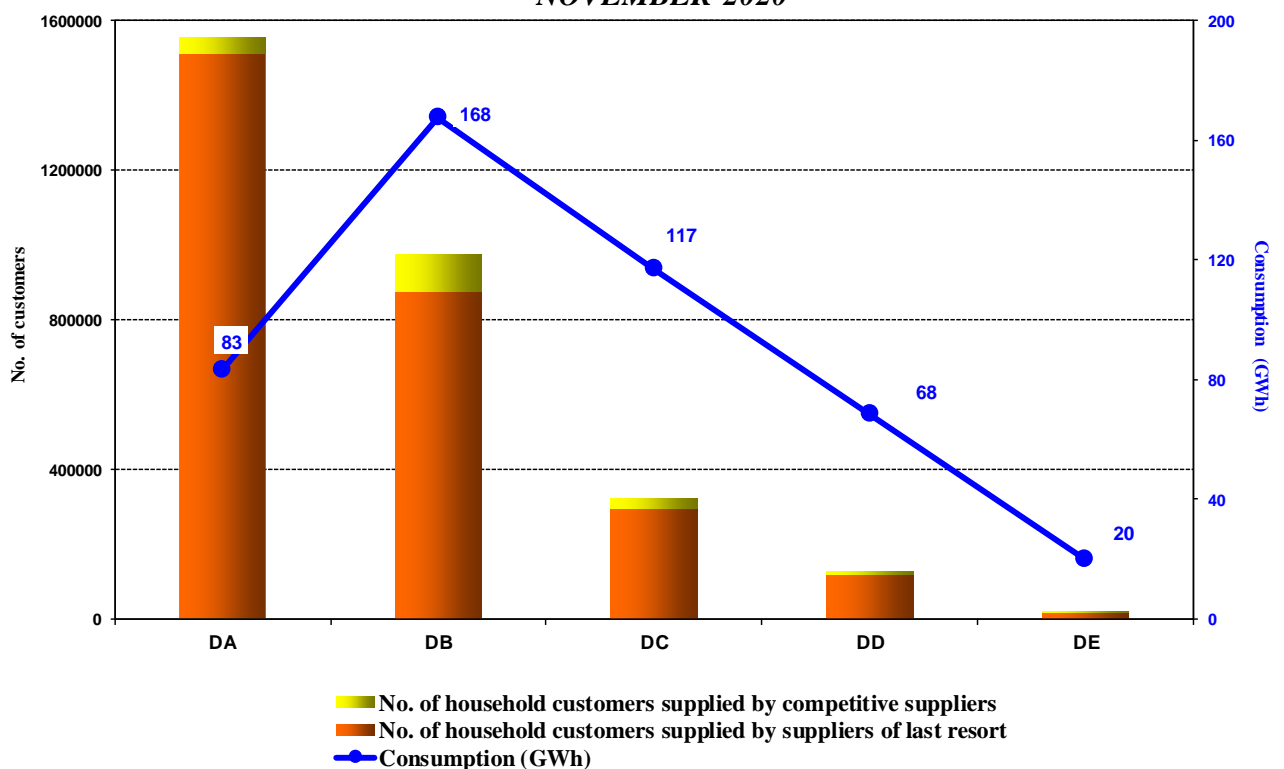
Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

Number of non-household customers on the competitive market and their consumption broken down into consumption bands and type of supplier
-NOVEMBER 2020-



Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

Number of households on the competitive market and their consumption broken down into consumption bands and type of supplier
- NOVEMBER 2020 -

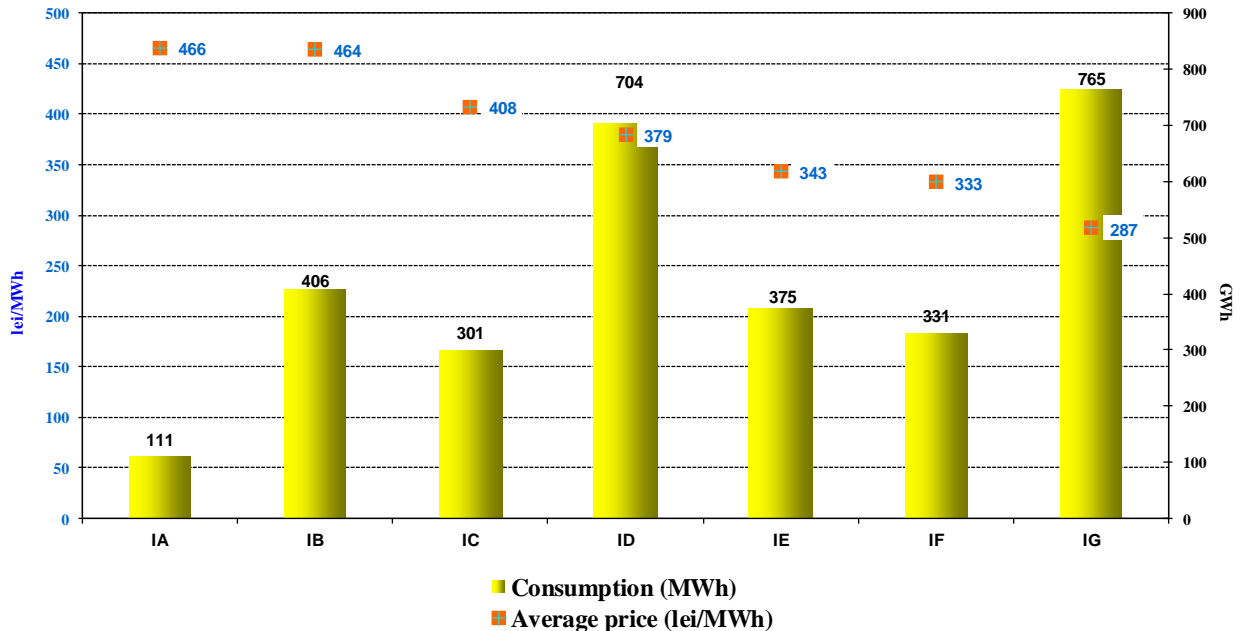


Source: Monthly reports of suppliers – analysed by Electricity Market Monitoring Unit

6. Average selling prices to final clients on the competitive market

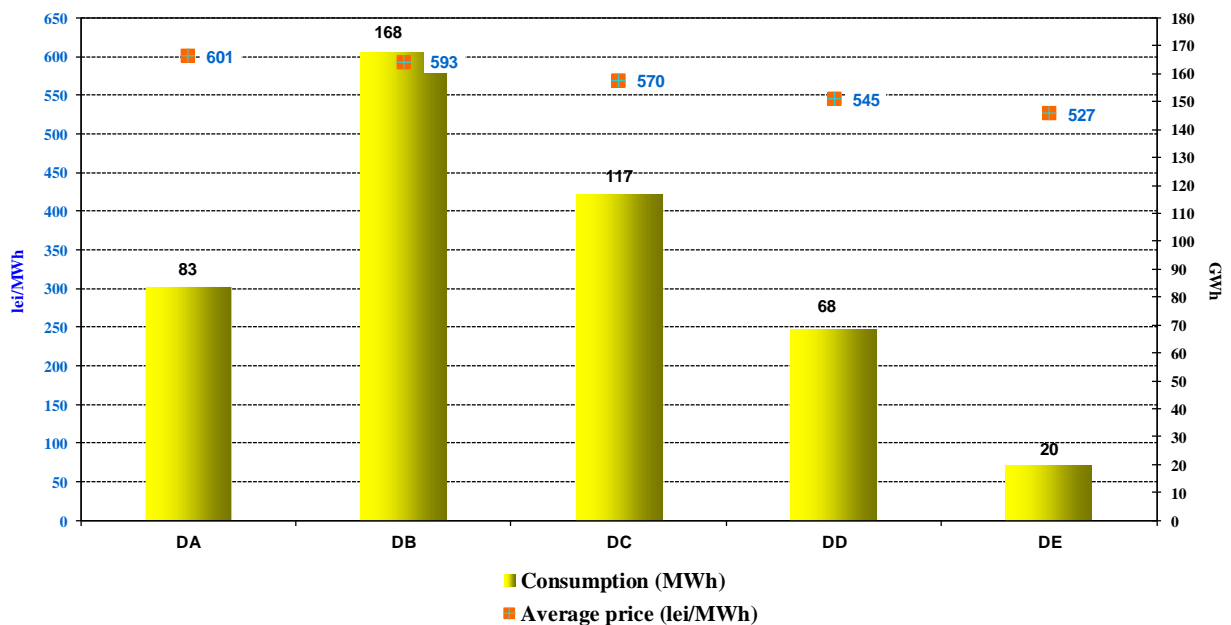
The following graphs present the average selling prices for November 2020 to households and non-household final clients supplied on the competitive market, based on the structure defined according to the Regulation (EU) no. 2016/1952.

Average price and electricity consumption broken down on consumption bands for non-household customers on the competitive segment of REM - NOVEMBER 2020 -



Source: Monthly reports of competitive suppliers – analysed by Electricity Market Monitoring Unit

Average price and electricity consumption broken down on consumption bands for household customers on the competitive segment of REM - NOVEMBER 2020 -



Source: Monthly reports of competitive suppliers – analysed by Electricity Market Monitoring Unit

Disclaimer: The average selling price for each consumption band was determined as an average of the prices applied by suppliers weighted with the quantities supplied by them to the respective consumption band in accordance with the provisions of Regulation (EU) 1952/2016. Prices do not include VAT, excise or other taxes, but include all related services (transport and distribution tariffs, system services, imbalances, BRP aggregation taxes, measurement). Classification of customers into consumption bands was based on their annual consumption forecast.

IV. TRANSMISSION AND SYSTEM OPERATOR CNTEE TRANSELECTRICA SA

The Transmission and system operator (TSO) performs the electricity transmission service at regulated tariffs.

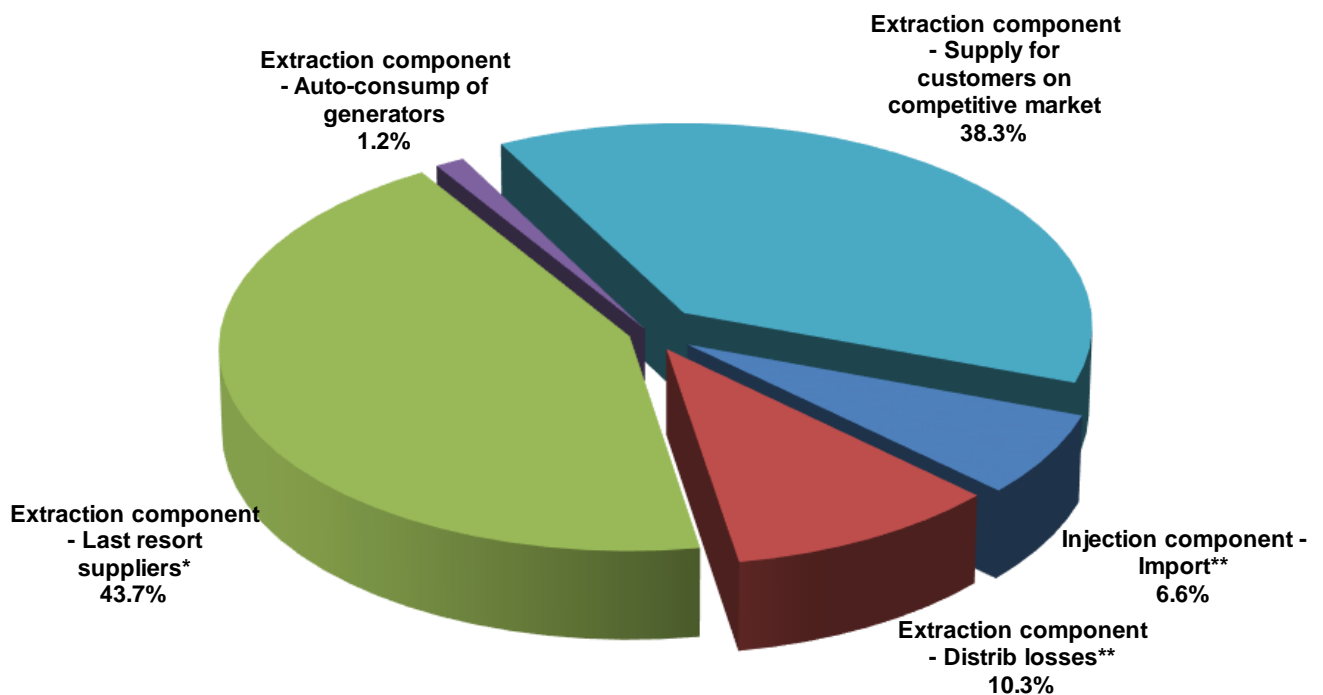
Starting with August 2017, the methodological principles setting the tariffs for the transmission service were modified, eliminating the zonal tariffs for the introduction or extraction of electricity in/out of the network, establishing a single NPS value for each of these tariffs.

Therefore, the electricity injection tariff covers some of the network losses costs and the costs of eliminating congestion by redispatching, while the extraction tariff covers the average cost of the transmission service.

According to the regulation framework in place, the electricity injected/extracted from the national grid by import/export trading are not eligible for transmission tariffs. Starting with January 2020, TSO applies the self-supplying regime for the electricity consumed for its own consumption points other than grid losses.

The following graph presents the structure of the revenues for November 2020, following the provision of the transmission service.

**CNTEE Transelectrica SA structure of revenues from transmission services
- November 2020 -**



* for electricity extracted from their own licence areas as well as from other areas

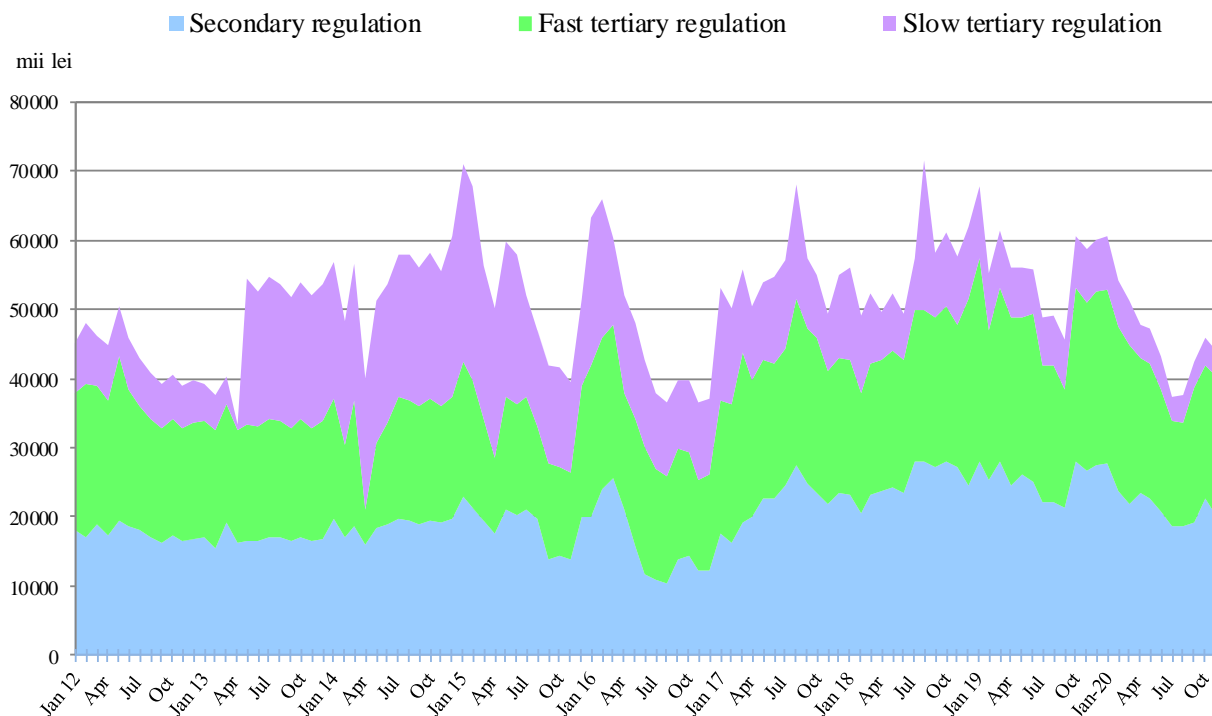
** includes the electricity with which some distribution operators supply their own self - consumption places

Source: Monthly reports of CNTEE Transelectrica SA – analysed by Electricity Market Monitoring Unit

In order to perform the system operator tasks, CNTEE Transelectrica SA provides and contracts reserves (named ancillary services according to the amendment introduced by Law no. 155/2020) from qualified market participants, which it uses by integrating them on the BM. These are: reserves for secondary, fast tertiary, slow tertiary and reactive energy necessary for the ETN. The following graph presents the evolution of the costs of the transmission and system operator, starting with January 2012,

for the acquisition (regulated and/or through market mechanisms) of ancillary services. To cover the costs corresponding to the contracts for the provision of ancillary services, as well as to cover its own operating costs, the TSO applies the regulated tariff for the system service.

Structure of CNTEE Transelectrica SA costs with ancillary services acquired from qualified generators



Source: Monthly reports of CNTEE Transelectrica SA – analysed by Electricity Market Monitoring Unit

V. MARKET RULES EVOLUTION IN NOVEMBER 2020

In November 2020, ANRE issued the following regulations with an impact on the wholesale and retail markets:

- ANRE President Order no. 210/11 November 2020 on the approval of the reference price values for thermal energy delivered in SACET from power plants with cogeneration units that do not benefit from support schemes for the promotion of high efficiency cogeneration, applicable in the first semester of 2021;
- ANRE President Order no. 213/25 November 2020 approving the Regulation for the calculation and settlement of imbalances of balancing responsible parties - single imbalance price and for amending some orders of the President of the National Energy Regulatory Authority;
- ANRE President Decision no. 2012/4 November 2020 approving the “Daily Allocation Rules for the Coordinated Allocation of Capacities at the border between the bidding areas of C.N.T.E.E. Transelectrica SA and ELEKTROENERGIEN SISTEMEN OPERATOR EAD ”;
- ANRE President Decision no. 2013/4 November 2020 approving the “Annual and Monthly Allocation Rules for the Coordinated Allocation of Capacities at the Border between the bidding areas of the C.N.T.E.E. Transelectrica SA and EMS AD Beograd ”, of “The Rules for the daily auction for the allocation of cross-zonal capacities at the border between the bidding areas of EMS AD Belgrade (“ EMS ”) and C.N.T.E.E. Transelectrica S.A. (“Transelectrica”)” and of “The

Intraday Allocation Rules for the Coordinated Allocation of Cross-zonal Capacity at the border between the bidding areas of C.N.T.E.E. Transelectrica SA and EMS AD Belgrade ”;

- ANRE President Decision no. 2047/11 November 2020 on the establishment of the economic operators who have not fulfilled their estimated mandatory quota for the acquisition of green certificates and those who have not fulfilled their legal obligation to purchase green certificates in the centralized anonymous green certificates spot market for 2020, on behalf of the third quarter;
- ANRE President Decision no. 2063/11 November 2020 approving the document “Report on structural congestions prepared in accordance with the provisions of Article 14(7) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal electricity market (recast) ”;
- ANRE President Decision no. 2064/11 November 2020 for the approval of the document “Proposal of the transmission system operators in the EEA capacity calculation region regarding the common methodology for calculating the capacities for the long-term market in accordance with the provisions of Article 10 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a long-term market allocation guideline”;
- ANRE President Decision no. 2119/18 November 2020 on the results of the process of designating the last resort electricity suppliers for the suppliers that at the date of entry into force of the Regulation designating the electricity suppliers of last resort, approved by the Order of the President of ANRE no. 188/2020, have designation decisions as suppliers of last resort, and who wish to be further designated in this capacity - for the designation of CEZ Vânzare S.A. as an electricity supplier of last resort;
- ANRE President Decision no. 2120/18 November 2020 on the results of the process of designating the last resort electricity suppliers for the suppliers that at the date of entry into force of the Regulation designating the electricity suppliers of last resort, approved by the Order of the President of ANRE no. 188/2020, have designation decisions as suppliers of last resort, and who wish to be further designated in this capacity for the designation of Enel Energie S.A. as an electricity supplier of last resort;
- ANRE President Decision no. 2121/18 November 2020 on the results of the process of designating the last resort electricity suppliers for the suppliers that at the date of entry into force of the Regulation designating the electricity suppliers of last resort, approved by the Order of the President of ANRE no. 188/2020, have designation decisions as suppliers of last resort, and who wish to be further designated in this capacity for the designation of Enel Energie Muntenia S.A. as an electricity supplier of last resort;
- ANRE President Decision no. 2122/18 November 2020 on the results of the process of designating the last resort electricity suppliers for the suppliers that at the date of entry into force of the Regulation designating the electricity suppliers of last resort, approved by the Order of the President of ANRE no. 188/2020, have designation decisions as suppliers of last resort, and who wish to be further designated in this capacity for the designation of E.ON Energie România S.A. as an electricity supplier of last resort;
- ANRE President Decision no. 2123/18 November 2020 on the results of the process of designating the last resort electricity suppliers for the suppliers that at the date of entry into force of the Regulation designating the electricity suppliers of last resort, approved by the Order of the President of ANRE no. 188/2020, have designation decisions as suppliers of last resort, and who wish to be further designated in this capacity for the designation of Electrica Furnizare S.A. as an electricity supplier of last resort;
- ANRE President Decision no. 2124/18 November 2020 on the results of the process of designating the last resort electricity suppliers for the suppliers that at the date of entry into force of the

Regulation designating the electricity suppliers of last resort, approved by the Order of the President of ANRE no. 188/2020, have designation decisions as suppliers of last resort, and who wish to be further designated in this capacity for the designation of Tinmar Energy S.A. as an electricity supplier of last resort;

- ANRE President Decision no. 2127/18 November 2020 on the approval of quantities produced in high-efficiency cogeneration units benefiting from the bonus scheme for October 2020;

VI. EXPLANATIONS AND ABBREVIATIONS

1. Explanations

- **Internal consumption** is calculated, in this document, as the sum of electricity delivered into the grid (described below) and the balance of trades made on the basis of the import and export contracts of the wholesale market participants;
- **Consumption of final customers supplied under regulated, US and last resort regime** is the consumption of final customers supplied by suppliers of last resort at regulated tariffs, US price, last resort price and inactive clients price;
- **Consumption of final customers on competitive market** represents the consumption of customers supplied at negotiated prices or defined by standard bids;
- **Fuel consumption** represents the fuel consumed for generating electricity and heat in the power plants of monitored generators;
- **Self-consumption of generators** (in the graph regarding the revenues of CN Transelectrica SA) the self-consumption exclusively represents the generators consumption at consumption places other than the generation sites;
- **Electricity delivered into the grid** includes the electricity sold by the generators through direct lines or consumed by themselves at other consumption sites;
- **Electricity delivered into the grid according to the transport contract** is the electricity for which the transport service (the grid input component) is provided corresponding to the electricity delivered from the power plants with installed capacity of more than 5 MW connected to the transmission and distribution electric grids.

2. Abbreviations

- ATC – Available Transmission Capacity
- BM – Balancing Market
- BRP – Balancing Responsible Party
- CMBC – Centralised Market of Bilateral Contracts
- CMC – Competitive Market Component
- DAM – Day Ahead Market
- DO – Distribution operator
- ID – Intraday Market
- LT – Long Term
- MCP – Market Clearing Price
- 4M MC – Price coupling mechanism for spot markets from Romania, Hungary, Slovakia and Czech Republic
- MU – Monitoring Unit
- NPS – National Power System
- OU-NPD – Operational Unit-National Power Dispatch
- CME-RES-GC – Centralized market for electricity from renewable energy sources supported by green certificates

- CMUS – Centralised Market of Universal Service (Romanian abbreviation)
- REM – Retail Electricity Market
- SLR – Supplier of last resort
- TG/TL – injection / extraction component of the transmission tariff
- US – Universal Service
- WEM – Wholesale Electricity Market
- ACER – The Agency for the Cooperation of Energy Regulators
- NTC - Net Transfer Capacity