



ROMANIAN ENERGY REGULATORY AUTHORITY

DEPARTMENT FOR MONITORING, REMIT



ELECTRICITY MARKET MONITORING REPORT

JULY 2019

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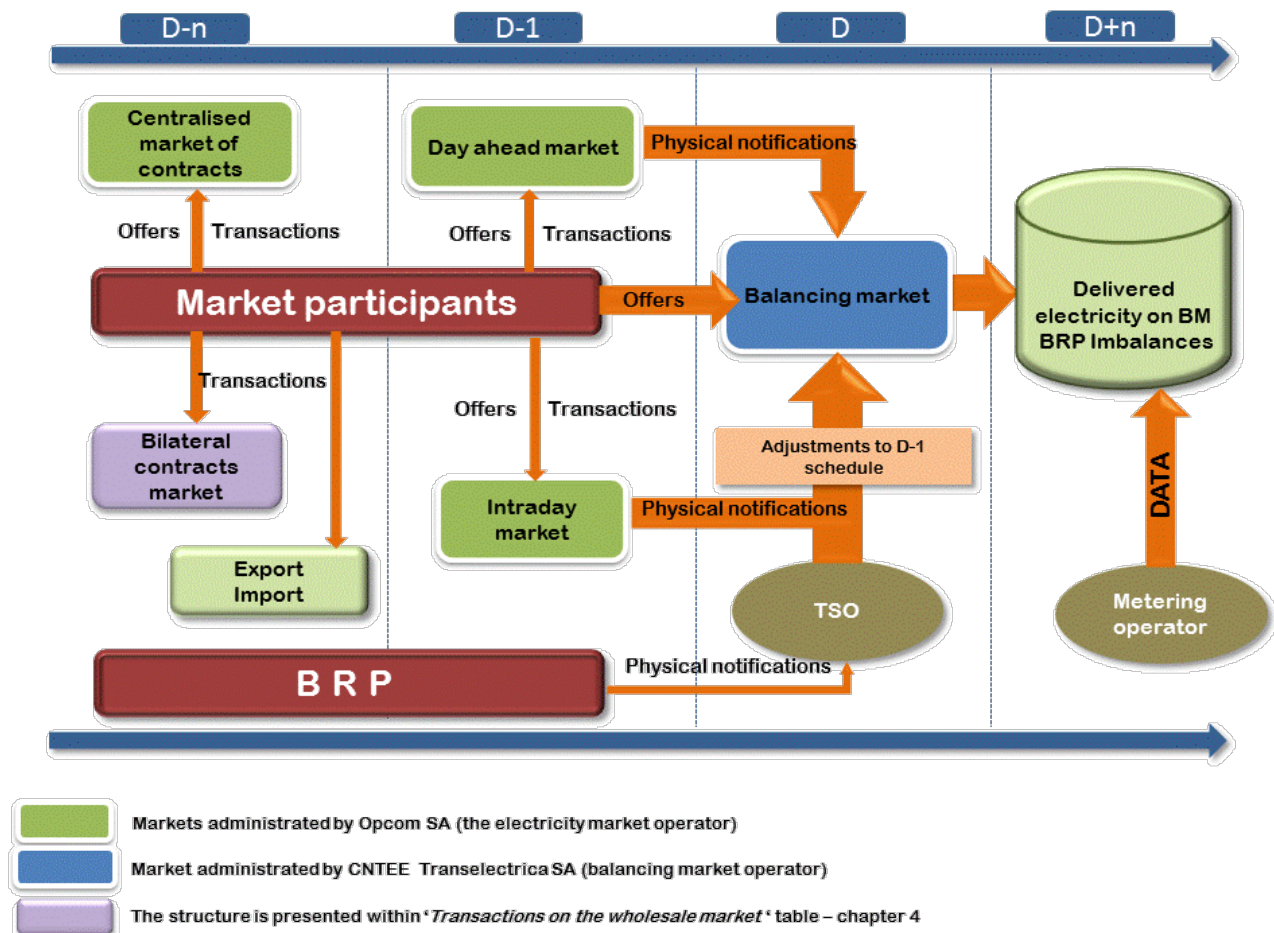
I. MAIN EVENTS IN THE DEVELOPMENT OF THE ROMANIAN ELECTRICITY MARKET

- **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 opens at 10%;
- **GD 627/2000** – CONEL holding is dissolved;
- **September 2000** – launch of the compulsory electricity spot market in Romania. administrated 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 have been 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 has been 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 had been established through 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 merger of the former SNLO Tg. Jiu, Complexul Energetic Turceni, Complexul Energetic Rovinari and Complexul Energetic Craiova (GD 1024/2011);
- **July 2012** – the Law of electricity and natural gas no. 123/2012 has enter into force;
- **September 2012** – the application of the first stage from the timetable of phasing out of 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** – the Law no. 160/2012 regarding the organisation and operation of the Romanian Energy Regulatory Authority has entered into force;
- **November 2012** - a new entity obtains the generation license and enters on the electricity market - Complexul Energetic Hunedoara SA. established through merger of the former Electrocentrale Deva and Electrocentrale Paroseni (GD 1023/2011);
- **December 2012** – launch of the organised electricity market for the 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 the regulated tariffs applied to the final non-household clients who do not use their eligibility rights;
- **August 2014** – CNTEE Tranelectrica SA certification as NES transmission system operator following the „independent system operator” model;
- **October 2014** – entry into force of the Law no. 127/2014 for 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;
- **January 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 the Law no. 203/2016 amending the Law no. 123/2012 on electricity and natural gas.
- **July 2018** - entry into force of Law no. 167/2018 amending and supplementing Law on electricity and natural gas no. 123/2012.
- **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.

II. WHOLESALE ELECTRICITY MARKET

1. Structure of the wholesale electricity market



No.	Category	No.	Category
K	Electricity Suppliers acting exclusively on the wholesale market		Electricity Suppliers acting also on the retail market
1	AIK Energy Ltd	11	Crest Energy SRL
2	Axpo Energy Romania SRL	12	Cyeb SRL
3	CEZ as	13	EFT Furnizare SRL
4	Ciga Energy SA	14	Egger Romania SRL
5	Cinta Energy SA	15	Ekata MHC SRL
6	Danske Commodities/s Aarhus	16	Electric Planners SRL
7	EDF Trading Limited	17	Electrificare CFR SRL
8	Elpetra Energy E.A.D.	18	Electrocarbon SA
9	Energi Danmark A/S	19	Electromagnetica SA
10	Energo-Pro Trading EAD	20	Elsid SA
11	Energy Deta SRL	21	Enel Trade Romania SRL
12	Energy Supply D.O.O	22	Energia Gas & Power SRL
13	Eolian Project SRL	23	Energy Distribution Services SRL
14	EVN Trading South East Europe	24	Energy Trade Activ SRL
15	Evobits Information Technology	25	Enero Furnizare SRL
16	Ezpada AG	26	Engie Romania SA
17	Ezpada SRO	27	Enol Grup SA
18	Flavus Investitii SRL	28	Entrex Services SRL
19	Freepoint Commodities Europe Ltd	29	GDM Logistic SRL
20	GEN I trgovanje in prodaja elektricne energije doo	30	Getica 95 Com SRL
21	General Enegetic SA	31	Grenerg SRL
22	Holding Slovenske Elektrarne	32	Hermes Energy International SRL
23	Interenergo Energetski, Inzeniring d.o.o.	33	ICCO Energy SRL
24	Lord Energy SRL	34	ICPE Electrocond Technologies SA
25	Met RO NRG	35	Imperial Development SRL
26	MVM Partner Zrt	36	Industrial Energy SA
27	Neptun SA	37	Izvor de Lumina SRL
28	Nis Petrol SRL	38	Luxten LC SA
29	OMV Gas Marketing & Trading GmbH	39	MET Romania Energy SA
30	Petrol, Slovenska energetska druzba	40	Monsson Trading SRL
31	Ritam-4-TB ood	41	Next Energy Parteners SRL
32	Statkraft Markets GmbH	42	Nova Power&Gas SRL
33	Unit Energy Trade SRL	43	P.C. Management & Consulting SRL
34	Verbund Trading Romania SRL	44	Photovoltaic Green Project SRL
35	WE Ppower Team	45	Plenerg SRL
		46	QMB Energy SRL
		47	RCS&RDS SA
L	Electricity Suppliers acting also on the retail market	48	Renovatio Trading SRL
1	A Energy Ind SRL	49	RES Energy Solutions SA
2	Absolute Energy SRL	50	Restart Energy One SRL
3	Aderro G.P. Energy SRL	51	Romelectro SA
4	Alive Capital SRL	52	Stock Energy SRL
5	Alro SA	53	Tinnar Energy SA
6	Anchor Grup SA	54	Transenergo Com SA
7	Apuron Energy SRL	55	Transformer Energy Supply SRL
8	Aqua Energia SA	56	Uzinsider General Contractor SA
9	CET Arad SA	57	Veolia Energie România SA
10	Cotroceni Park SA	58	Werk Energy SRL

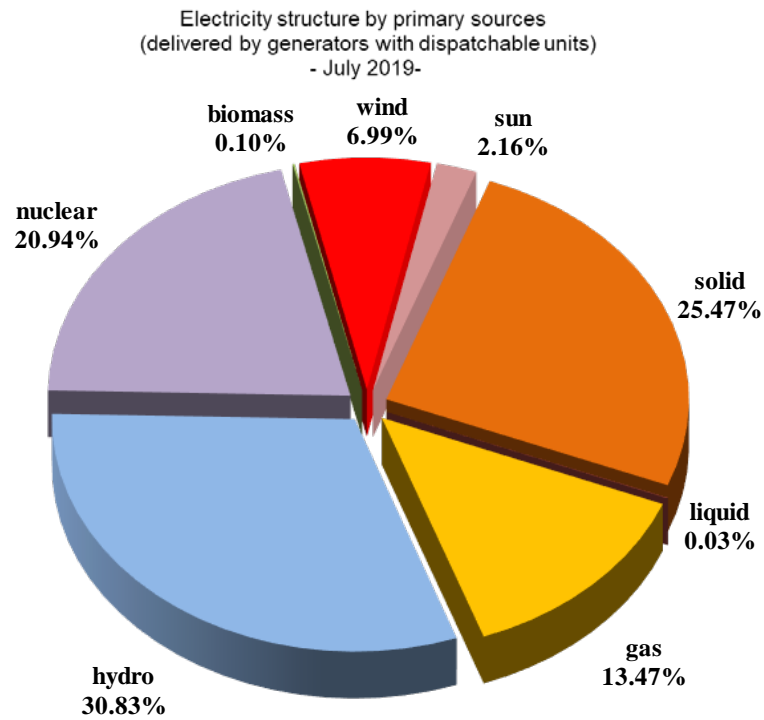
*Electricity market participants report to ANRE technical/commercial data according to the *Methodology for wholesale electricity market monitoring*, approved by ANRE Order no. 67/2018, as well as according to the *Methodology for retail electricity market monitoring*, approved by ANRE Order no. 60/2008, 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, which, according to the *Regulation for programming production units and dispatchable consumers*, approved by the ANRE Order no. 32/2013 are 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.

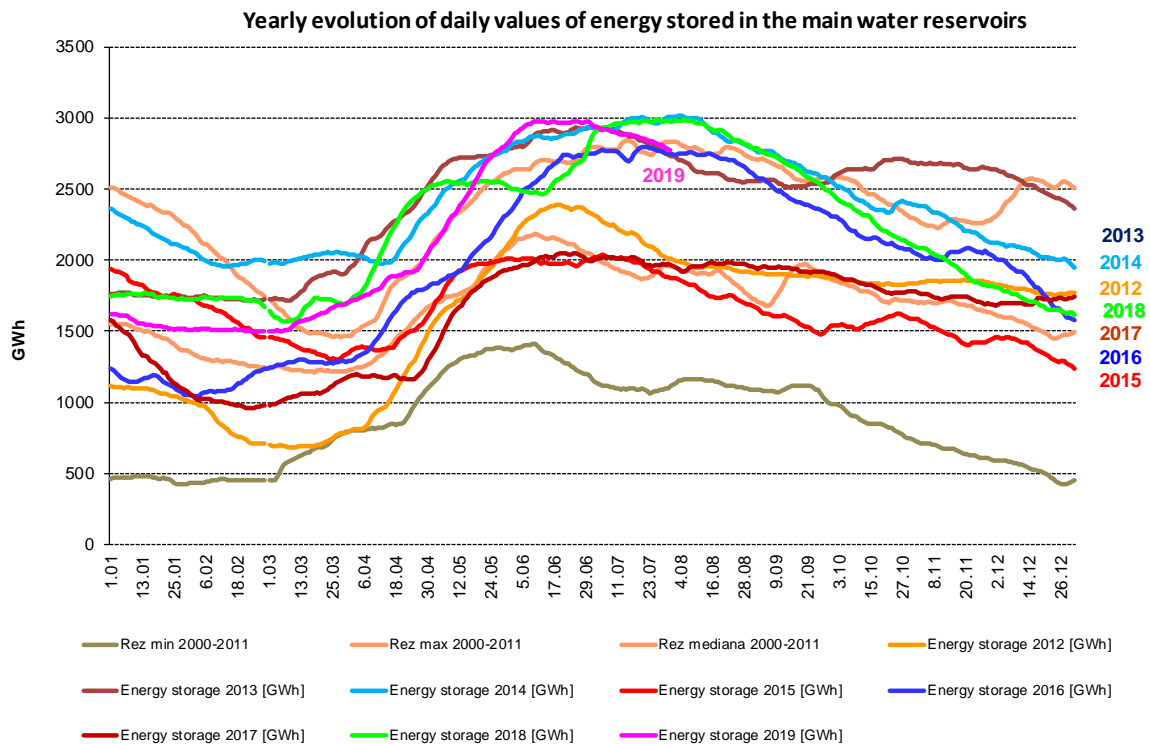
The category of electricity suppliers acting exclusively on the wholesale market includes electricity supply licensees that are active only on the wholesale market and electricity trading licensees with licenses issued according to ANRE Order no. 13/2015 for the approval of the „General conditions associated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

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



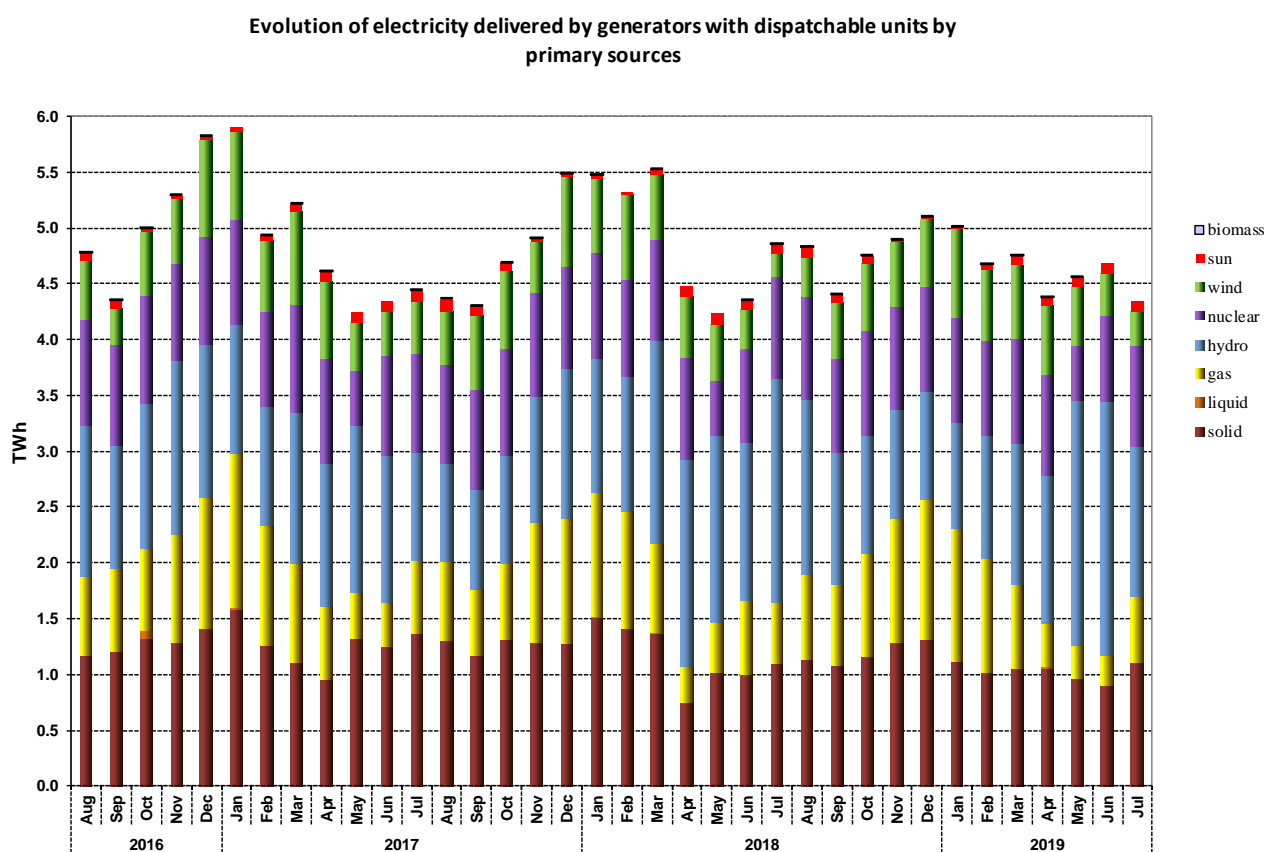
Source: Monthly reports of producers – Electricity Market Monitoring Unit assessment

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 during July 2019 compared to the daily values of the last 7 years and compared to minimum, maximum and median values from 2000-2011.



Source: Monthly reports of S.C. Hidroelectrica S.A. – Electricity Market Monitoring Unit assessment

The evolution of the structure of the delivered electricity during the last 3 years is the following:



Source: Monthly reports of generators – Electricity Market Monitoring Unit assessment

The following table presents the main data regarding the physical balance of electricity for July 2019, compared to the data for the similar period of 2018:

Nr. crt.	INDICATOR	UM	July 2018	July 2019	%	Jan-July 2018	Jan-July 2019	%
0	1	2	3	4	$5=4/3*100$	6	7	$8=7/6*100$
1	Generated electricity	TWh	5.15	4.61	89.51	36.45	34.50	94.65
2	Delivered electricity	TWh	4.86	4.35	89.51	34.30	32.46	94.64
3	Import	TWh	0.09	0.40	444.44	1.47	2.13	144.90
4	Export	TWh	0.52	0.22	42.31	3.48	2.37	68.10
5	Internal consumption (2+3-4)	TWh	4.43	4.53	102.26	32.29	32.22	99.78
6	Consumption of household customers:	TWh	1.01	1.02	100.99	7.42	7.63	102.83
6.1	- on US/ regulated regime	TWh	0.76	0.65	85.53	5.89	5.00	84.89
6.2	- on the competitive market	TWh	0.25	0.37	148.00	1.53	2.63	171.90
7	Consumption of non-household customers:	TWh	3.20*	3.18	99.38	21.64*	21.39	98.84
7.1	- on universal service and last resort regime and inactive clients	TWh	0.08	0.08	100.00	0.59	0.58	98.31
7.2	- on the competitive market	TWh	3.12*	3.10	99.36	21.05*	20.81	103.79
8	Transmission–Injection component	TWh	4.74	4.21	88.82	33.52	31.70	94.57
9	Transmission–Extraction component	TWh	4.50	4.57	101.56	32.46	32.49	100.09
10	Actual transmission grid losses	TWh	0.08	0.07	87.50	0.68	0.57	83.82
11	Heat generated for delivery	Tcal	478.46	469.52	98.13	7549.75	7327.00	97.05
12	Heat in co-generation	Tcal	360.36	367.44	101.96	5656.30	5491.29	97.08

Notes:

1. The produced energy and the delivered energy are presented in accordance with the reports sent by electricity generation licensees that are monitored - producers operating dispatchable electric groups, as defined in the Programming Regulation of Production Units and Dispatchable Consumers, approved by ANRE Order no. 32/2013 as amended;
 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 corresponds to 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. 108/2018);
 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 Order no. 11/2019).
- Note: * The differences from the July 2018 Electricity Market Monitoring Report are determined by the corrections reported by the market participants that were included in the current report.

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 includes 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).

Besides the existing centralized markets, which ensure the transparent, public, centralized and non-discriminatory legal requirements, there still are bilateral negotiated contracts concluded before the entering into force of the Law, still pending, and export and import contracts.

At the same time, as an exemption from the obligation of concluding all trades on the competitive electricity market, in a transparent, public, centralized and non-discriminatory manner, in accordance with Law no. 184/2018 for the approval of Emergency Government Ordinance (EGO) no. 24/2017 amending and supplementing Law no. 220/2008 establishing the system for promoting the production of electricity from renewable energy sources, non-dispatchable producers of electricity from renewable energy sources and public authorities holding power plants from renewable energy sources with installed capacity of no more than 3 MW per producer may still conclude direct negotiated bilateral contracts, but only with the suppliers of final consumers for the sale of electricity and/or green certificates.

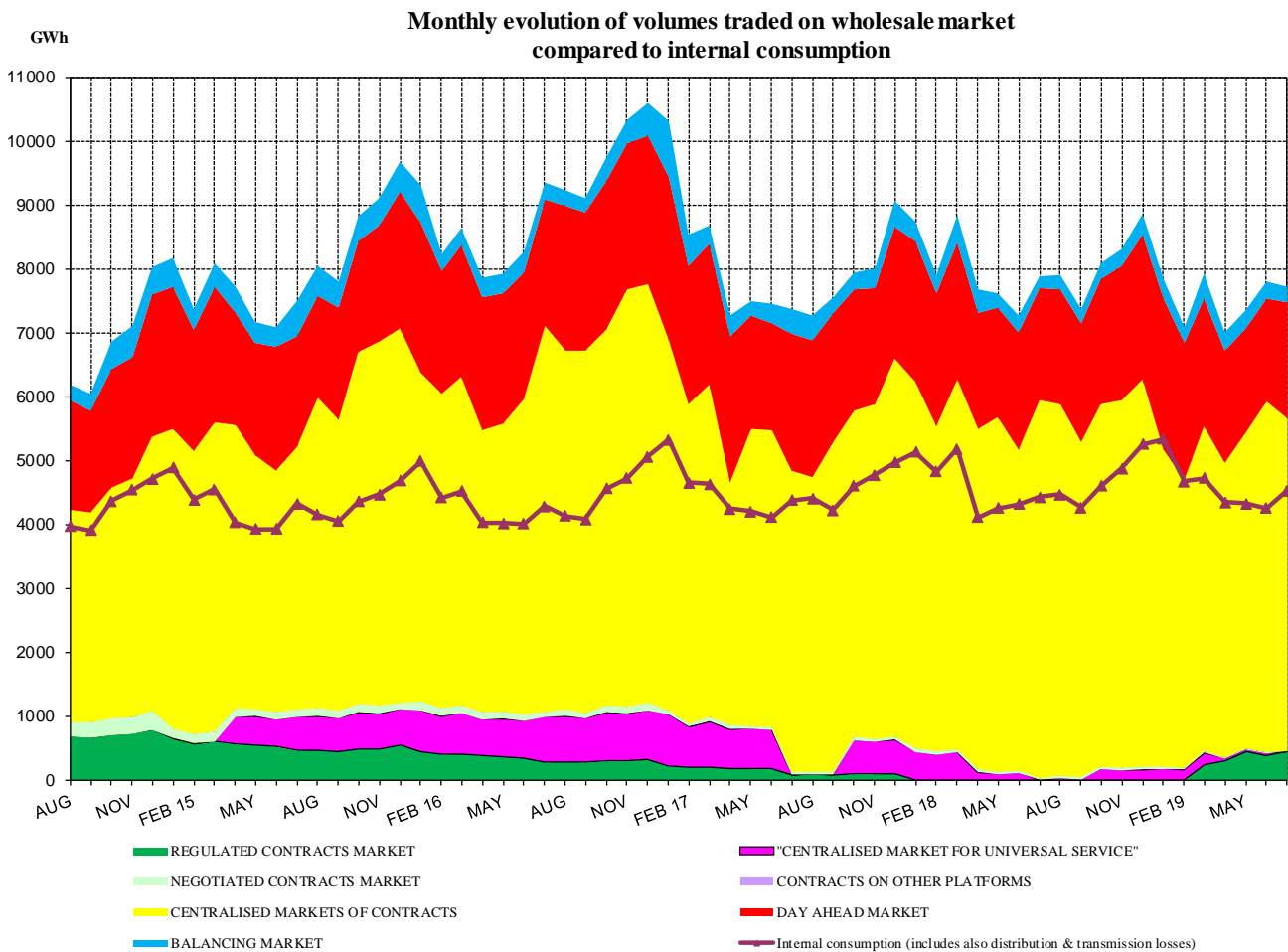
The following table presents the volumes traded and the average prices on each type of contracts and on the main components of the wholesale market, in the month under review compared to the previous month and the similar month from the previous year. The aggregated volumes and the average prices on 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	June 2019	July 2019	July 2018
1. BILATERAL CONTRACTS MARKET			
traded volume (GWh)	411	468	23
average price (lei/MWh)	162.37	173.74	188.63
% from internal consumption (%)	9.6	10.3	0.5
1.1. Sales on regulated contracts			
traded volume (GWh)	393	452	-
average price (lei/MWh)	160.79	172.68	-
% from internal consumption (%)	9.2	10.0	-
1.2. Sales on negotiated contracts¹⁾			
traded volume (GWh)	18	17	23
average price (lei/MWh)	197.26	202.34	188.63
% from internal consumption (%)	0.4	0.4	0.5
2. EXPORT			
traded volume (GWh) ²⁾	557	217	522
average price (lei/MWh)	175.55	236.26	193.36
% from internal consumption (%)	13.1	4.8	11.8
3. CENTRALIZED MARKETS OF BILATERAL CONTRACTS			
traded volume (GWh)	5480	5188	5920
average price (lei/MWh)	225.09	240.83	202.32
% from internal consumption	128.7	114.5	133.6
3.1. Extended auction mechanism CMBC-EA³⁾			
traded volume (GWh)	1582	1540	1768
average price (lei/MWh)	233.09	240.58	189.01
% from internal consumption	37.1	34.0	39.9
3.2. Continuous negotiation mechanism CMBC-CN³⁾			
traded volume (GWh)	1212	1292	1300
average price (lei/MWh)	223.63	230.47	202.88
% from internal consumption	28.5	28.5	29.3
3.3. CM-OTC mechanism³⁾			
traded volume (GWh)	2686	2357	2852
average price (lei/MWh)	221.05	246.67	210.32
% from internal consumption	63.1	52.0	64.3
4. CENTRALIZED MARKET FOR UNIVERSAL SERVICE - CMUS			
traded volume (GWh)	29	0.04	8
average price (lei/MWh)	257.50	257.50	205.55
% from internal consumption	0.7	0.0009	0.2
5. DAY AHEAD MARKET			
traded volume (GWh)	1621	1831	1752
average price (lei/MWh) ⁴⁾	183.74	261.49	181.49
% from internal consumption	38.1	40.4	39.5
6. INTRADAY MARKET			
traded volume (GWh)	20	17	11.6
average price (lei/MWh) ⁵⁾	187.28	238.94	71.50
% from internal consumption	0.5	0.4	0.3
7. BALANCING MARKET			
traded volume (GWh)	254	245	188
% from internal consumption	6.0	5.4	4.2
upward volume (GWh)	53	48	113
average price for negative imbalance (lei/MWh)	540.68	662.27	276.71
downward volume (GWh)	201	197	74
average price for positive imbalance (lei/MWh)	4.42	22.65	26.83
INTERNAL CONSUMPTION (GWh) <i>(distribution and transmission losses included)</i>	4258	4532	4432

- 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 corresponding to export contracts are those reported monthly by wholesale market participants and include the volumes exported by CNTEE Transelectrica as shipper agent for the coupled DAM; export volumes are verified with the DAMAS platform notifications, some differences being noticed in some cases;
- 3) The monthly data is presented as reported by the market participants monitored for the electricity delivered in the respective month. The information refers both to trades concluded previously on CMBC and CMBC-NC (according to ANRE Order 6/2011) and to trades concluded on CMBC-EA and CMBC-CN (according to ANRE Order 78/2014);
- 4) The average monthly price presented in the table is calculated as the average of the hourly closing prices and is published by Opcom SA; the average monthly price calculated as an weighted average of the hourly closing prices with the traded volumes was 271.56 lei/MWh in July 2019, and it was published by Opcom SA;
- 5) The average monthly price is calculated based on the monthly traded volumes and values, published by OPCOM SA.

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 making possible the comparison with the previous month.

The following graph presents the evolution, starting with August 2014, of the relation between the volumes sold on each market and the estimated internal consumption.

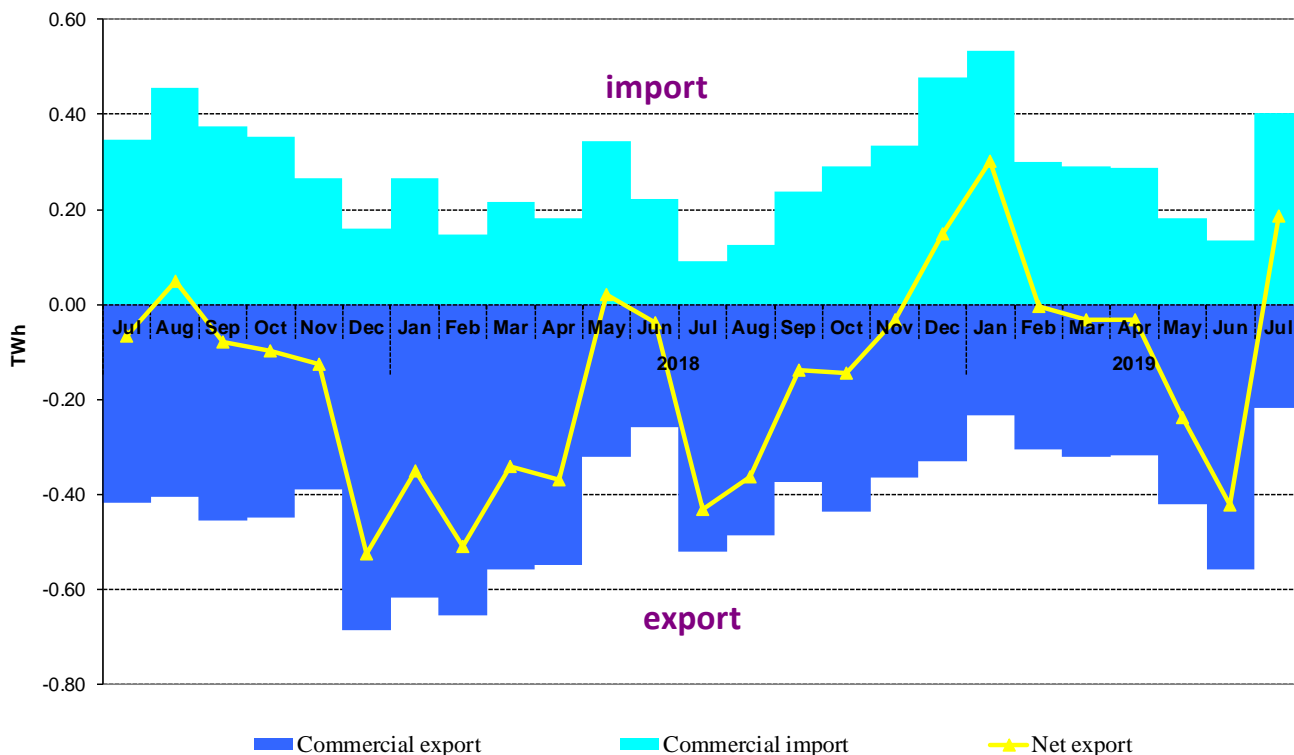


Source: Monthly reports of wholesale market participants, Opcom SA and CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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

The following graph presents the monthly values of commercial export and import, and the net export (export minus import) during the last 24 months:

Monthly evolution of export, import and net export of electricity for the last 2 years

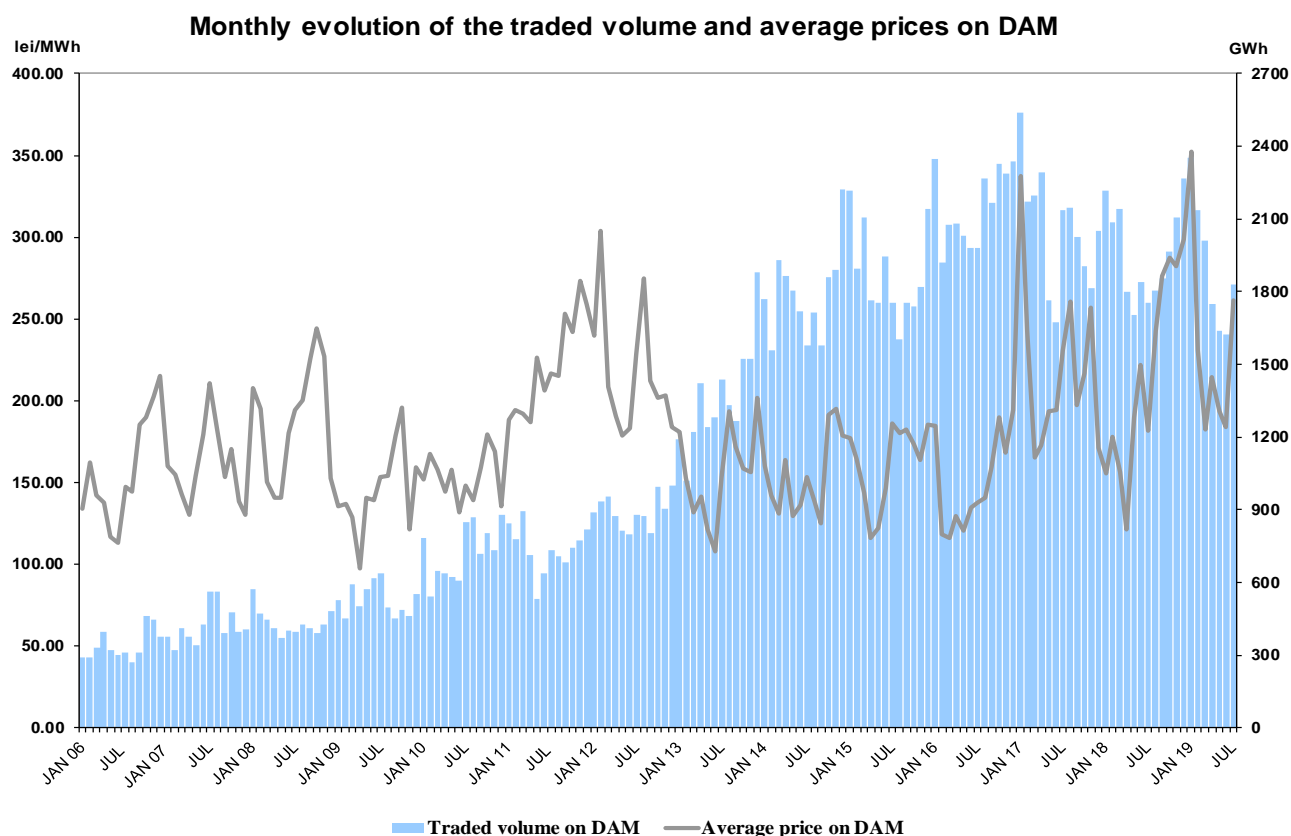


Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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 Transelectrica SA as the shipper agent in the price coupling mechanism of DAM. 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	June 2019	July 2019	July 2018
Export			
traded volume (GWh)	557	217	522
average price (lei/MWh)	175.55	236.26	193.36
% from internal consumption	13.1	4.8	11.8
of which, through coupled DAM			
traded volume (GWh)	128	21	203
average price (lei/MWh)	153.34	269.10	175.67
% from internal consumption	3.0	0.5	4.6
Import			
traded volume (GWh)	135	402	92
average price (lei/MWh)	228.58	270.68	198.97
% from internal consumption	3.2	8.9	2.1
of which, through coupled DAM			
traded volume (GWh)	83	214	2
average price (lei/MWh)	228.18	268.57	264.18
% from internal consumption	2.0	4.7	0.04

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



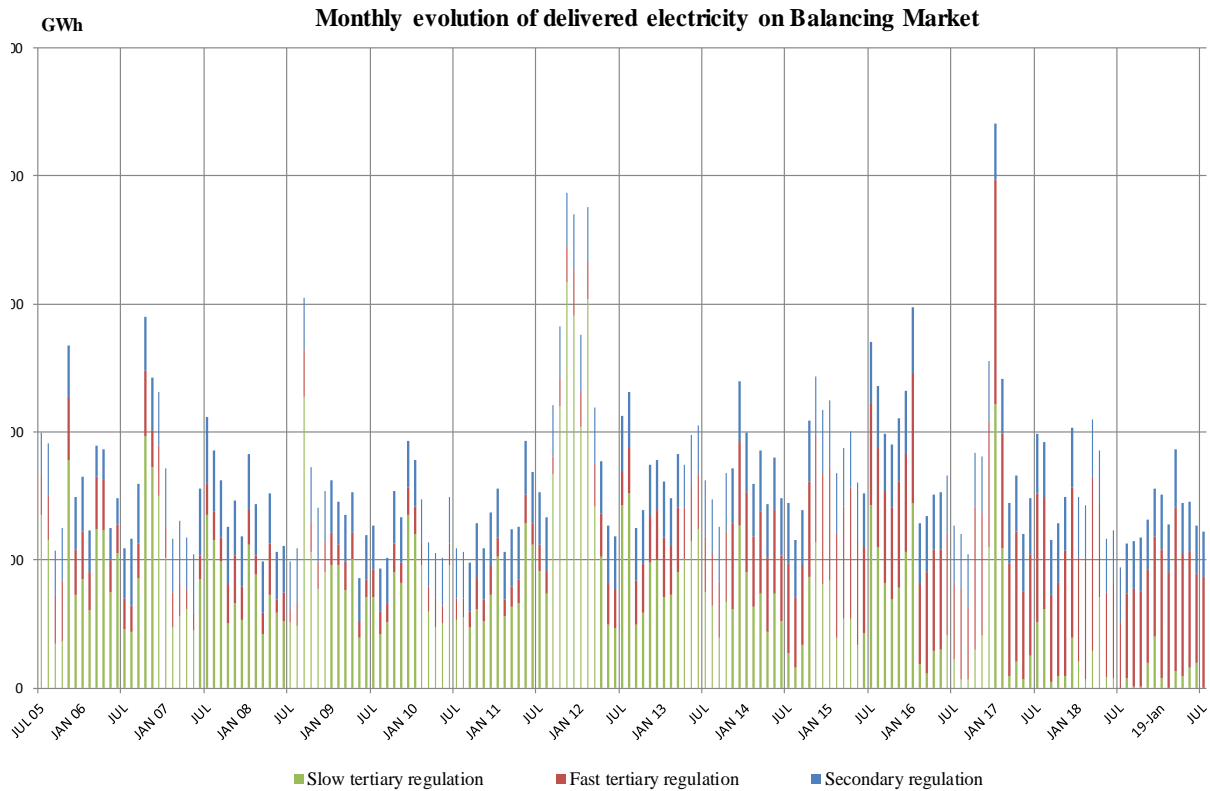
Source: Monthly reports of Opcom SA and CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

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 July 2019 is presented in the following table:

July 2019	Dispatch order (GWh)	Delivered electricity (GWh)	Deviation (%)
Secondary regulation	72	72	
<i>upward</i>	25	25	
<i>downward</i>	47	47	
Fast tertiary regulation	178	173	3
<i>upward</i>	24	23	3
<i>downward</i>	154	150	3
Slow tertiary regulation	0	0	0
<i>upward</i>	0	0	0
<i>downward</i>	0	0	0
TOTAL	250	245	
<i>upward</i>	49	48	
<i>downward</i>	201	197	
INTERNAL CONSUMPTION		4532	
% share of traded volumes from internal consumption		5.4%	

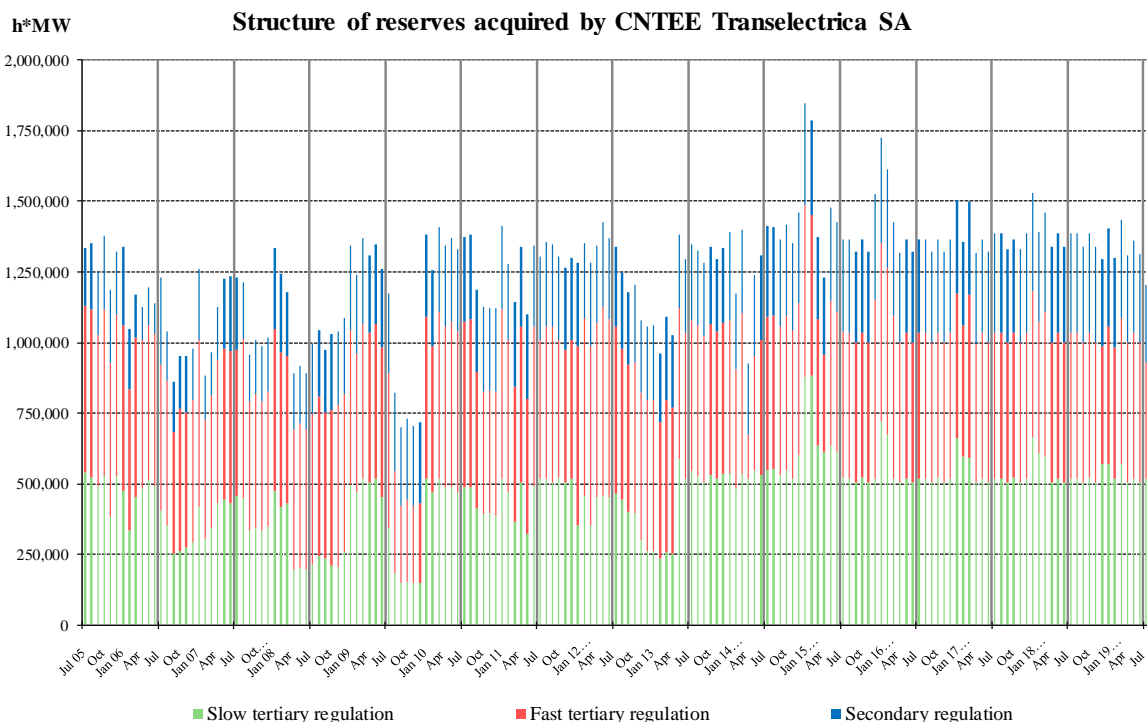
Source: Monthly reports of CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

The structure of the balancing electricity delivered in the system on each type of regulation starting with July 2005 is presented in the graph below:



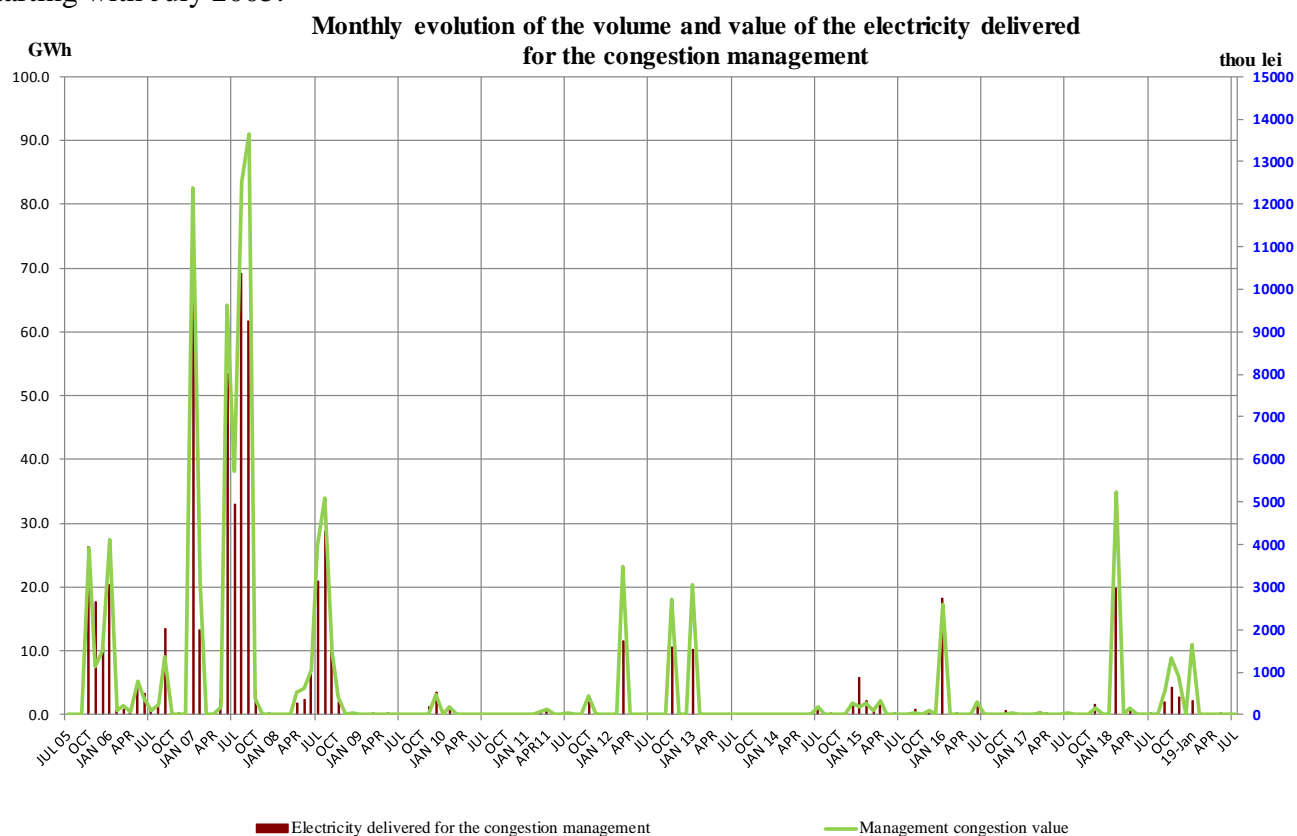
Source: Monthly reports of CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

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 - July 2019:



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

The following graph presents the monthly evolution of the electricity traded by CNTEE Tranelectrica SA on the Balancing Market for congestion management and the evolution of the values of these trades starting with July 2005.



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

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

Producers

In July 2019, the structure of electricity sale obligations contracted before the delivery interval by the electricity generators with dispatchable units was the following:

Trade type	July 2018	July 2019
Thermal, hydro and nuclear producers, regulated contracts with last resort suppliers	-	451.72
Negotiated contracts, to suppliers	22.65	16.68
Contracts concluded on the Opcom centralized markets:	4093.18	3094.70
<i>CMBC-EA</i>	1646.26	1430.85
<i>CMBC-CN</i>	987.50	838.96
<i>CM-OTC</i>	1459.41	824.89
CMUS	0.08	0.01
DAM	1000.23	1074.87
ID	3.71	9.60
Supply contracts to final customers, from which:	405.60*	352.75
<i>Households</i>	0.27	0.28
<i>Non-households</i>	405.33*	352.47
Total	5525.45*	5000.33

Source: Monthly reports of generators – Electricity Market Monitoring Unit assessment

* The differences with the July 2018 Electricity Market Monitoring Report are determined by the corrections reported by the market participants that were included in the current report.

Suppliers

In July 2019, on the electricity market there were active 94 undertakings having as the main activity that of electricity supply; out of these, 35 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

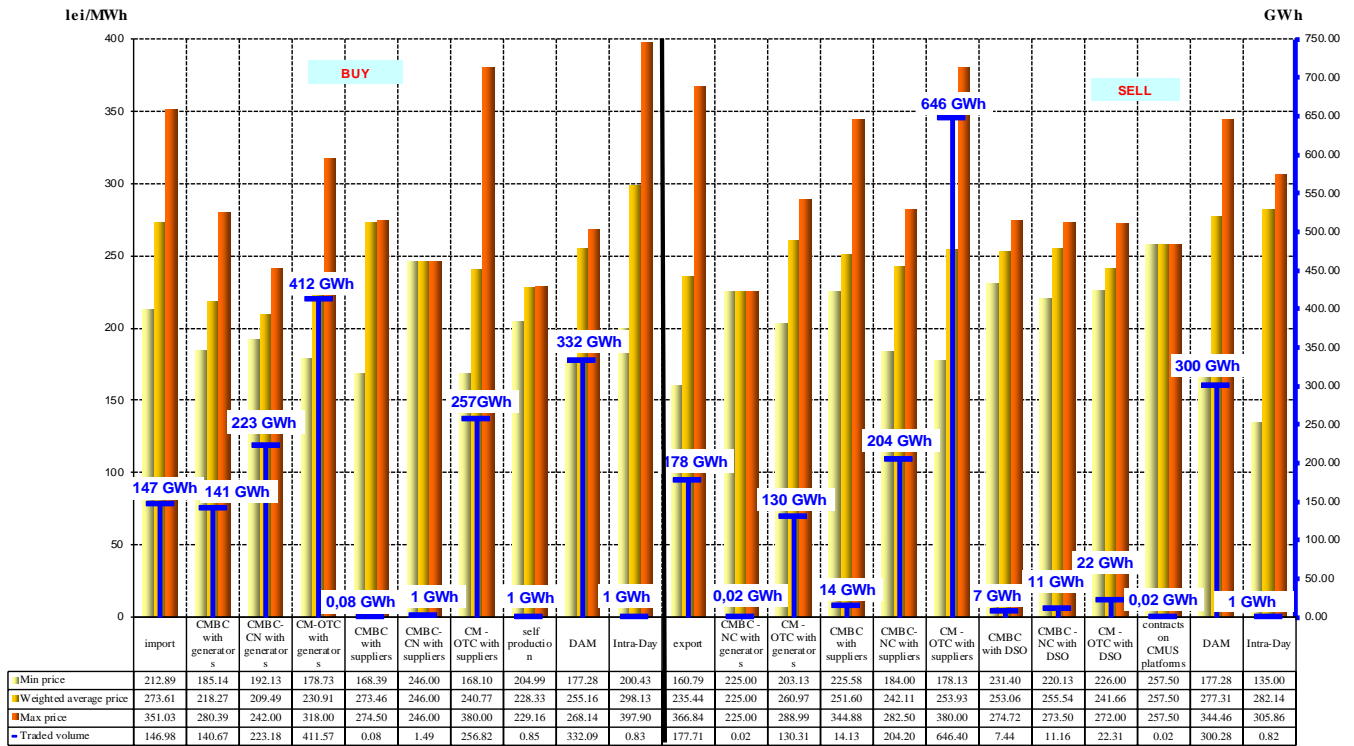
The following table illustrates the activity carried out by suppliers active only on WEM, presenting the structure by market segments/participants of the total acquisitions and sales made by these suppliers in July 2019, compared to the similar period in 2018:

	-GWh-	
Trades structure of suppliers acting exclusively on WEM	July 2018	July 2019
Buy		
Import	72.96	146.98
Negotiated trades with producers	5.94	0.00
Contracts concluded on Opcom centralized markets, out of which:	1365.57	1033.80
- on CMBC-EA with producers	69.79	140.67
- on CMBC-CN with producers	192.93	223.18
- on CM-OTC with producers	722.16	411.57
- on CMBC-EA with other suppliers	0.00	0.08
- on CMBC-CN with other suppliers	7.72	1.49
- on CM-OTC with other suppliers	372.97	256.82
production from own sources	1.37	0.85
DAM	217.52	332.09
ID	0.03	0.83
Sell		
Export	282.24	177.71
Contracts concluded on Opcom centralized markets, out of which:	866.99	1035.95
- on CMBC-EA with producers	0.00	0.00
- on CMBC-CN with producers	0.00	0.02
- on CM-OTC with producers	26.01	130.31
- on CMBC-EA with other suppliers	2.98	14.13
- on CMBC-CN with other suppliers	140.20	204.20
- on CM-OTC with other suppliers	675.49	646.40
- on CMBC-EA with DO	0.00	7.44
- on CMBC-CN with DO	7.44	11.16
- on CM-OTC with DO	14.88	22.31
CMUS with last resort suppliers	7.44	0.02
DAM	506.15	300.28
ID	0.17	0.82

Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

The following graph presents the lowest, average and highest prices by categories of trades concluded by the suppliers acting exclusively on WEM (traders), in July 2019.

**Trades concluded by suppliers acting exclusively on WEM
- July 2019 -**



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

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

The table below provides aggregated data regarding the structure by market segments/REM participants of total purchases and sales made by these market participants in July 2019 compared with the similar period of 2018:

Trades' structure of suppliers acting on REM (suppliers of last resort not included)	-GWh -	
	July 2018	July 2019
Buy		
Import	16.61	40.96
Negotiated trades with producers	19.76	20.09
Trades concluded on Opcom centralized markets, out of which:	2266.62	1920.80
- on CMBC-EA with producers	965.02	628.32
- on CMBC-CN with producers	318.17	392.60
- on CM-OTC with producers	414.41	262.83
- on CMBC-EA with other suppliers	55.77	37.51
- on CMBC-CN with other suppliers	101.14	125.41
- on CM-OTC with other suppliers	412.10	474.14
production from own sources	43.30	38.19
Negotiated trades with non-dispatchable producers (others than under Law 220/2008)*	7.39	5.93
Negotiated trades with non-dispatchable producers (amendments and additions to Law 220/2008)**	29.99	27.07
Trades with prosumers	-	0.01
DAM	286.67	667.26
ID	9.51	14.38

Trades' structure of suppliers acting on REM (not including suppliers of last resort)	July 2018	July 2019
Sell		
Export	36.33	18.75
Trades concluded on Opcom centralized markets, out of which:	924.26***	1017.97
- on CMBC-EA with producers	5.66	0.00
- on CMBC-NC with producers	15.39	47.65
- on CM-OTC with producers	11.29	104.22
- on CMBC-EA with other suppliers	77.35***	65.43
- on CMBC-CN with other suppliers	138.36	114.98
- on CM-OTC with other suppliers	627.44	591.75
- on CMBC-EA with DO	14.69	14.84
- on CMBC-CN with DO	11.16	47.87
- on CMBC-OTC with DO	22.94	16.36
- on CMBC-EA with TSO	0.00	7.44
- on CMBC-CN with TSO	0.00	7.44
CMUS with last resort suppliers	0.02	0.01
DAM	115.70***	100.35
ID	1.16	0.56
Households	23.28***	24.84
Non-households	1556.47***	1552.16

Source: Monthly reports of the competitive suppliers – Electricity Market Monitoring Unit assessment

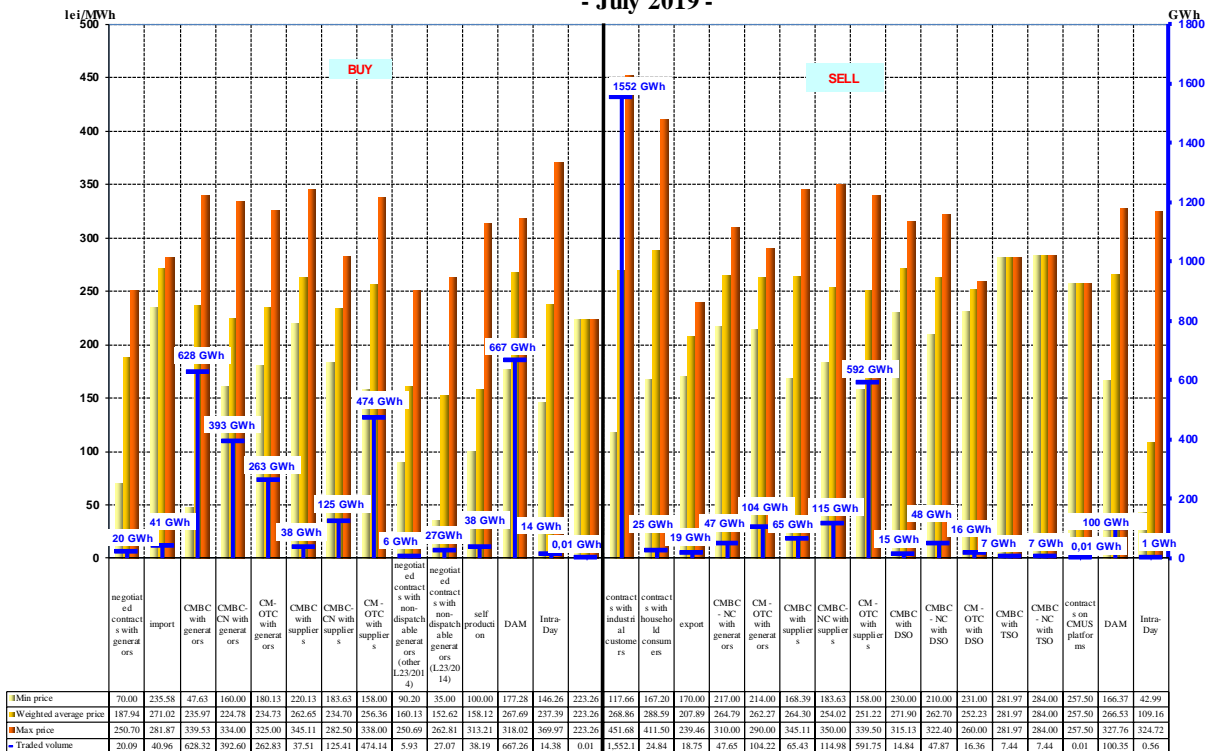
Note: *negotiated trades with non-dispatchable producers that do not fall under the provisions of Law no. 220/2008, with subsequent modifications and additions.

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

***The differences with July 2018 Electricity Market Monitoring Report are determined by the corrections reported by the market participants that were included in the current report.

The breakdown by sources type/destination of the volumes traded, the average and extreme prices (highest and lowest) for July 2019, for suppliers active on the REM and WEM are shown in the following graph:

Trades concluded by suppliers active on WEM and REM suppliers of last resort not included - July 2019 -



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

Suppliers of last resort

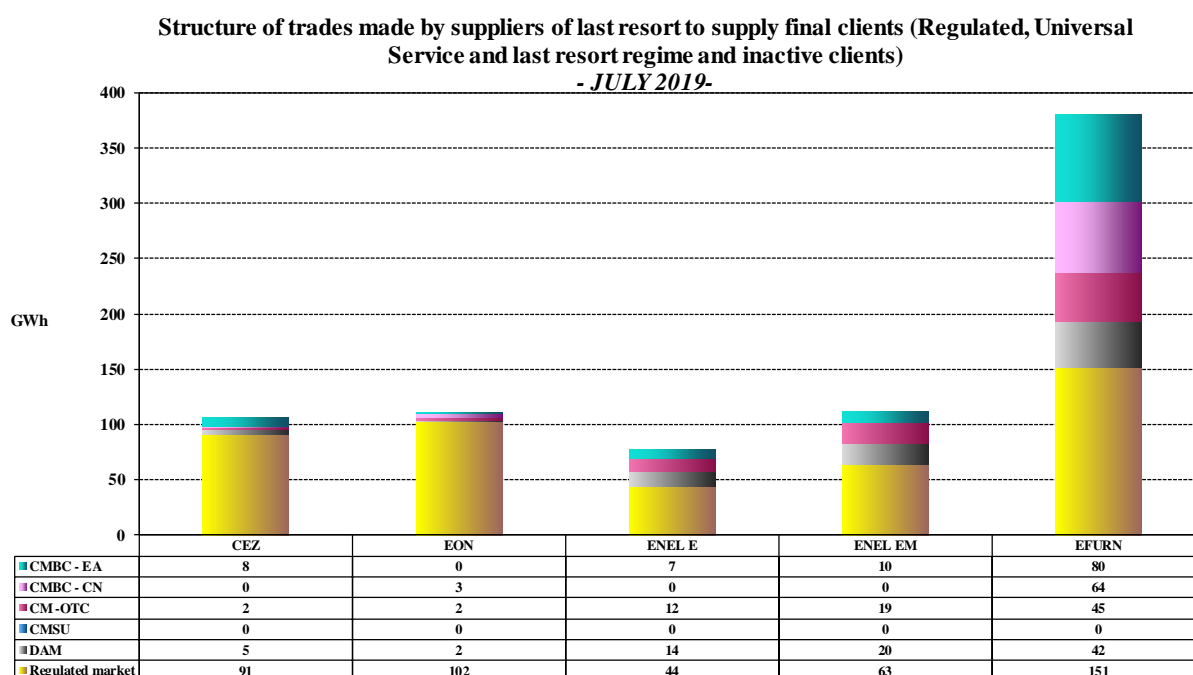
Trades' structure on the WEM of suppliers of last resort (made before the delivery interval) to supply final clients under the regulated, US and last resort regime and inactive clients is shown in the table below for July 2019, compared with the similar period of 2018:

- GWh -

Structure of trades concluded by suppliers of last resort to supply final clients (regulated, Universal Service and last resort regime and inactive clients)	July 2018	July 2019
Regulated contracts with producers		451.72
Negotiated trades with non-dispatchable producers (changes and additions to Law 220/2008)*	0.02	0.01
Trades concluded on Opcom centralized markets, out of which:	721.83	250.28
- trades on CMBC-EA with producers	87.64	97.13
- trades on CMBC-CN with producers	158.56	26.21
- trades on CM-OTC with producers	96.36	15.01
- trades on CMBC-EA with other suppliers	0.15	7.59
- trades on CMBC-CN with other suppliers	123.39	41.34
- trades on CM-OTC with other suppliers	255.72	63.01
Trades with prosumers	-	0.04
Trades on CMUS:	7.54	0.04
- trades on CMUS with producers	0.08	0.01
- trades on CMUS with suppliers	7.46	0.03
Trades concluded on DAM:	119.08	35.73
- buy	144.90	82.32
- sell	25.83	46.59
Trades concluded on ID:	0.00	0.03
- buy	0.00	0.03
- sell	0.00	0.00

*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 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 July 2019 is presented in the following graph:



Source: Monthly reports of the suppliers of last resort – Electricity Market Monitoring Unit assessment

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. Also, ANRE has designated as optional suppliers of last resort, for different network areas, the following suppliers: Electrica Furnizare, CEZ Vanzare SA, E.ON Energie Romania SA, Enel Energie SA, Engie Romania SA, Getica 95 Com SRL, SPEEH Hidroelectrica SA, MET Romania Energy SA, Restart Energy One SRL and Tinmar Energy SRL, for the period between 1 March 2019 and 28 February 2020. Also, Enel Energie Muntenia SA held, since 1 July 2018, the status of optional supplier of last resort for the areas of Moldova, Oltenia, North of Muntenia, North of Transylvania and South of Transylvania.

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. 11/2019), during 1 March 2019 – 28 February 2022, the electricity consumption of households that have concluded regulated energy supply contracts with suppliers of last resort is to be paid at regulated tariffs on voltage levels, approved by ANRE Orders no. 27, 28, 29, 30 and 31 of 2019 for each network area corresponding to obligated suppliers of last resort, respectively at regulated tariffs on voltage levels approved by ANRE by Order no. 32/2019 for all network areas in the case of optional suppliers of last resort.

Therefore, starting with 1 March 2019, 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 services 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 (price formula determined by applying a discount on the Universal Service price of the obligated supplier of last resort for that network area).

Based on the provisions of ANRE Order no. 10/2019, 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 (by decision, for the period between 1 March 2019 – 31 December 2019) obligations to sell fixed quantities at a regulated price. 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 projected 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 July 2019, compared with the similar period of 2018:

-GWh-

Trades' structure of suppliers of last resort for Universal Service/regulated supply	July 2018		July 2019	
	Quantity [GWh]	Average price [lei/MWh]	Quantity [GWh]	Average price [lei/MWh]
Regulated contracts with producers	-	-	451.72	172.68
Trades on Opcom centralized markets:	666.38	217.51	193.71	256.31
- trades on CMBC-EA with producers	87.17	202.94	83.15	252.22
- trades on CMBC-CN with producers	158.04	203.33	14.88	218.13
- trades on CM-OTC with producers	87.02	251.80	11.16	257.67
- trades on CMBC-EA with other suppliers	0.00	0.00	7.44	231.48
- trades on CMBC-CN with other suppliers	100.97	226.52	37.98	268.44
- trades on CM-OTC with other suppliers	233.18	215.87	39.11	272.11
Trades with prosumers	-	-	0.02	223.25
Trades on CMUS, out of which:	7.54	205.55	0.04	257.50
- with producers	0.08	163.26	0.01	257.50
- with other suppliers	7.46	206.00	0.03	257.50
Trades on DAM:	108.33	219.01	31.41	343.73
- buy	132.62	204.42	75.24	286.69
- sell	24.29	139.32	43.83	245.81
Trades concluded on ID:	0.00	0.00	0.0009	269.83
- buy	0.00	0.00	0.0009	269.83
- sell	0.00	0.00	0.00	0.00
TOTAL	782.24	217.60	676.93	204.56

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

WEM trades' structure of suppliers of last resort made before the delivery interval, for supplying electricity to inactive clients in July 2019 is shown in the following table:

- GWh -

Trades structure of suppliers of last resort to supply inactive clients	July 2019	
	Quantity [GWh]	Average price [lei/MWh]
Negotiated contracts with non-dispatchable producers (changes and additions to Law 220/2008)*	0.01	73.21
Trades on centralized contracts markets:	56.04	246.76
- on CMBC-EA with producers	13.98	246.47
- on CMBC-CN with producers	11.33	212.52
- on CM-OTC with producers	3.65	267.70
- on CMBC-EA with other suppliers	0.15	300.80
- on CMBC-CN with other suppliers	3.36	280.42
- on CM-OTC with other suppliers	23.57	255.00
Trades with prosumers	0.005	223.29
Trades on DAM, of which:	4.21	364.66
- buy	6.94	297.87
- sell	2.72	194.64
Trades on ID, of which:	0.028	377.00
- buy	0.028	377.00
- sell	0.00	0.00
TOTAL	60.29	255.01

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

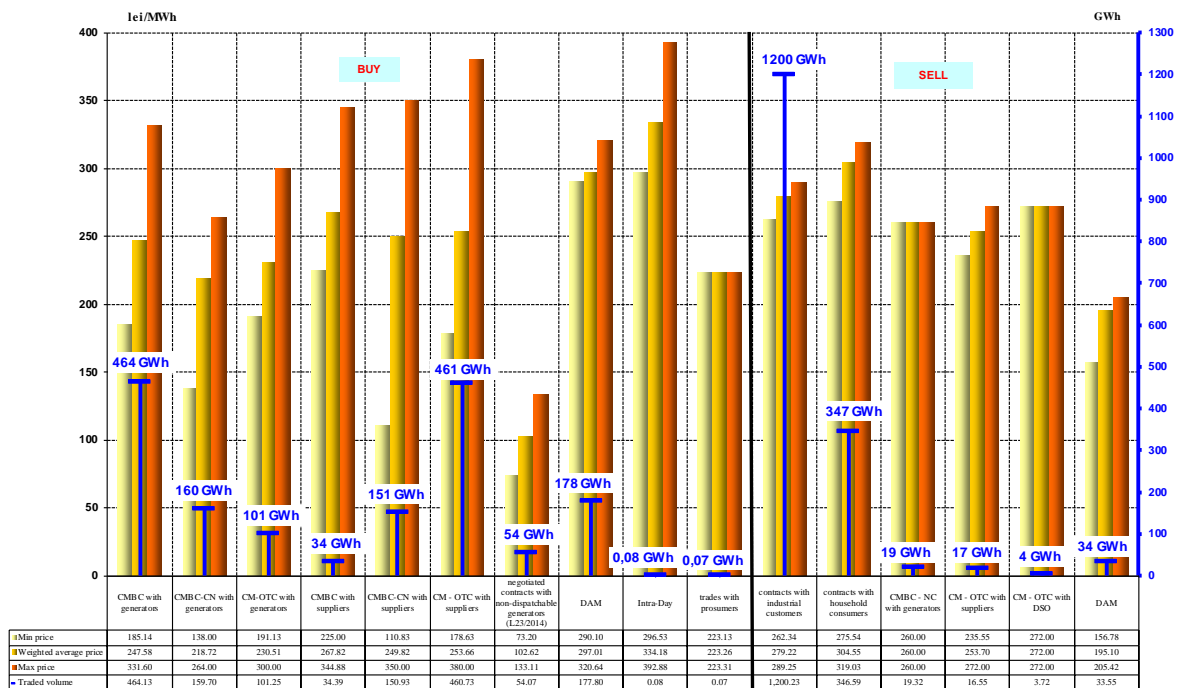
The following table presents the electricity acquisition structure of suppliers of last resort before the delivery interval, corresponding to the competitive segment of REM for July 2019, compared to the similar period of 2018:

Structure of trades made by suppliers of last resort for the competitive segment of REM	July 2018	July 2019
-GWh-		
Buy		
Trades on centralized contracts markets, of which:	1213.77	1371.13
- on CMBC-EA with producers	386.63	464.13
- on CMBC-CN with producers	252.82	159.70
- on CM-OTC with producers	205.76	101.25
- on CMBC-EA with other suppliers	22.92	34.39
- on CMBC-CN with other suppliers	46.30	150.93
- on CM-OTC with other suppliers	299.35	460.73
Negotiated trades with non-dispatchable producers (amendments and additions to Law 220/2008)*	43.59	54.07
Trades with prosumers	-	0.07
Trades on DAM	160.32	177.80
Trades on ID	0.00	0.08
Sell		
Trades on centralized contracts markets:	37.20	39.59
- on CMBC-CN with producers	0.00	19.32
- on CM-OTC with other suppliers	37.20	16.55
- on CM-OTC with DO	0.00	3.72
Trades on DAM	18.48	33.55
Trades on ID	0.26	0.00
Households	229.76	346.59
Non-households	1153.34	1200.23

Note: *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 July 2019:

Trades made by suppliers of last resort for the REM - competitive segment - July 2019 -



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

Main distribution operators

The following table shows the electricity acquisition structure of the main distribution operators made before the delivery interval to cover the distribution networks losses, for July 2019 compared with the similar previous period:

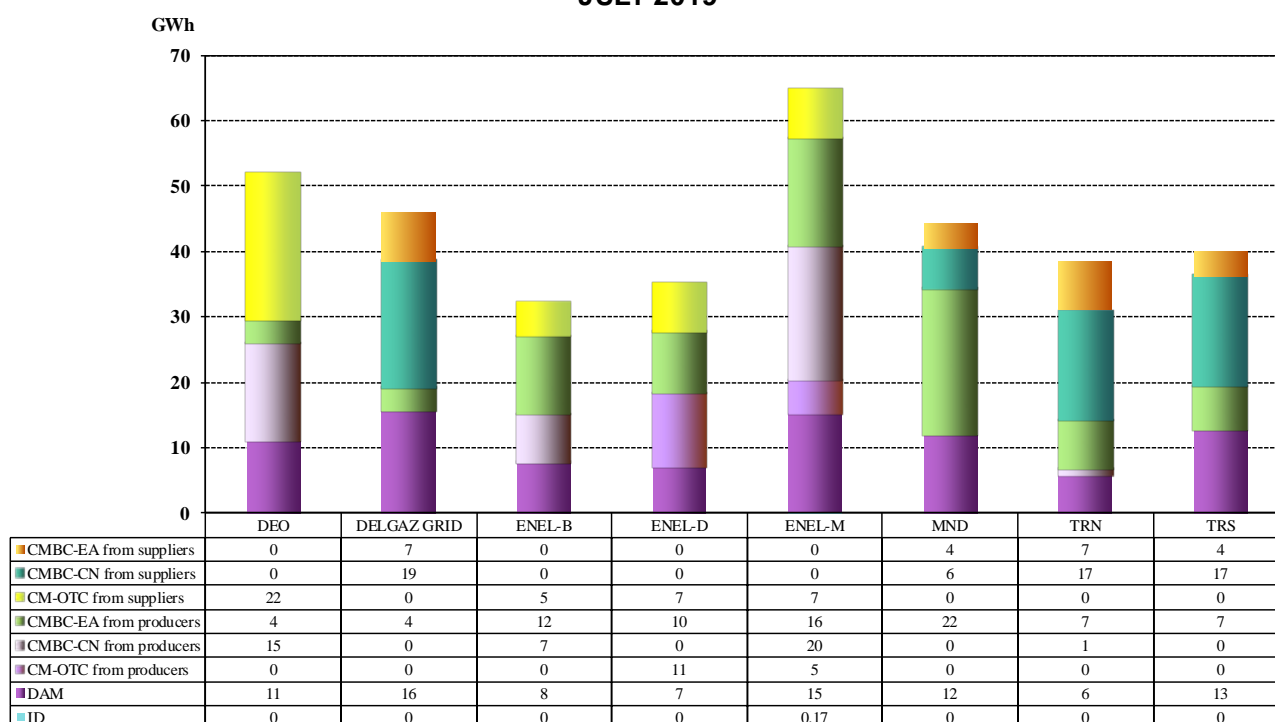
- GWh -

Structure of trades	July 2018	July 2019
Trades on centralized contracts markets:	233.65	266.03
- CMBC-EA with producers	144.59	82.09
- CMBC-CN with producers	40.91	43.86
- CM-OTC with producers	0.00	16.38
- CMBC-EA with suppliers	14.68	22.28
- CMBC-CN with suppliers	18.60	59.02
- CM-OTC with suppliers	14.88	42.39
Trades on DAM	66.30	86.24
- buy	66.44	86.63
- sell	0.14	0.40
Trades on ID:	0.04	0.17
- buy	0.04	0.17
- sell	0.00	0.00

Source: Monthly reports of the distribution operators – Electricity Market Monitoring Unit assessment

Electricity acquisition structure of the main distribution operators in July 2019 is presented in the following graph:

Structure of electricity acquisitions of distribution operators to cover distribution network losses
- JULY 2019 -



Source: Monthly reports of the distribution operators – Electricity Market Monitoring Unit assessment

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

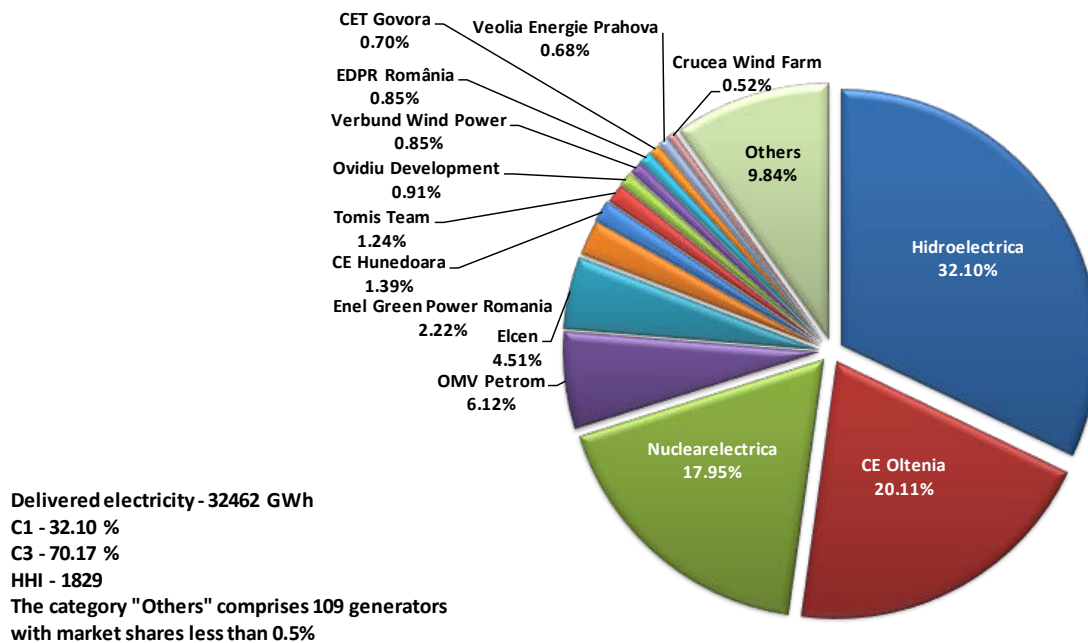
Concentration indicators and market shares of electricity producers

The market structure regarding the 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 July 2019 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 - July 2019 -	C1 (%)	C3 (%)	HHI
Value	30.81	75.23	2038

**Market share of producers with dispatchable generation units by the electricity delivered into the networks.
January - July 2019**



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

A component of the WEM on which direct competition between producers is showed is the Balancing Market (BM). The values of concentration indicators on this market for July 2019 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 - JULY 2019 -	Regulation					
	Secondary		Fast tertiary		Slow tertiary	
	upward	downward	upward	downward	upward	downward
C1 - % -	64	65	64	54	0	0
C3 - % -	100	100	90	99	0	0
HHI	5079	5221	4664	3990	0	0

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

Under EGO no. 26/2018 on the adoption of certain measures for the safety and security of electricity supply of the NPS, ANRE President Decision no. 2047/2018 was approved regarding the acquisition at a regulated price for the period between 1 January – 31 December 2019 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 reserves on all types of regulation.

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

Concentration indicators on Ancillary Services Market - July 2019 -		Secondary reserve	Fast tertiary reserve	Slow tertiary reserve
regulated component	contracted quantity (h*MW)	-	-	297600
	C1 (%)	-	-	100.0
	C3 (%)	-	-	100.0
competitive component	contracted quantity (h*MW)	275900	409200	223200
	C1 (%)	67.6	81.4	48.4
	C3 (%)	100.0	94.2	100.0
	HHI	5622	6734	4580

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

Concentration Indicators for the Day Ahead Market

The Day Ahead Market (DAM) is a voluntary market, opened 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 - July 2019 -	C1 (%)	C3 (%)	HHI
Selling	23.49	40.95	845
Buying	14.38	34.60	603

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 January 2017, OPCOM-Romania (PCR member from 1 January 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.

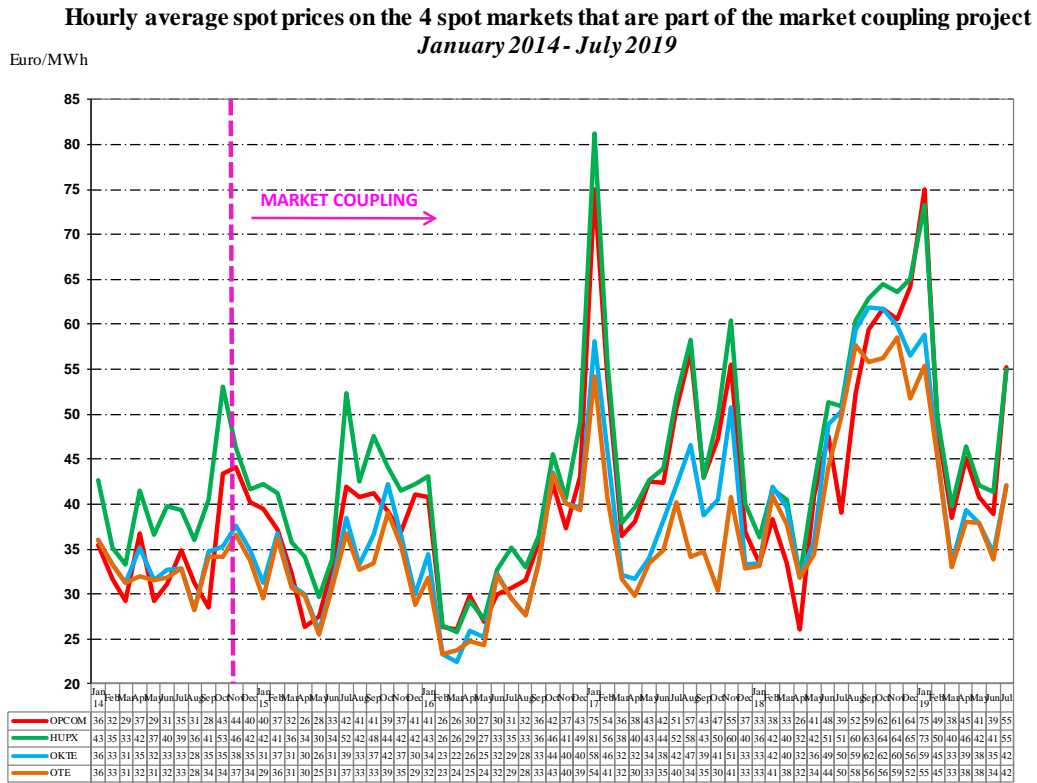
According to EU legislation, coordinated cross-border capacity allocation is under the governance of the TSOs from the 4 countries and the allocation model used is that of implicit allocation on DAM of the available interconnection capacity.

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 January 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.

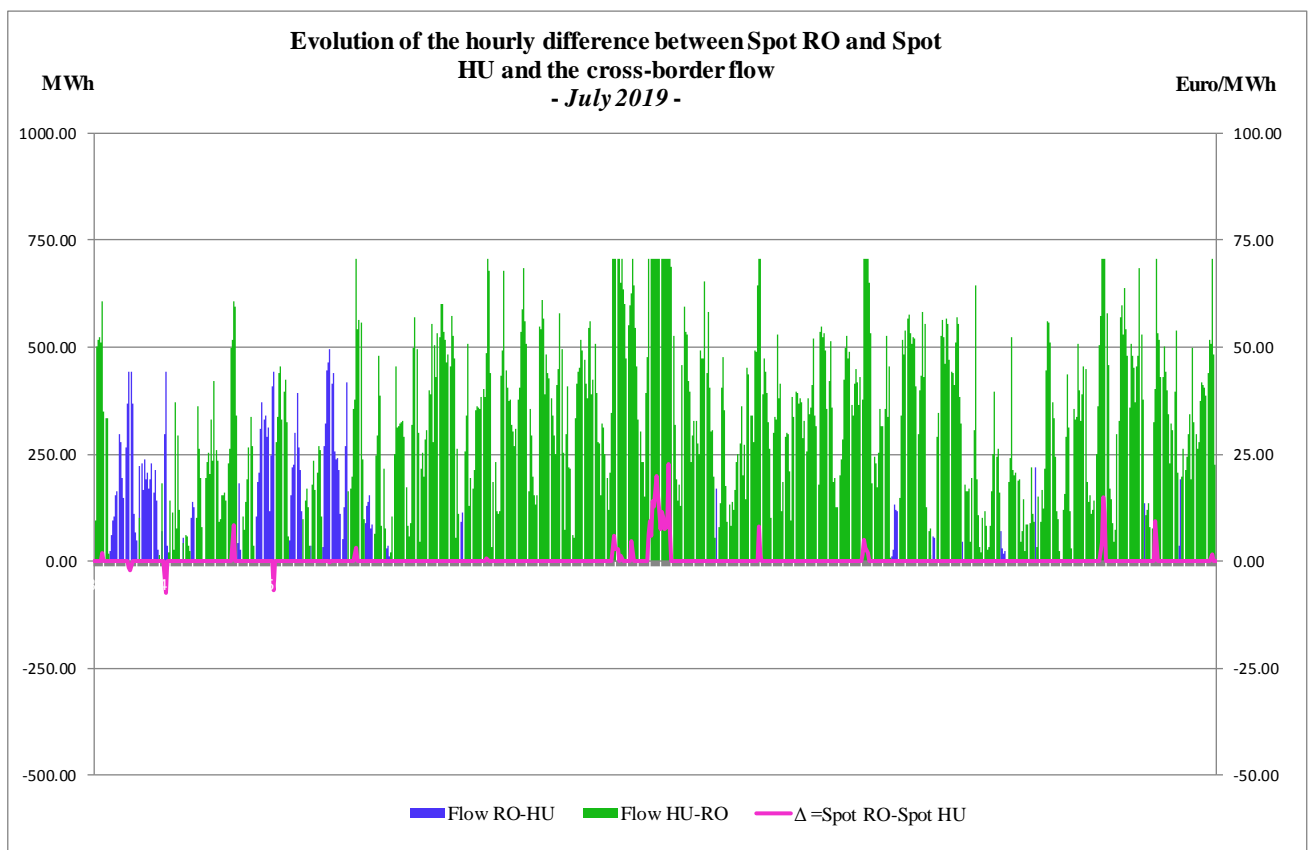
Particularly, for the Hungarian border, if 80% of the lowest value of the ATC calculated monthly for sub-periods is lower than 80 MW, interconnection capacity for monthly allocation will be 80% from the ATC calculated for each sub-period, to which is added the allocated capacity at the yearly auction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



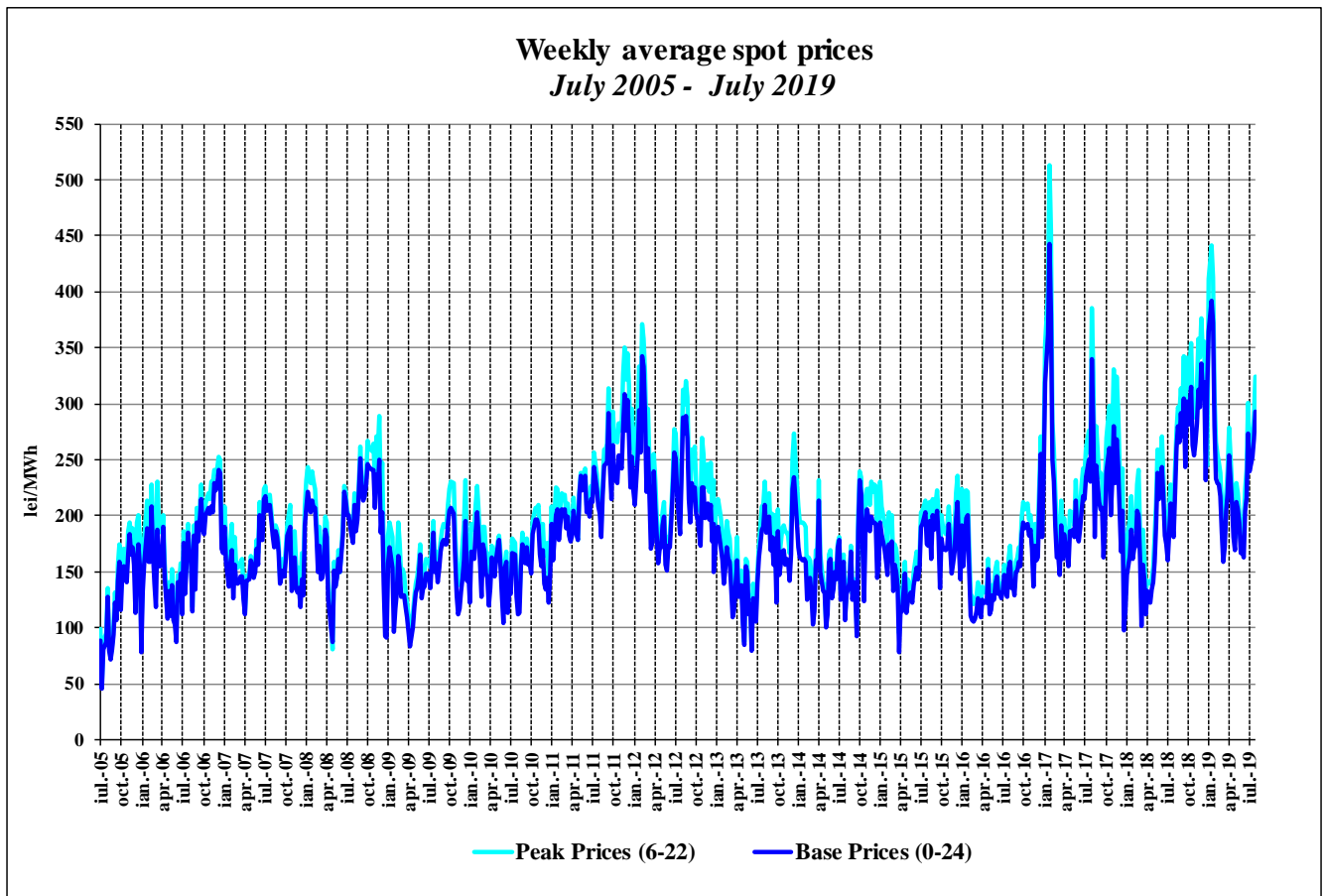
Source: Monthly reports of Opcom SA – Electricity Market Monitoring Unit assessment

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 July 2019.



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

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



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

On Romania's borders with Hungary, Bulgaria and Serbia, interconnection capacity allocation is done through market mechanisms, bilaterally coordinated on both directions, for 100% of the allocation capacity, through long and short term auctions.

On the border with Serbia, the allocation is made through auctions organized by CNTEE Transelectrica SA for annual, monthly and intraday allocation, and through daily auctions organized by the EMS (Serbian TSO), in accordance with the agreements signed between the two TSOs.

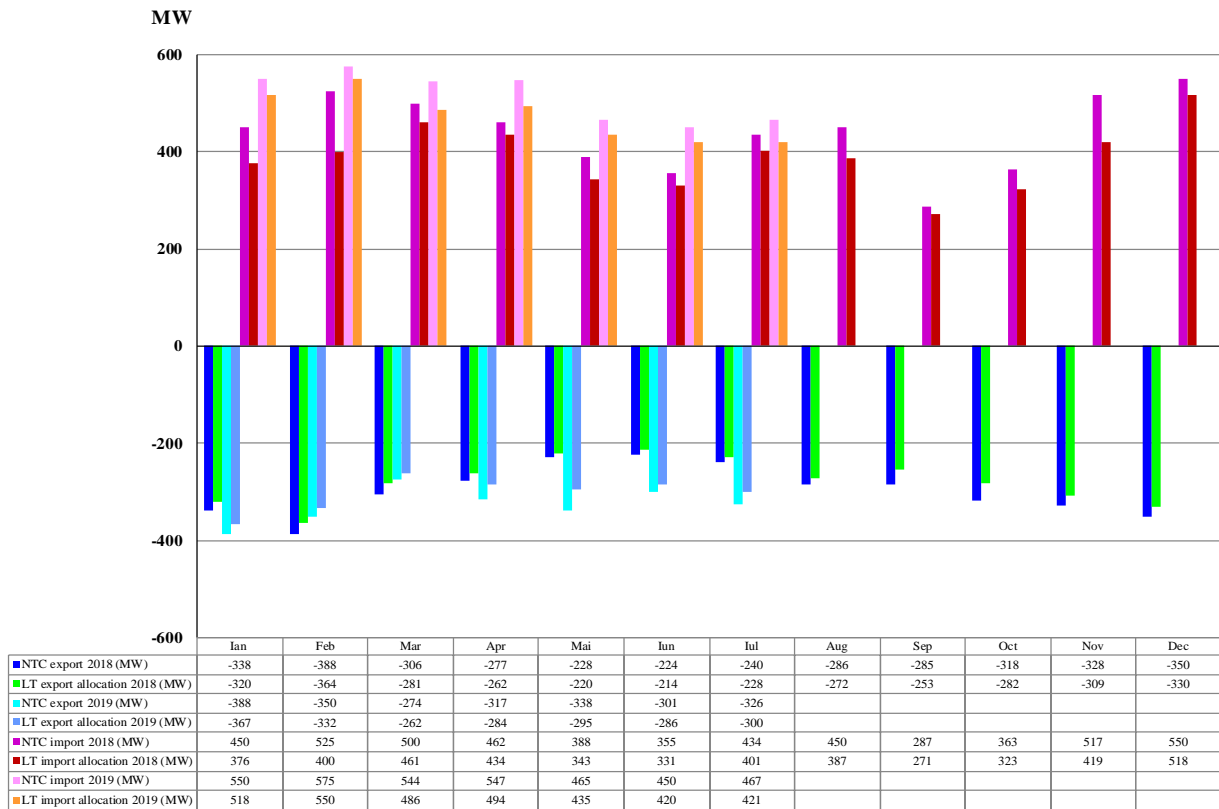
On the border with Ukraine the allocation is made by CNTEE Transelectrica SA through auctions for annual and monthly allocation, the use of interconnection capacities depending on the written agreement of Ukrenergo (Ukraine TSO).

Starting with 2019, on the borders with Bulgaria and Hungary, 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.

Daily auctions on the border with Bulgaria are organized by CNTEE Transelectrica SA.

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.

**Evolution of the average NTC and the average cross border capacities allocated on long term auctions
2018-2019**

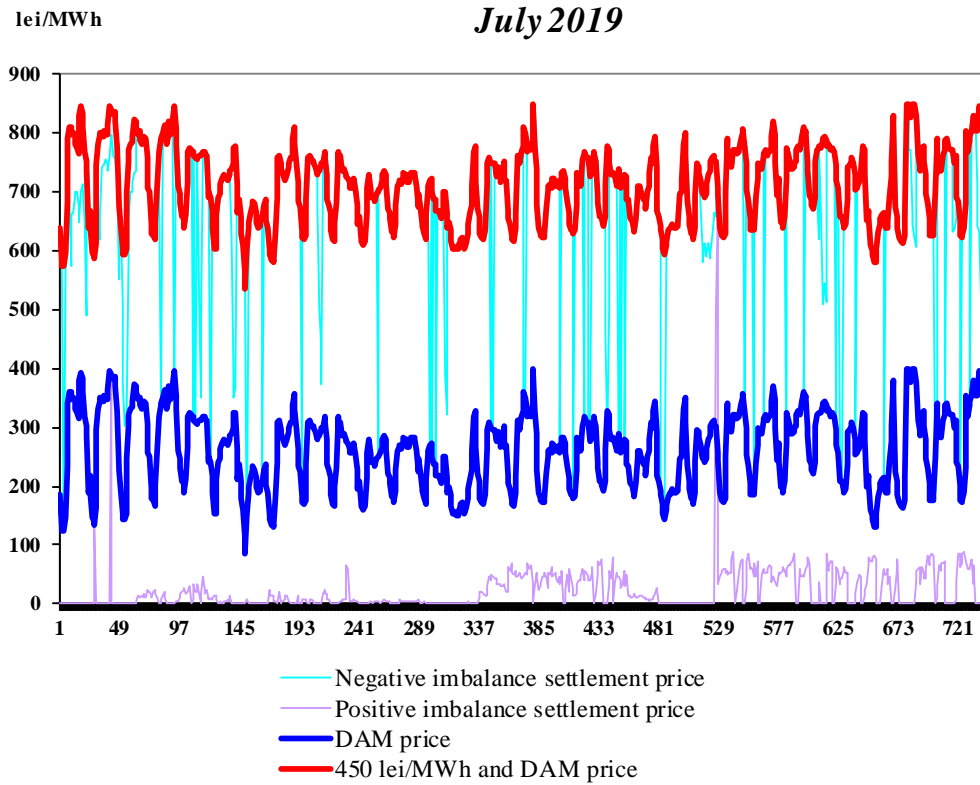


Source: Monthly reports of CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

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.

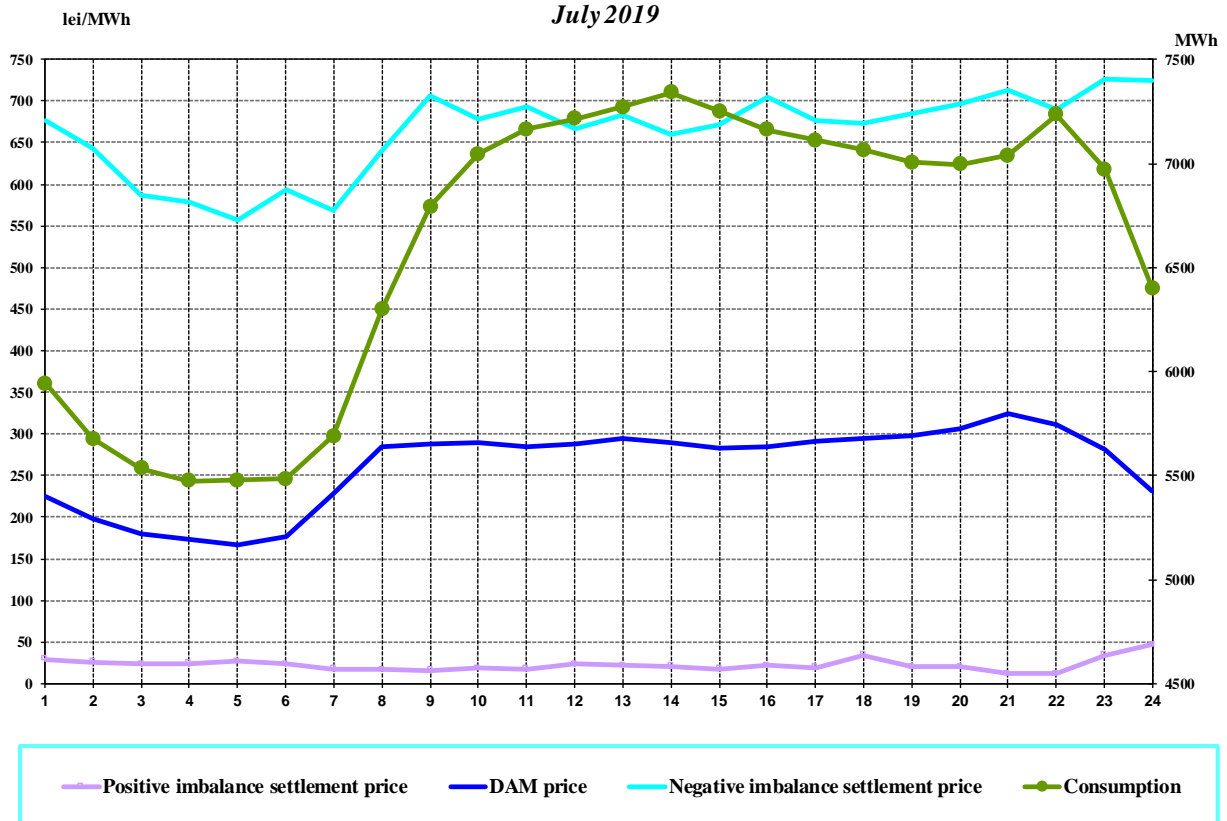
The settlement prices (market closing price on DAM, negative imbalance price and positive imbalance price) are represented on the same graph, thus showing the two markets correlation degree. In the first graph the settlement prices are expressed in hourly values, in the second graph in hourly average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

Hourly settlement prices July 2019

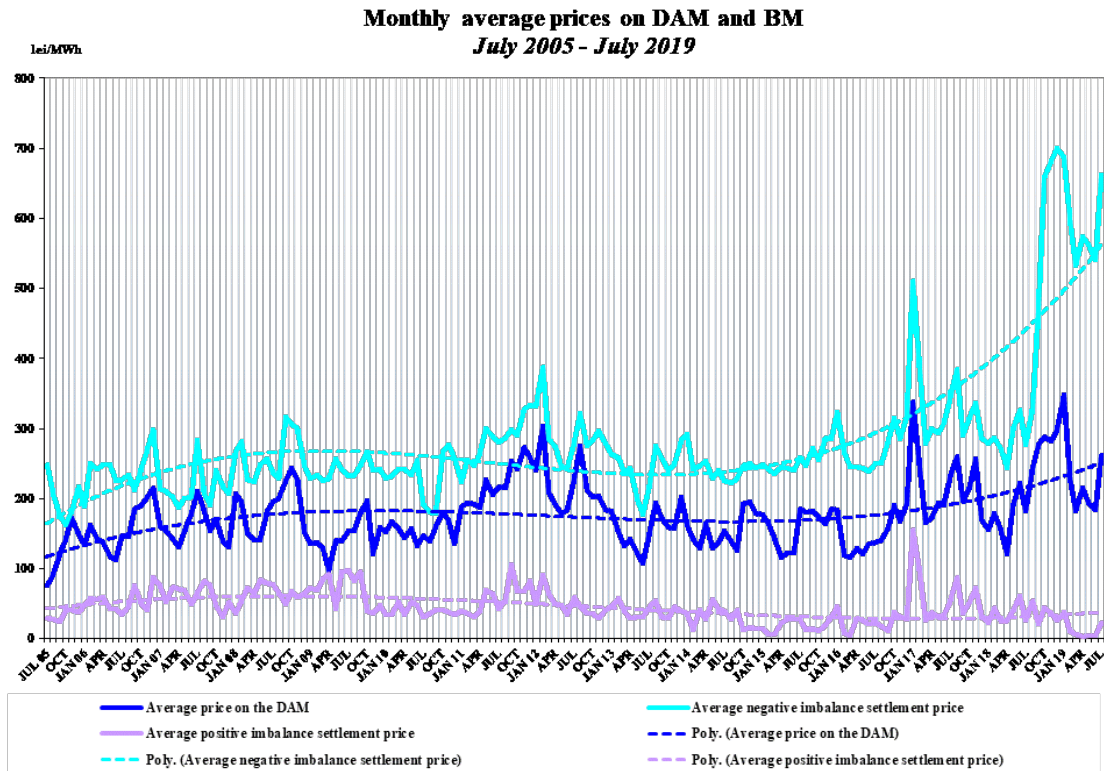


Source: Daily/monthly reports of Opcom SA – Electricity Market Monitoring Unit assessment

Hourly average settlement prices and internal consumption July 2019



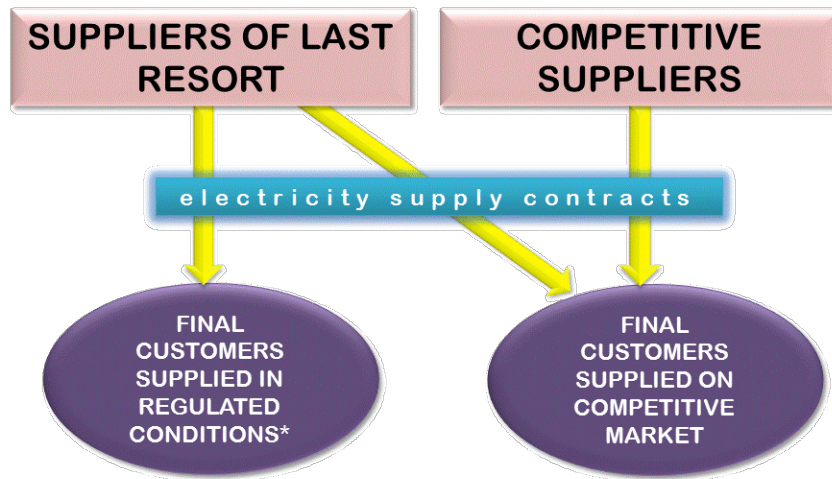
Source: Monthly reports of Opcom SA and CNTEE Transselectrica SA – Electricity Market Monitoring Unit assessment



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

III. RETAIL ELECTRICITY MARKET

1. Structure of the retail electricity market

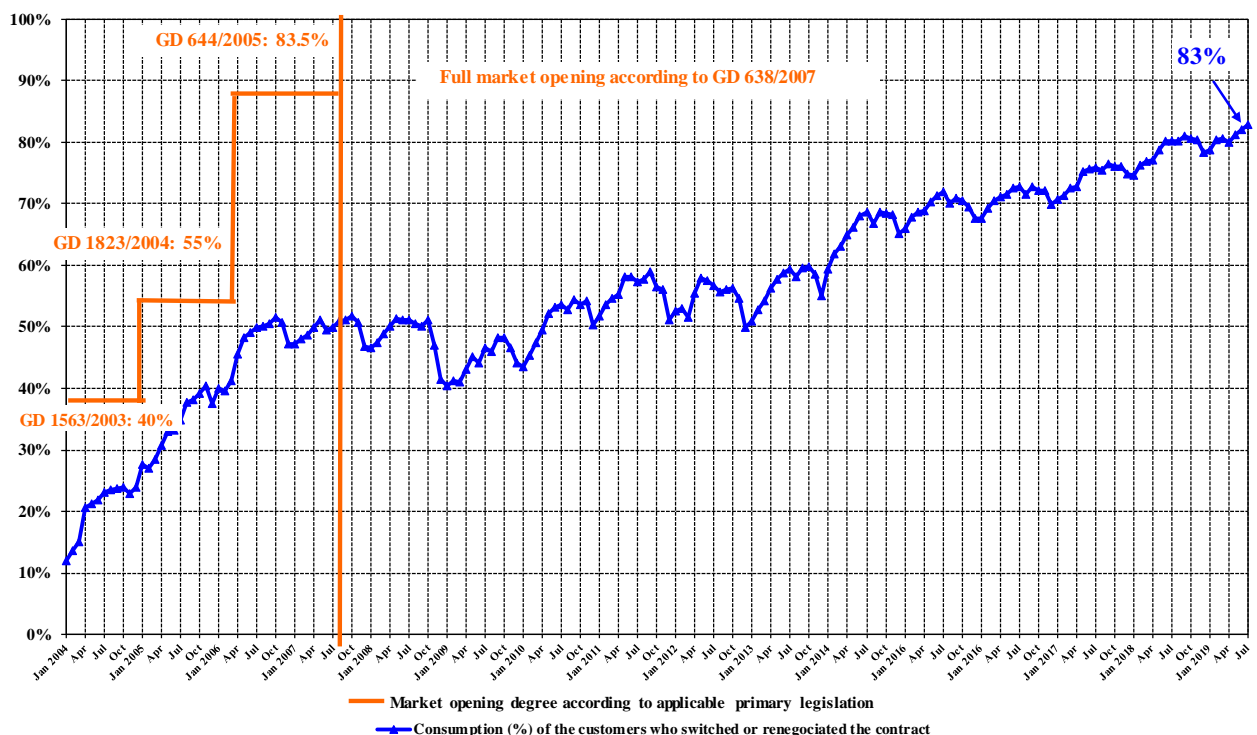


* according to art. 53 (2) and art. 55 (1) from Electricity and Gas Law no. 123/2012

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, between January 2004 – July 2019. 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 - July 2019

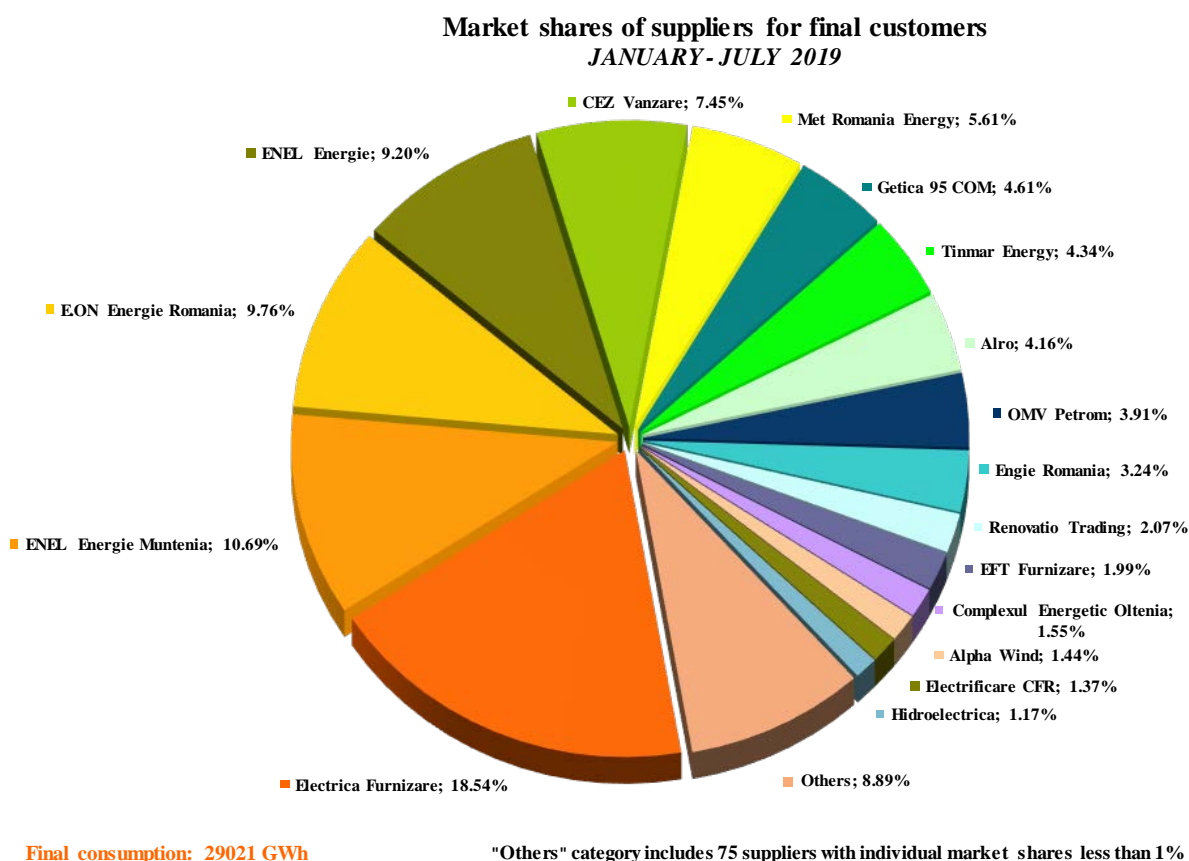


Source: Monthly reports of suppliers of final customers – Electricity Market Monitoring Unit assessment

3. Market shares of electricity suppliers

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

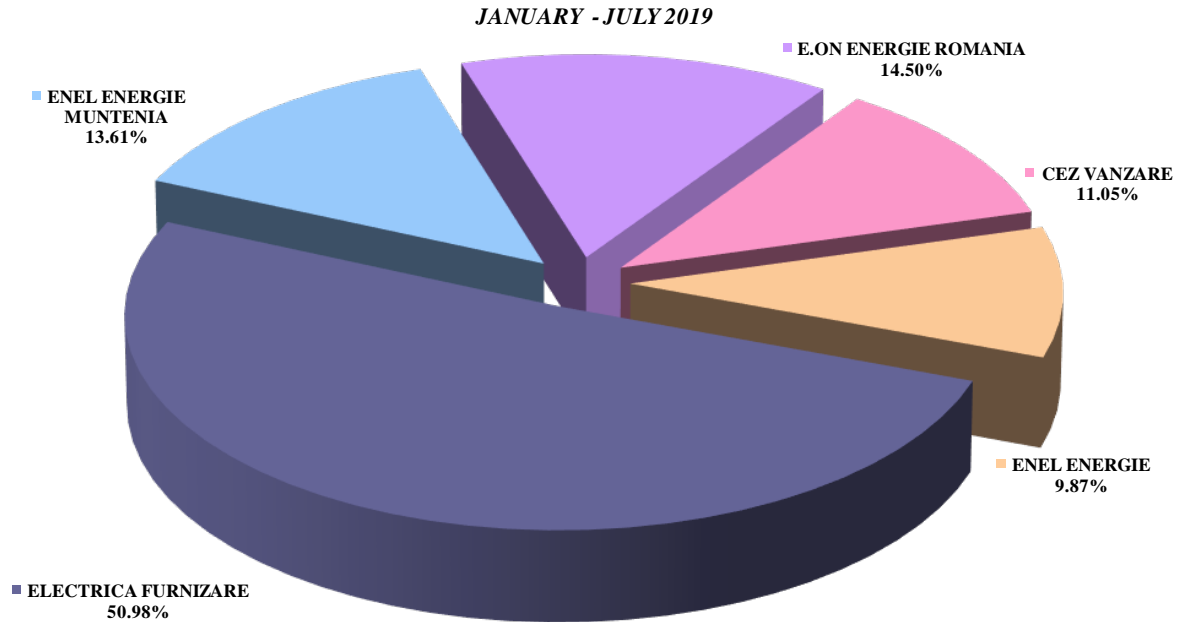
- a) for all licensees monitored, suppliers and producers active on REM, including suppliers of last resort, in terms of electricity supplied to final clients under regulated, Universal Service and last resort regime and inactive clients and to consumers who have switched their supplier or have negotiated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



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

- 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;

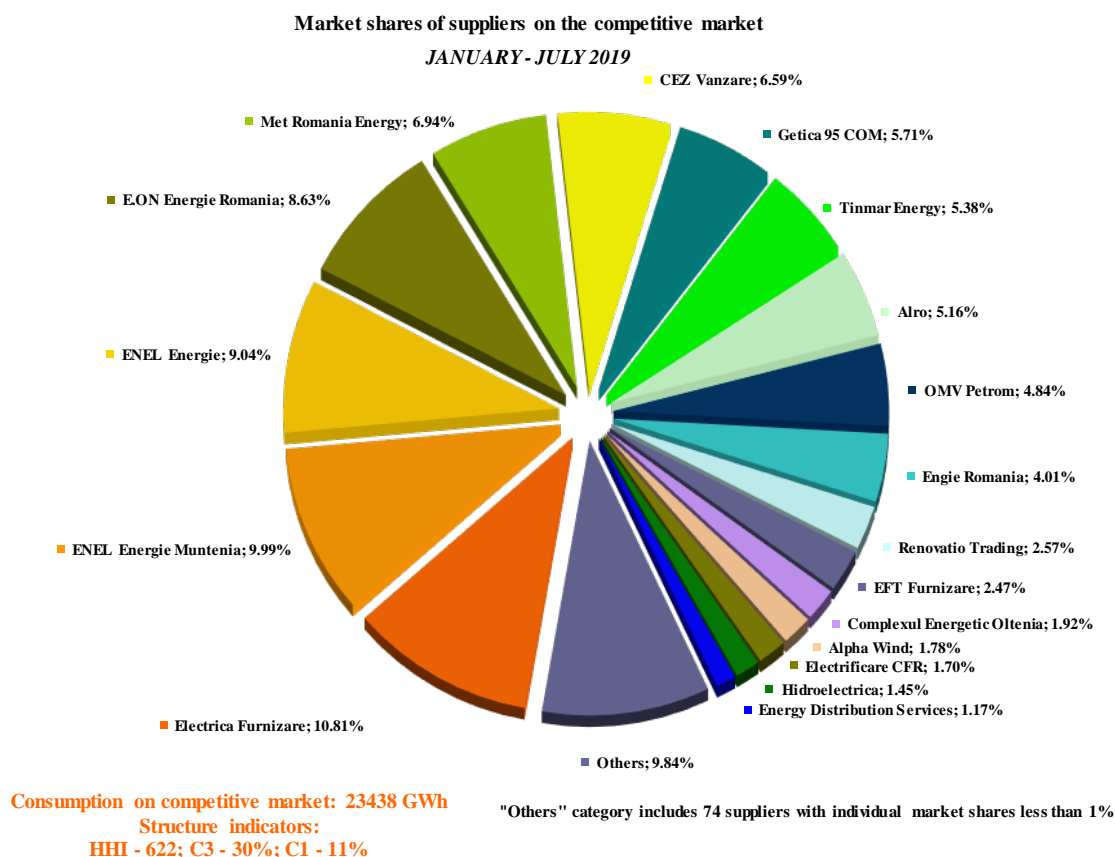
Market shares of suppliers of last resort for the electricity supplied to regulated, Universal service, and last resort regime clients and to inactive clients



Consumption of regulated, Universal service and last resort regime clients and of inactive clients: 5583 GWh

Source: Monthly reports of the suppliers of last resort – Electricity Market Monitoring Unit assessment

- 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.



Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

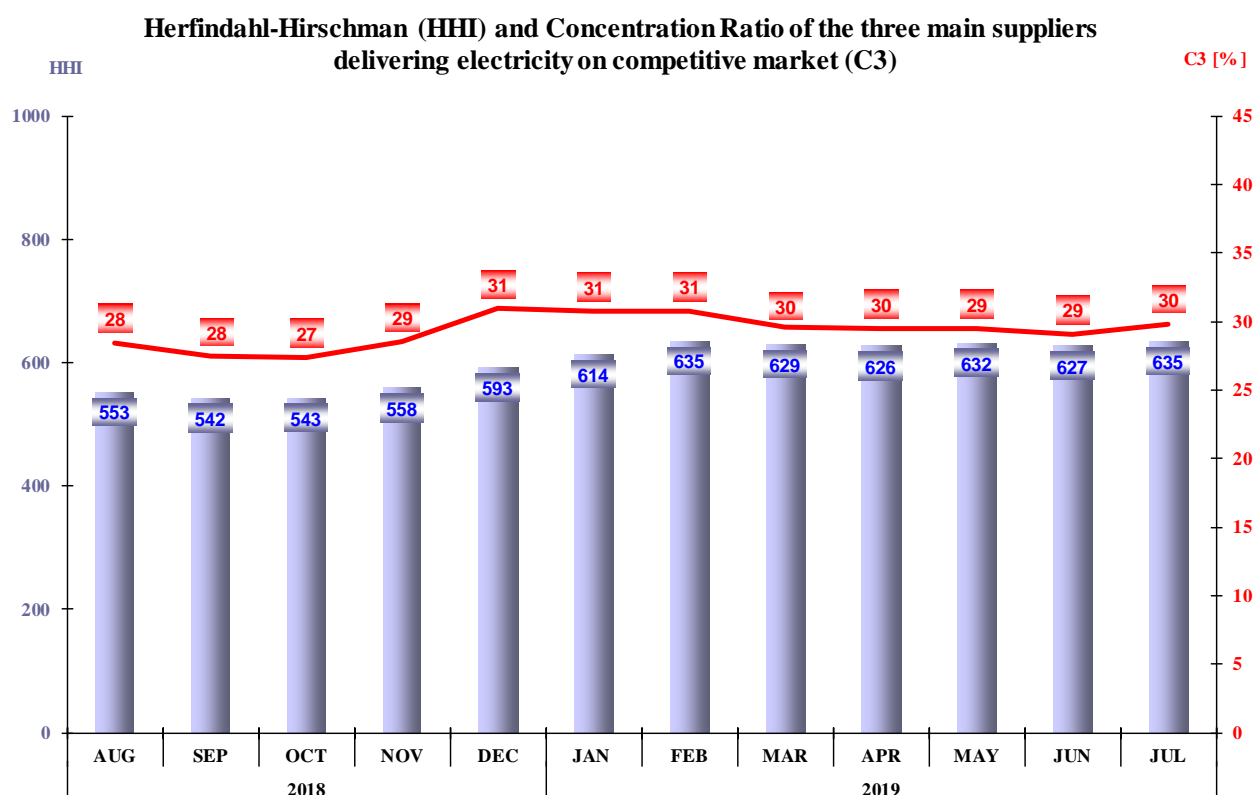
It is noted that in the calculation of the market indicator values the principle of dominance was not taken into account and the electricity supplied on the basis of which was established each supplier's market share includes the self-consumption of the large industrial consumers who also hold a supply 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 July 2019.

Number of suppliers	Share of sales to final customers from total sales trades			
	100%	75% - 100%	50% - 75%	<50%
Competitive	12	21	4	21
Of last resort	0	5	0	0

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

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 July 2019 in the following graph:



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

The tables below show the values of market structure indicators for the competitive component of REM and the number of active suppliers in July 2019, calculated for each consumption band defined by the Regulation (EU) 2016/1952, for non-household and household:

Indicators - July 2019	Consumption bands - Non-household customers							
	IA	IB	IC	ID	IE	IF	IG	Total
C1 - % -	31	21	19	13	18	18	21	11
C3 - % -	78	49	42	33	43	41	52	30
HHI	2216	1189	916	694	955	883	1217	606
Consumption - GWh -	163	394	328	720	414	244	842	3105
No. of SUPPLIERS	62	70	62	60	23	19	16	82
No. of suppliers of last resort	5	5	5	5	5	4	3	5
No. of competitive suppliers	43	49	43	44	13	11	6	57
No. of producers	14	16	14	11	5	4	7	20

Indicators - July 2019	Consumption bands - Household customers					
	DA	DB	DC	DD	DE	Total
C1 - % -	50	34	32	34	40	39
C3 - % -	92	79	76	77	73	82
HHI	3758	2301	2197	2491	2386	2665
Consumption - GWh -	130	120	65	42	14	372
No. of SUPPLIERS	35	33	38	38	37	44
No. of suppliers of last resort	5	5	5	5	5	5
No. of competitive suppliers	26	25	29	29	28	32
No. of producers	4	3	4	4	4	7

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

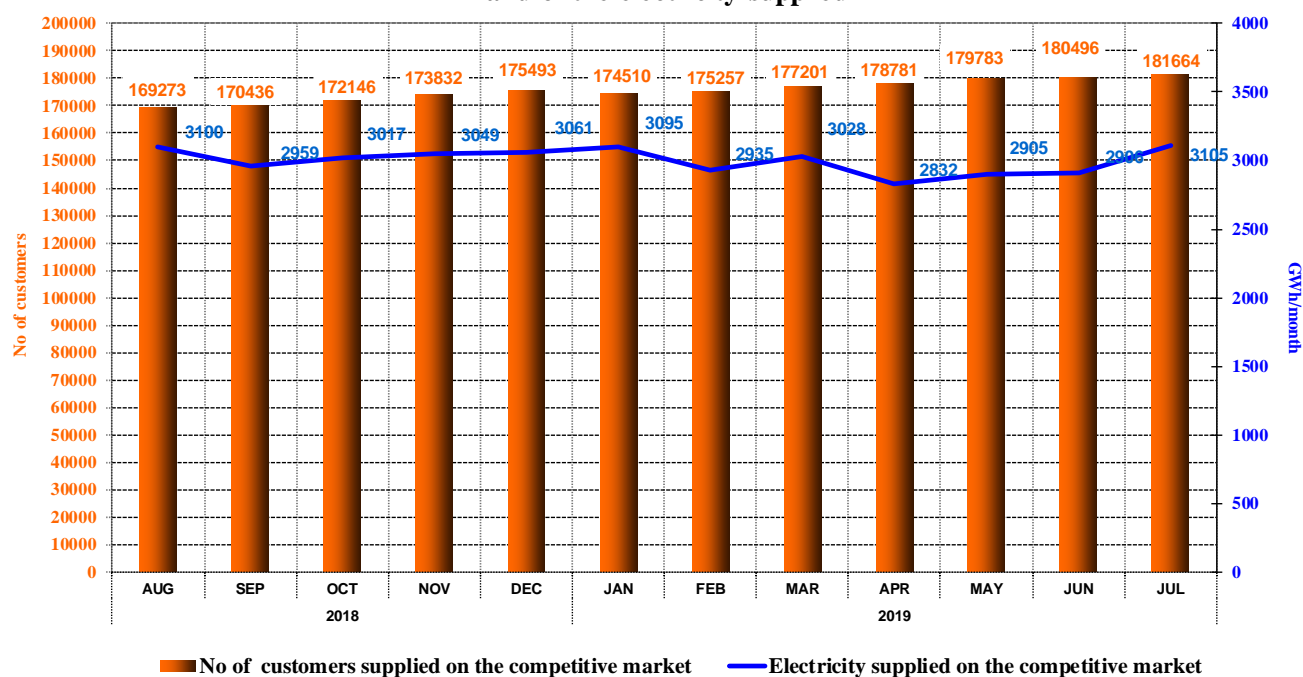
5. The evolution of the number of clients and of the electricity delivered

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 July 2019, 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	

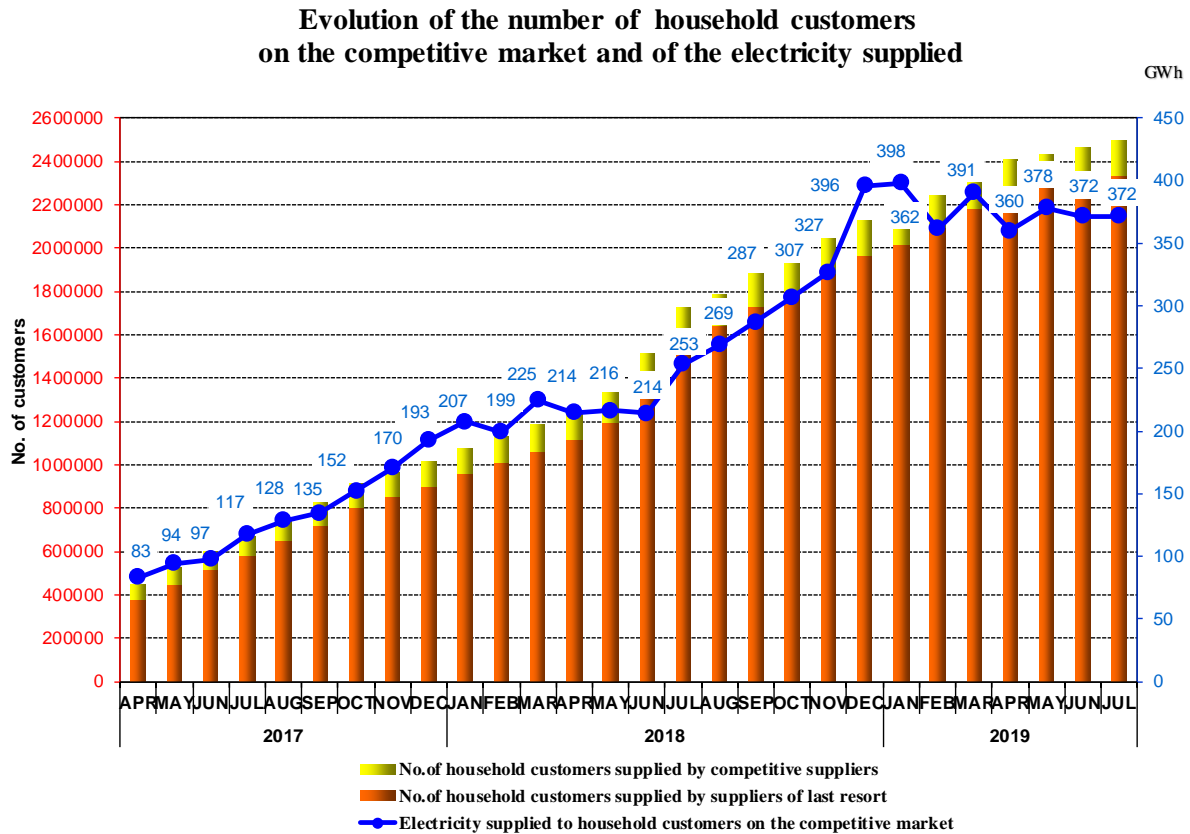
Household customers	Annual electricity consumption (kWh):	
DA		<1000
DB	>=1000	<2500
DC	>=2500	<5000
DD	>=5000	<15000
DE	>=15000	

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



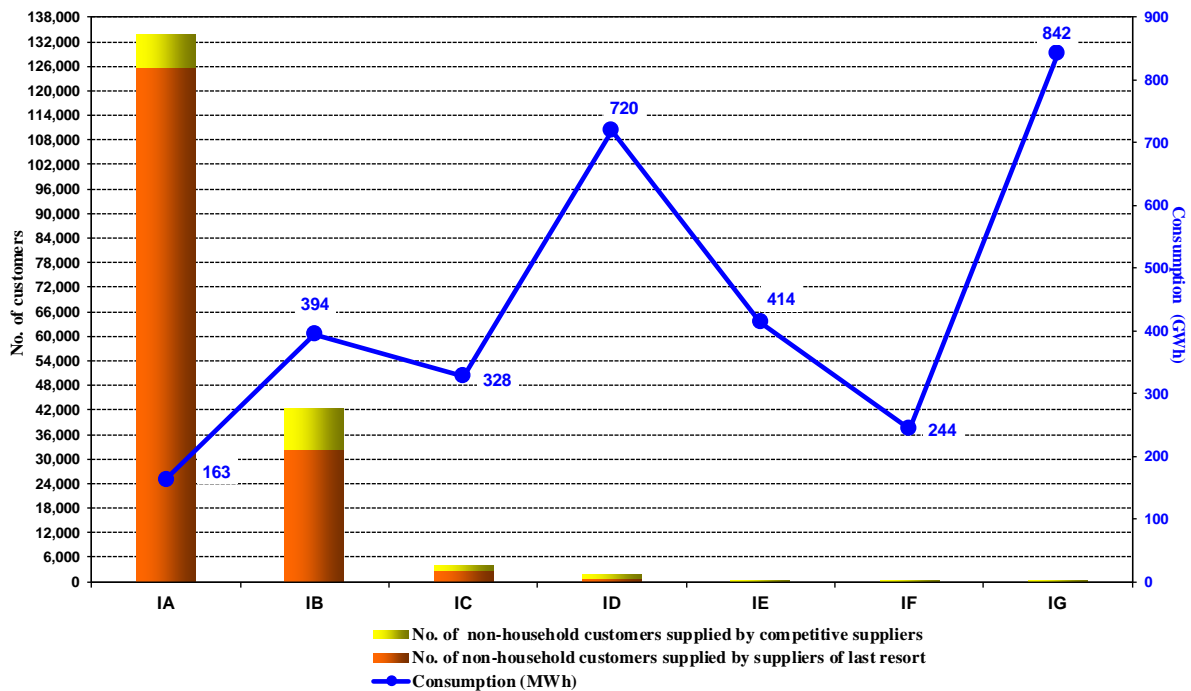
Source: Monthly reports of competitive suppliers – Electricity Market Monitoring Unit assessment

Electricity sales under competitive conditions to households between April 2017 and July 2019 are shown in the following graph:



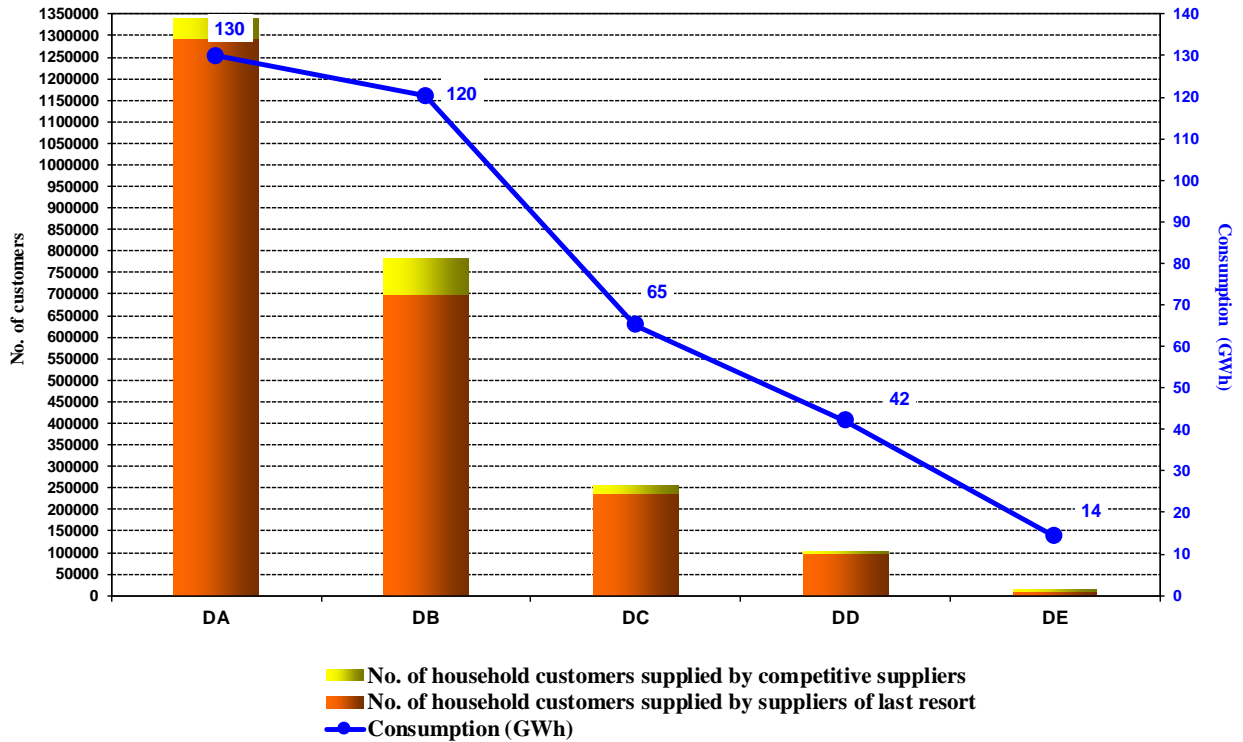
Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

Number of non-household clients on the competitive market and their consumption broken down into consumption bands and type of supplier -JULY 2019-



Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

Number of households on the competitive market and their consumption broken down into consumption bands and type of supplier
- JULY 2019 -

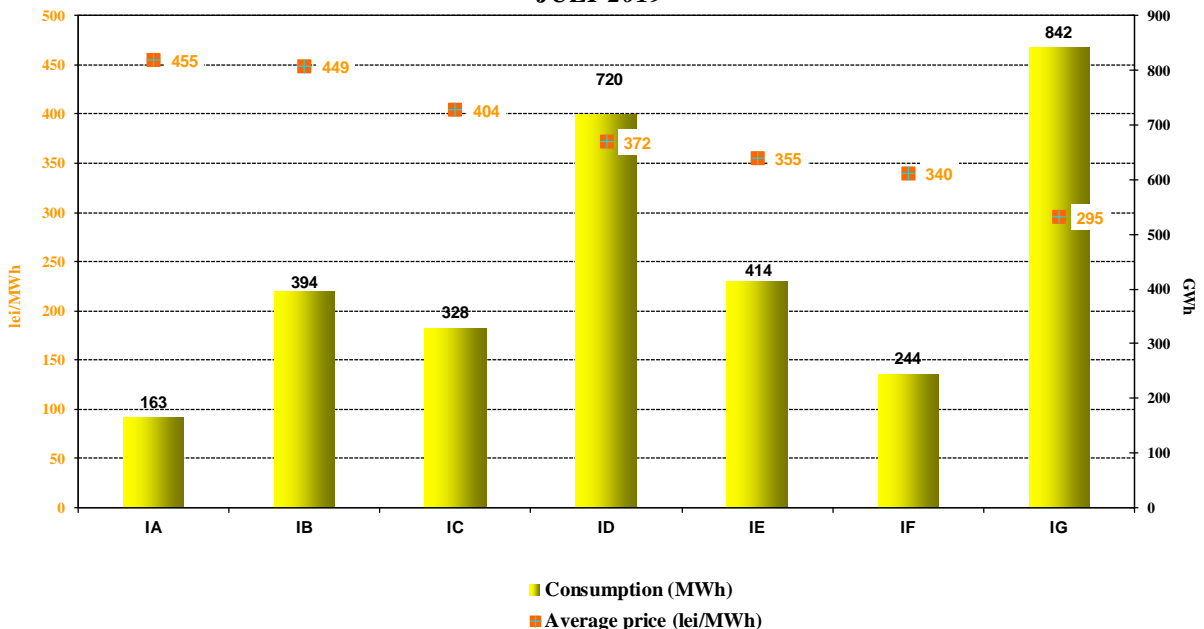


Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

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

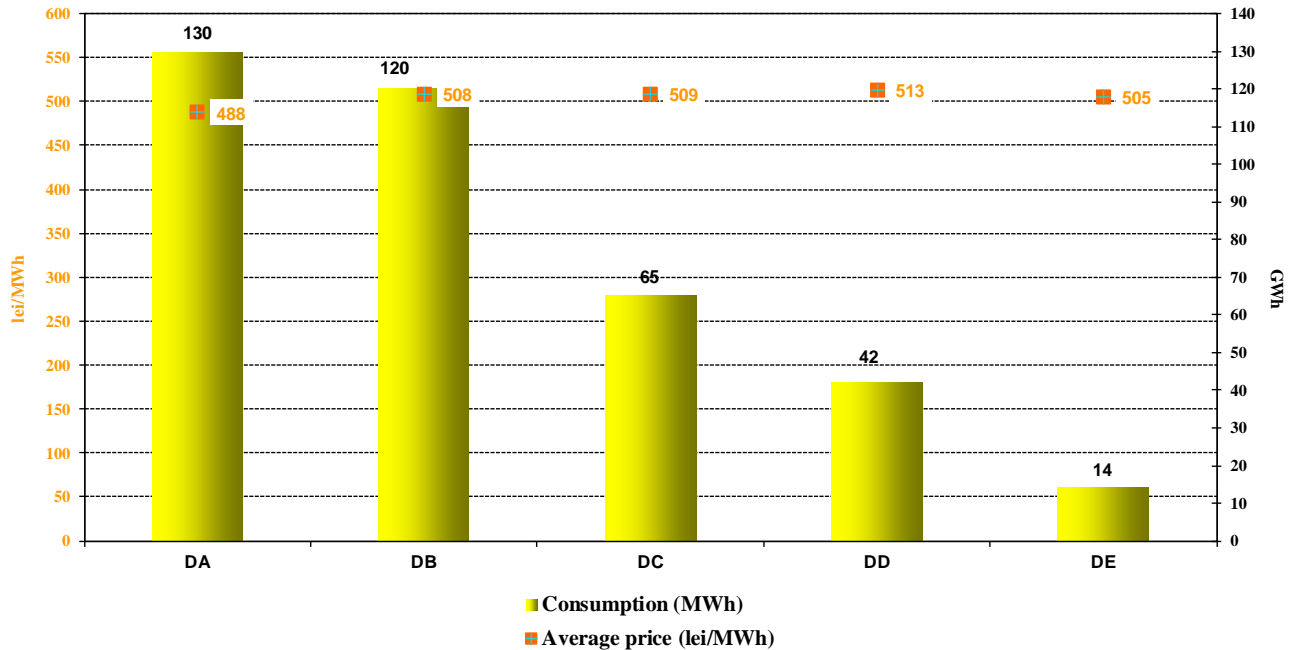
The following graphs present the average selling prices for July 2019 to households and non-household final clients supplied on the competitive market, based on the structure defined according to the Regulation (EU) no. 2016/1952.

Average price and electricity consumption broken down on consumption bands for non-household customers on the competitive segment of REM
- JULY 2019-



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

**Average price and electricity consumption broken down on consumption bands for household customers on the competitive segment of REM
- JULY 2019 -**



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

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.

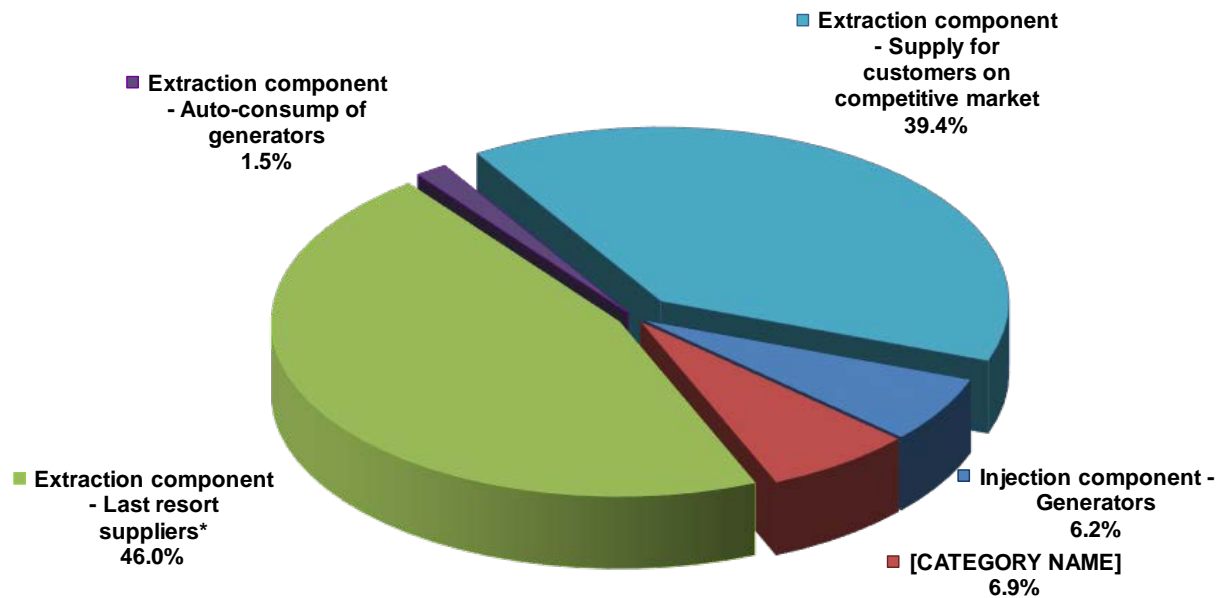
IV. TRANSMISSION AND SYSTEM OPERATOR CNTEE TRANSELECTRICA SA

TSO performs the electricity transmission service at regulated tariffs. Starting with July 2017, the tariff setting methodological principles 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.

The following graph presents the structure of the revenues for July 2019, following the provision of the transmission service.

**CNTEE Tranelectrica SA structure of revenues from transmission services
- JULY 2019-**



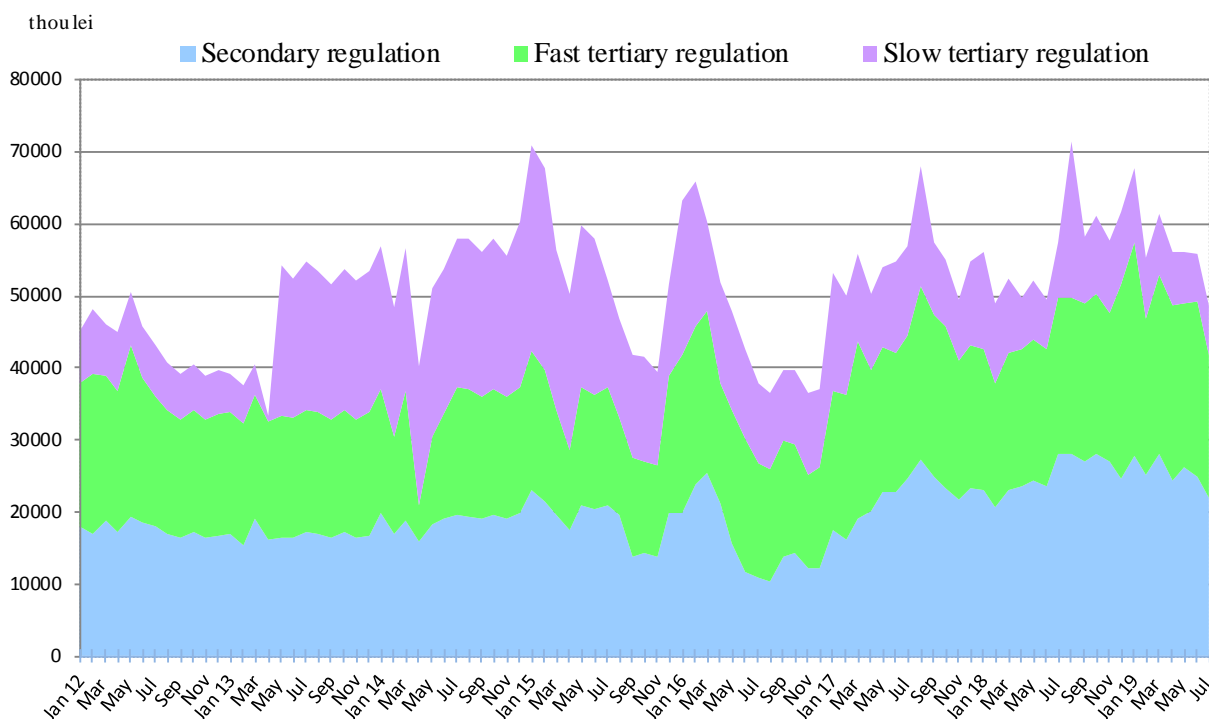
* for electricity extracted from their own licence areas as well as from other areas

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

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

In order to perform the system operator tasks, CNTEE Tranelectrica SA provides and contracts reserves (ancillary services) from qualified market participants, which are integrated on the BM. The ancillary services which may be used are reserves for secondary, fast tertiary, slow tertiary and reactive energy. 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 – Electricity Market Monitoring Unit assessment

V. MARKET RULES EVOLUTION IN JULY 2019

In July 2019, ANRE issued the following regulations with an impact on the wholesale and retail markets:

- ANRE President Order no. 159/10 July 2019 on the modification and completion of the Regulation for the qualification of electricity production in high-efficiency cogeneration and on the verification and monitoring of fuel consumption and of the electricity production and useful thermal energy, in high-efficiency cogeneration, approved by ANRE President Order no. 114/2013;
- ANRE President Order no. 160/10 July 2019 approving the Regulation on the functioning of the Centralized market for electricity from renewable energy sources supported by green certificates;
- ANRE President Order no. 167/24 July 2019 approving the Retail Market Monitoring Methodology;
- ANRE President Order no. 168/24 July 2019 on the modification and completion of the Regulation for the organization and conduct of the investigation activity in the field of energy regarding the wholesale energy market functioning, approved by ANRE President Order no. 25/2017;
- ANRE President Order no. 169/24 July 2019 on the modification of the Regulation to determine, notify and sanction the breaches from the regulations issued in the field of energy applicable to the investigation activity carried out by the Energy Regulatory Authority, approved by ANRE President Order no. 62/2013;
- ANRE President Decision no. 1310/17 July 2019 on the approval of the quantities produced in high efficiency cogeneration units that benefit from the bonus scheme for the month of June 2019.

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
- PCSU – 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
- NTC - Net Transfer Capacity