ELECTRICITY MARKET MONITORING REPORT

MARCH 2019

- This document represents an unauthorised translation of the Romanian document -

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

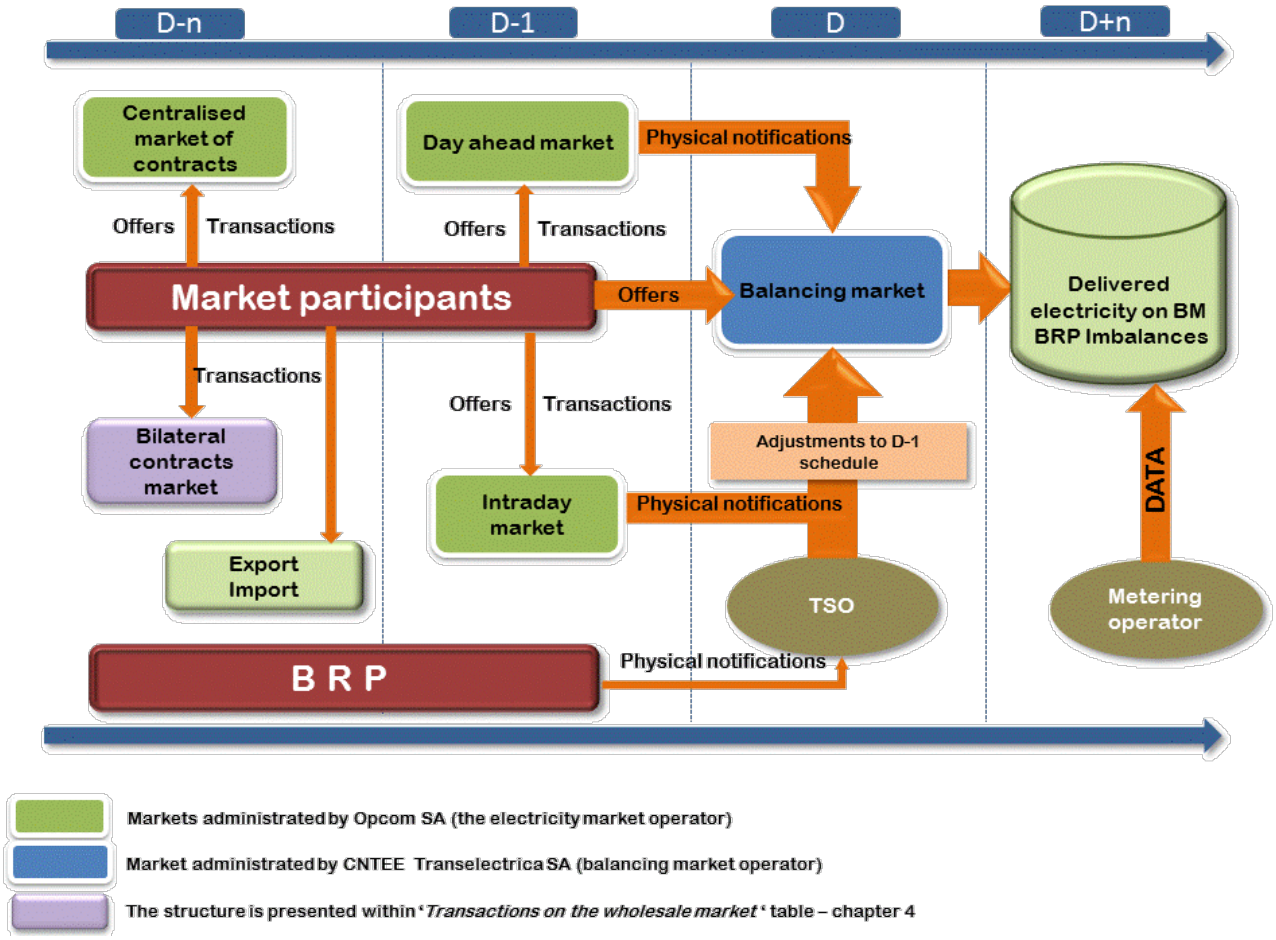
- **GD 365/1998** – vertically integrated monopol – RENEL – was split into separated distribution and supply companies (SC Electrica SA) and generation companies (SC Termoelectrica SA and SC Hidroelectrica SA) were established within a new company - CONEL SA. Two other electricity generators (SN Nuclearelectrica 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 disolved;
- **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;
  - compulsory balancing market. with TSO as single counterparty;
  - financial responsibilities of the balancing are allocated to the BRP;
- **GD 644/2005** – electricity market opens 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 negociation;
- **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 interconections 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 obtaines 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 obtaines 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 Transelectrica 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 nonhousehold clients who do not use their eligibility rights;

- **August 2014** – CNTEE Transelectrica 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*



2. Wholesale electricity market participants

Market participants* active on the electricity market in March 2019 are presented below, split into categories:

No.	Category
A	***Electricity generators on classic sources operating dispatching units***
1	Bepco SRL
2	CET Arad SA
3	CET Govora SA
4	CE Hunedoara SA
5	CE Oltenia SA
6	Contour Global Solutions SRL
7	Ecogen Energy SA
8	Electrocentrale Bucureşti SA
9	Electrocentrale Galaţi SA
10	Electro Energy Sud SRL
11	Enet Focsani SA
12	Lukoil Energy & Gaz Romania SRL
13	Modern Calor SA
14	OMV Petrom SA
15	Rulmenti SA
16	SNGN Romgaz SA
17	Termoficare Oradea SA
18	Veolia Energie Iaşi SRL
19	Veolia Energie Prahova SRL
20	Vest Energo SA
B	***Electricity generators on wind source operating dispatching units***
1	Alizeu Eolian SA
2	Arinna Development SRL
3	Blue Line Energy SRL
4	Blue Planet Investments SRL
5	Braila Winds SRL
6	Bridgeconstruct SRL
7	Catalan Electric SRL
8	Cernavoda Power SRL
9	Corni Eolian SRL
10	Crucea Wind Farm SRL
11	Dan Holding MGM SRL
12	Eco Power Wind SRL
13	Ecoenergia SRL
14	EDPR Romania SRL
15	Electrica Serv SRL
16	Electricom SA
17	Elektra Green Power SRL
18	Elektra Wind Power SRL
19	Enel Green Power Romania SRL
20	Energia Verde Ventuno SRL
21	Enex SRL
22	Eol Energy SRL
23	Eol Energy Moldova SRL
24	Eolian Center SRL
25	Eolica Dobrogea One SRL
26	EP Wind Project (ROM) SIX SA
27	Eviva Nalbant SRL
28	Ewind SRL
29	General Concrete Cernavoda SRL
30	Green Energy Farm SRL
31	Ground Investment Corp SRL
32	Holrom Renewable Energy SRL
33	Horia Green SRL
34	Intertrans Karla SRL
35	Kelavent Charlie SRL
36	Kelavent Echo SRL
37	Land Power SRL
38	LC Business SRL
39	M&M 2008 SRL
40	Mireasa Energies SRL
41	East Wind Farm SRL
42	Ovidiu Development SRL
43	Peştera Wind Farm SRL
44	Romconstruct Top SRL
45	Sibioara Wind Farm SRL
46	Smart Clean Power SRL
47	Smartbreeze SRL
48	Soft Grup SRL
49	Tomis Team SRL
50	Verbund Wind Power Romania SRL
51	Wind Park Invest SRL
52	Windfarm MV I SRL
53	VS Wind Farm SRL
No.	**Category**
C	***Electricity generators on biomass source operating dispatching units***
1	Bioenergy Suceava SRL

No.	Category
D	***Electricity generators on solar source operating dispatching units***
1	Blue Sand Investment SRL
2	Caracal Solar Alpha SRL
3	Casa Crang SRL
4	Clue Solar SRL
5	Corabia Solar SRL
6	Cujmir Solar SRL
7	Delta & Zeta Energy SRL
8	Ecosfer Energy SRL
9	Energo Proiect SRL
10	Eye Mall SRL
11	Fort Green Energy SRL
12	Foton Epsilon SRL
13	Gama & Delta Energy SRL
14	GPSB Solaris 48 SRL
15	Greenlight Solution SRL
16	Green Vision Seven
17	Kentax Energy SRL
18	Lemar Grup SRL
19	LJG Green Source Energy Alpha SA
20	LJG Green Source Energy Beta SRL
21	LJG Green Source Energy Gamma SRL
22	Long Bridge Milenium SRL
23	Mar-Tin Solar Energy SRL
24	Potelu Solar SRL
25	Power L.I.V.E. One SRL
26	RA-RA PARC SRL
27	Romkumulo SRL
28	Simico Prod Factory SRL
29	Skybase Energy SRL
30	Solar Electric Frasinet SRL
31	Solar Future Energy SRL
32	Solaria Green Energy SRL
33	Solprim SRL
34	Spectrum Tech SRL
35	Studina Solar SRL
36	Sun Energy Complet SA
37	Tis Energy SRL
38	Tinmar Green Energy SRL
39	Urdel Enery SRL
40	Vanju Mare Solar SRL
41	Varokub Energy Development SRL
42	VIR Company International SRL
43	VIS Solaris 2011 SRL
44	Vrish Pro Investments SRL
45	Warehouses de Paw Romania
46	Xalandine Energy SRL
47	XPV SRL
E	***Electricity generators on hydro source operating dispatching units***
1	Hidroelectrica SA
F	***Electricity generator on nuclear source operating dispatching units***
1	SN Nuclearelectrica SA
G	***Transmission System Operator***
1	CNTEE TRANSELECTRICA SA
H	***Market Operator for DAM, Intra-Day, Centralised Markets - CMBC-EA, CMBC-CN, CMBC-FP, CM-OTC, CMUS***
1	OPCOM SA
I	***Distribution operators***
1	Distributie Energie Oltenia
2	Delgaz Grid
3	E-Distributie Banat
4	E-Distributie Dobrogea
5	E-Distributie Muntenia
6	SDEE Muntenia Nord
7	SDEE Transilvania Nord
8	SDEE Transilvania Sud
J	***Suppliers of Last Resort***
1	CEZ Vanzare SA
2	ENEL Energie SA
3	E.ON Energie Romania SA
4	ENEL Energie Muntenia SA
5	Electrica Furnizare SA

No.	Category
K	***Electricity Suppliers acting exclusively on the wholesale market***
1	Axpo Energy Romania SRL
2	CEZ as
3	Danske Commoditiesa/s Aarhus
4	EDF Trading Limited
5	Energo-Pro Trading EAD
6	Elpetra Energy E.A.D.
7	Energi Danmark A/S
8	Energy Supply D.O.O
9	Eolian Project SRL
10	EVN Trading South East Europe
11	Ezpada AG
12	Ezpada SRO
13	Flavus Investiţii SRL
14	Freepoint Commodities Europe Ltd
15	GEN I trgovanje in prodaja elektricne energije doo
16	Holding_ Slovenske_ Elektrarne
17	Interenergo Energetski, Inzeniring d.o.o.
18	Lord Energy SRL
19	Met RO NRG
20	MVM Partner Zrt
21	Neptun SA
22	Nis Petrol SRL
23	OMV Gas Marketing & Trading GmbH
24	Petrol, Slovenska energetska druzba
25	Photovoltaic Green Project SRL
26	Statkraft Markets GmbH
27	Verbund Trading Romania SRL
L	***Electricity Suppliers acting also on the retail market***
1	Absolute Energy SRL
2	Aderro G.P. Energy SRL
3	A Energy Ind SRL
4	Alive Capital SRL
5	Alro SA
6	ArcelorMittal SA
7	Aqua Energia SA
8	Anchor Grup SA
9	Apuron Energy SRL
10	Cotroceni Park SA
11	Crest Energy SRL
12	CYEB SRL
13	EFT Furnizare SRL

No.	Category
	Electricity Suppliers acting also on the retail market
14	Elcata MHC SRL
15	Energia Gas & Power SRL
16	Energy Trade Activ SRL
17	Electric Planners SRL
18	Electrificare CFR SRL
19	Elsid SA
20	Electrocarbon SA
21	Electromagnetica SA
22	Enel Trade Romania SRL
23	Energy Distribution Services SRL
24	Engie Romania SA
25	Enol Grup SA
26	Entrex Services SRL
27	Eolian Generator SRL
28	GDM Logistic SRL
29	Getica 95 Com SRL
30	Grenerg SRL
31	Hermes Energy International SRL
32	ICCO Energ SRL
33	ICPE Electrocond Technologies SA
34	Imperial Development SRL
35	Industrial Energy SA
36	Izvor de Lumina SRL
37	Luxten LC SA
38	Menarom PEC SRL
39	MET Romania Energy SA
40	Monsson Trading SRL
41	Next Energy Parteners SRL
42	Nova Power&Gas SRL
43	P.C. Management & Consulting SRL
44	Plenerg SRL
45	Power Clouds SRL
46	QMB Energ SRL
47	RCS&RDS SA
48	Renovatio Trading SRL
49	Restart Energy One SRL
50	Romelectro SA
51	Stock Energy SRL
52	Tinmar Energy SA
53	Transenergo Com SA
54	Transformer Energy Supply SRL
55	Uzinsider General Contractor SA
56	Veolia Energie România SA
57	Werk Energy SRL

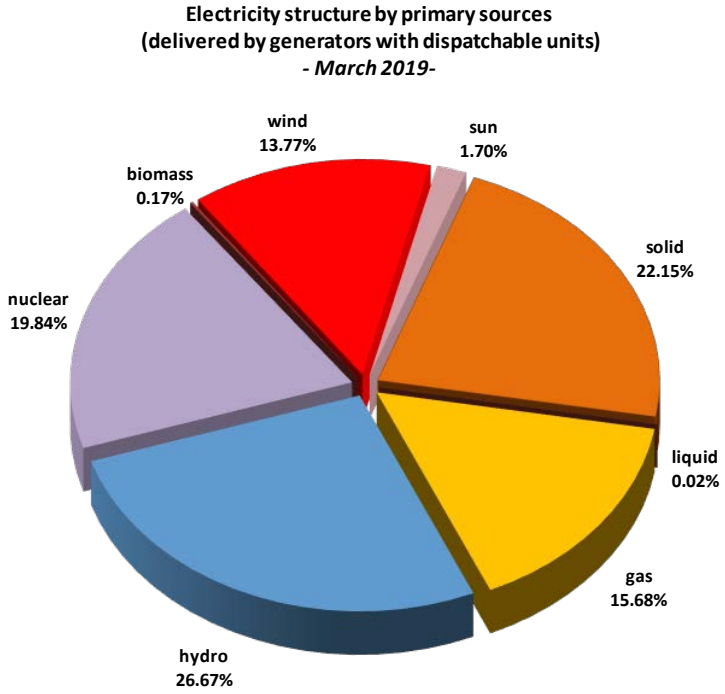
*The electricity market participants report to ANRE technical/commercial data according to the *Methodology for wholesale electricity market monitoring*, approved by ANRE Order no. 67/2018, as well as according to the *Methodology for retail electricity market monitoring*, approved by ANRE Order no. 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 President 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.

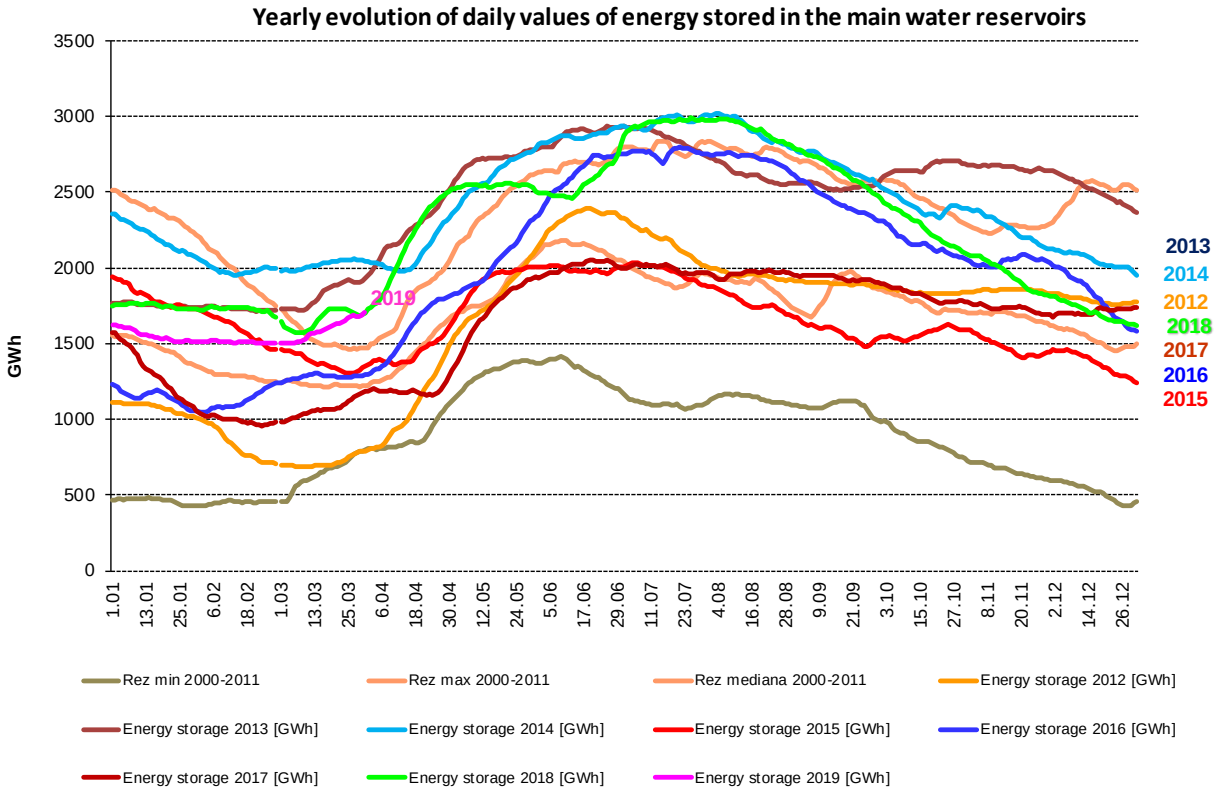
The category of electricity suppliers acting exclusively on the wholesale market includes electricity supply licensees that are active only on the wholesale market and electricity trading licensees with licenses issued according to ANRE Order no. 13/2015 for the approval of the „General conditions associated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

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



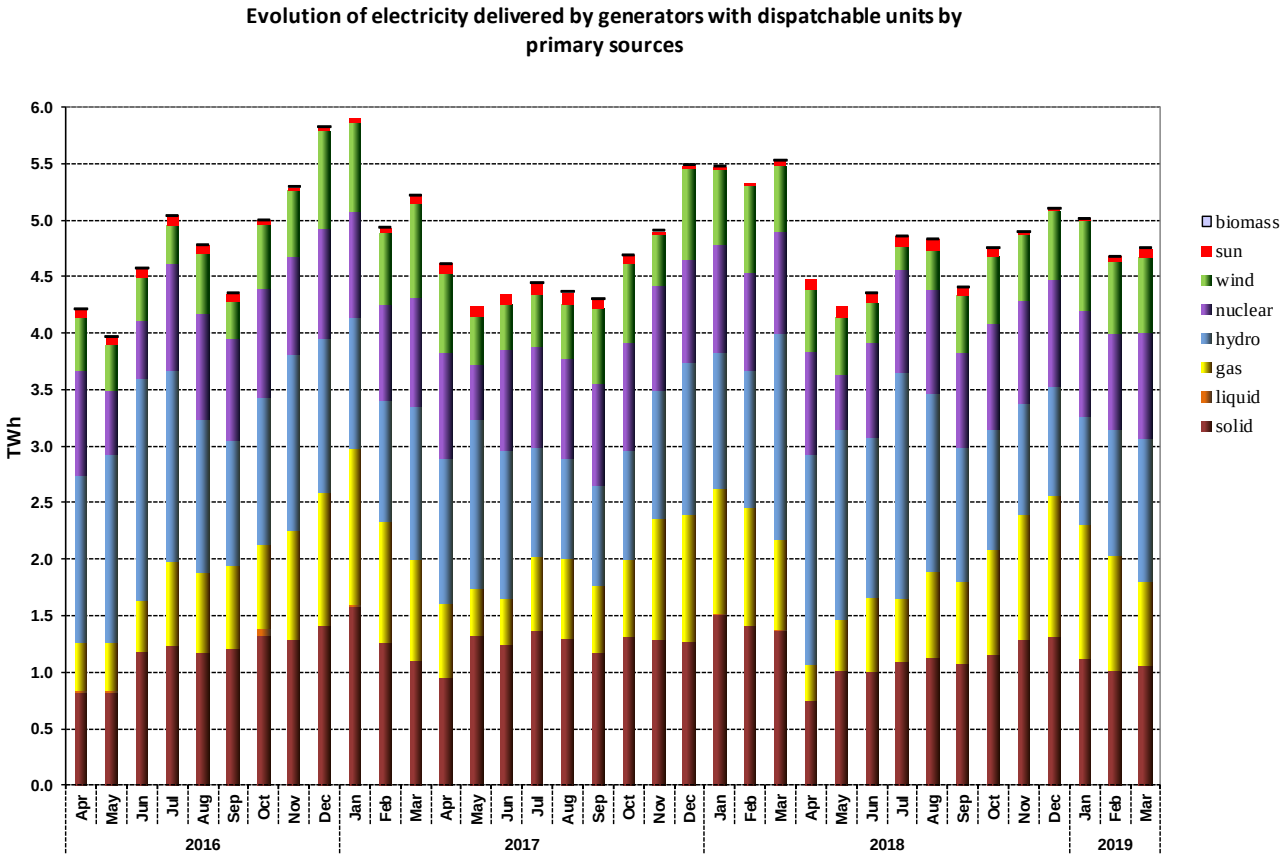
Source: Monthly reports of producers – Electricity Market Monitoring Unit assessment

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 March 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 March 2019, compared to the data for the similar period of 2018:

Nr. crt.	INDICATOR	UM	Mar 2018	Mar 2019	%	Jan-Mar 2018	Jan-Mar 2019	%
0	1	2	3	4	5=4/3*100	6	7	8=7/6*100
1	Generated electricity	TWh	5.89	5.07	86.08	17.44	15.45	88.59
2	Delivered electricity	TWh	5.53	4.76	86.08	16.35	14.48	88.56
3	Import	TWh	0.22	0.29	131.82	0.63	1.13	179.37
4	Export	TWh	0.56	0.32	57.14	1.83	0.86	46.99
5	Internal consumption (2+3-4)	TWh	5.19	4.73	91.14	15.15	14.75	97.36
6	Consumption of household customers:	TWh	1.17	1.12	95.73	3.44	3.46	100.58
6.1	*- on Universal Service regime*	*TWh*	*0.95*	*0.73*	*76.84*	*2.81*	*2.31*	*82.21*
6.2	*- on the competitive market*	*TWh*	*0.22*	*0.39*	*177.27*	*0.63*	*1.15*	*182.54*
7	Consumption of non-household customers:	TWh	3.34	3.12	93.41	9.43	9.33	98.94
7.1	*- on universal service and last resort regime and inactive clients*	*TWh*	*0.10*	*0.09*	*90.00*	*0.29*	*0.27*	*93.10*
7.2	*- on the competitive market*	*TWh*	*3.24*	*3.03*	*93.52*	*9.14*	*9.06*	*99.12*
8	Transmission–Injection component	TWh	5.41	4.66	86.14	16.02	14.17	88.45
9	Transmission–Extraction component	TWh	5.16	4.77	92.44	15.00	14.68	97.87
10	Actual transmission grid losses	TWh	0.13	0.09	69.23	0.34	0.26	76.47
11	Heat generated for delivery	Tcal	1795.73	1308.69	72.88	5445.18	4759.71	87.41
12	Heat in co-generation	Tcal	1307.75	1022.70	78.20	4025.00	3568.44	88.66

Notes:

1. The produced energy and the delivered energy are presented in accordance with the reports sent by electricity generation licensees 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 Transelectrica SA with neighboring 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 Universal Service is ensured under a regulated regime by suppliers of last resort (according to ANRE Order no. 11/2019).

4. The structure of trades on the wholesale electricity market

The size of wholesale market depends on the sum of all trades performed by the market players, exceeding the quantities 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, organised by Opcom SA, the only ANRE licensee for the 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, 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.

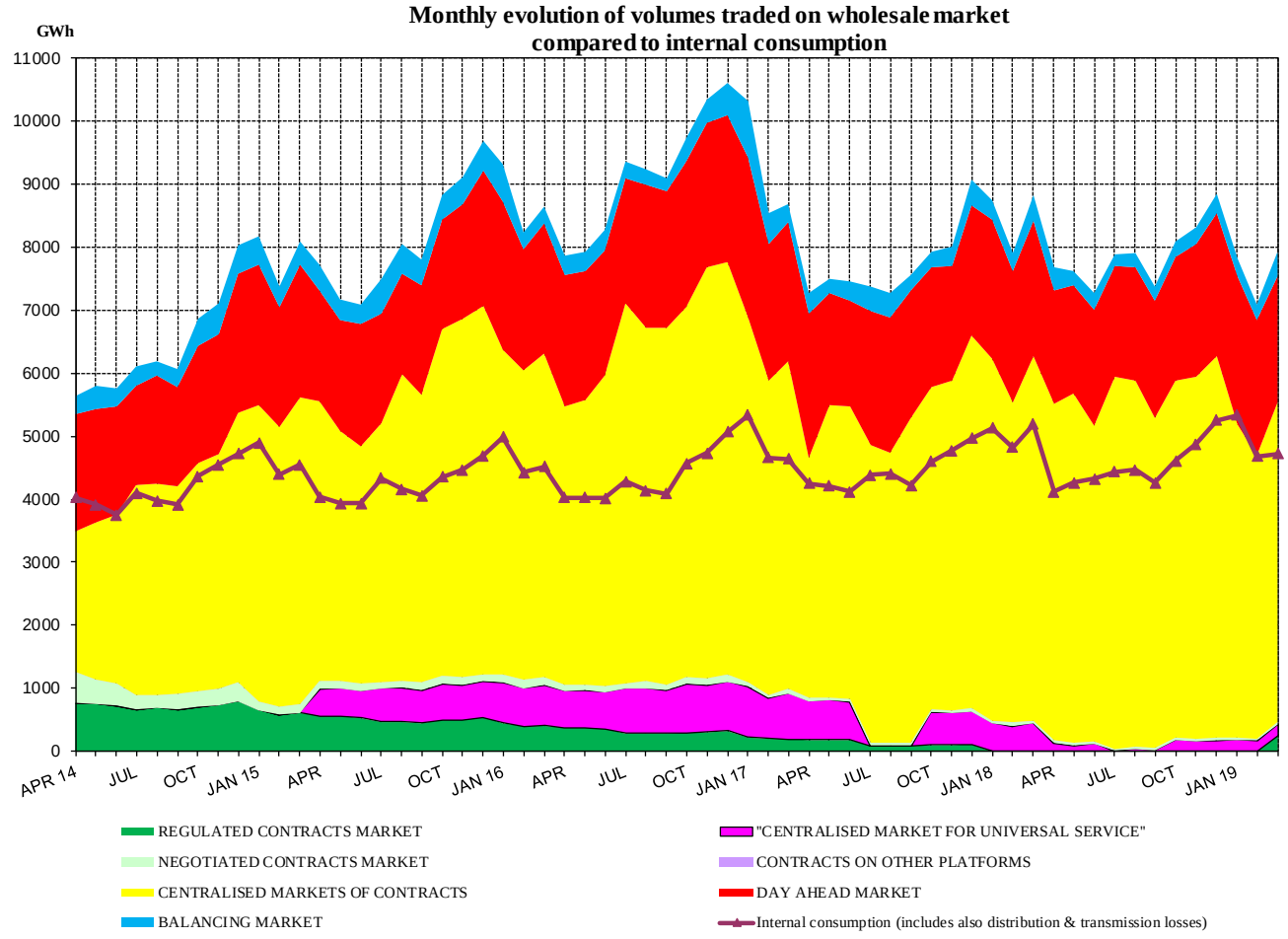
WHOLESALE MARKET TRADES	February 2019	March 2019	March 2018
1. BILATERAL CONTRACTS' MARKET			
traded volume (GWh)	**22**	**276**	**42**
average price (lei/MWh)	169.75	150.28	141.18
% from internal consumption (%)	0.5	5.8	0.8
1.1. Sales on regulated contracts			
traded volume (GWh)		**252**	
average price (lei/MWh)	-	148.05	-
% from internal consumption (%)		5.3	
1.2. Sales on negotiated contracts[1)]			
traded volume (GWh)	**22**	**23**	**42**
average price (lei/MWh)	169.75	174.52	141.18
% from internal consumption (%)	0.5	0.5	0.8
2. EXPORT			
traded volume (GWh) [2)]	**306**	**321**	**559**
average price (lei/MWh)	200.90	171.53	152.37
% from internal consumption (%)	6.5	6.8	10.8
3. CENTRALIZED MARKETS OF BILATERAL CONTRACTS			
traded volume (GWh)	**4508**	**5079**	**5792**
average price (lei/MWh)	245.53	239.26	189.58
% from internal consumption	96.1	107.5	111.5*
3.1. Extended auction mechanism CMBC-EA[3)]			
traded volume (GWh)	**1519**	**1661**	**2081**
average price (lei/MWh)	232.54	232.35	181.62
% from internal consumption	32.4	35.1	40.1
3.2. Continuous negotiation mechanism CMBC-CN [3)]			
traded volume (GWh)	**1308**	**1380**	**1316**
average price (lei/MWh)	241.68	236.14	206.20
% from internal consumption	27.9	29.2	25.3
3.3. CM-OTC mechanism [3)]			
traded volume (GWh)	**1682**	**2039**	**2395**
average price (lei/MWh)	260.25	247.00	187.36
% from internal consumption	35.9	43.2	46.1
4. CENTRALIZED MARKET FOR UNIVERSAL SERVICE - CMUS			
traded volume (GWh)	**168**	**178**	**444**
average price (lei/MWh)	293.88	292.59	249.67
% from internal consumption	3.6	3.8	8.5
5. DAY AHEAD MARKET			
traded volume (GWh)	**2139**	**2013**	**2141**
average price (lei/MWh) [4)]	230.79	182.78	156.00
% from internal consumption	45.6	42.6	41.2
6. INTRADAY MARKET			
traded volume (GWh)	**38**	**40**	**20.7**
average price (lei/MWh) [5)]	153.91	154.52	130.92
% from internal consumption	0.8	0.8	0.4
7. BALANCING MARKET			
traded volume (GWh)	**256**	**374**	**419**
% from internal consumption	5.5	7.9	8.1
upward volume (GWh)	**59**	**58**	**320**
average price for negative imbalance (lei/MWh)	598.28	531.86	270.35
downward volume (GWh)	**197**	**316**	**99**
average price for positive imbalance (lei/MWh)	10.85	6.08	24.42
INTERNAL CONSUMPTION (GWh) (*distribution and transmission losses included*)	**4682***	**4725**	**5193***

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 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 189.77 lei/MWh in March 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.*

*Note: * The differences from the March 2018 Electricity Market Monitoring Report are determined by the corrections reported by the market participants that were included in the current report.*

The percentage of electricity volumes traded form 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.

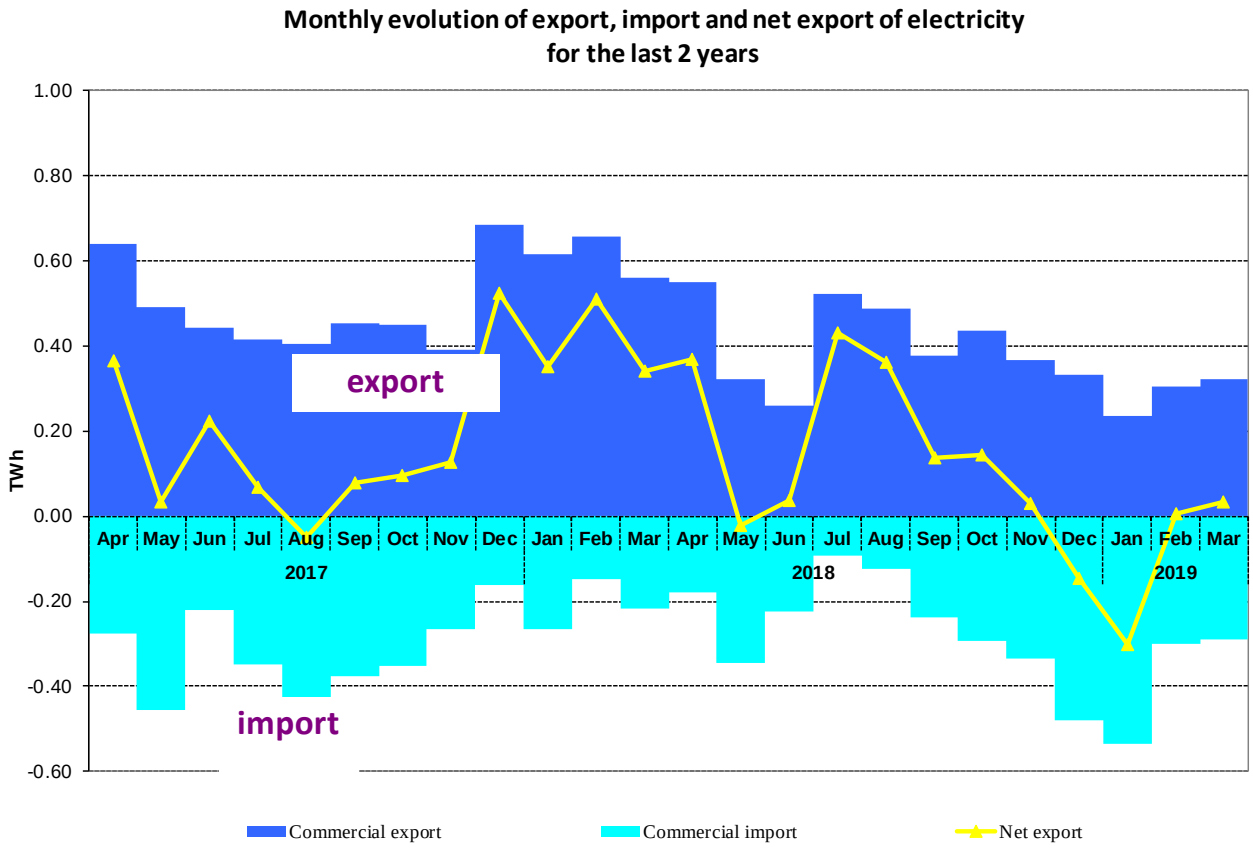
The following graph presents the evolution, starting with April 2014, of the relation between the volumes sold on each market and the estimated internal consumption.



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 negociated 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:

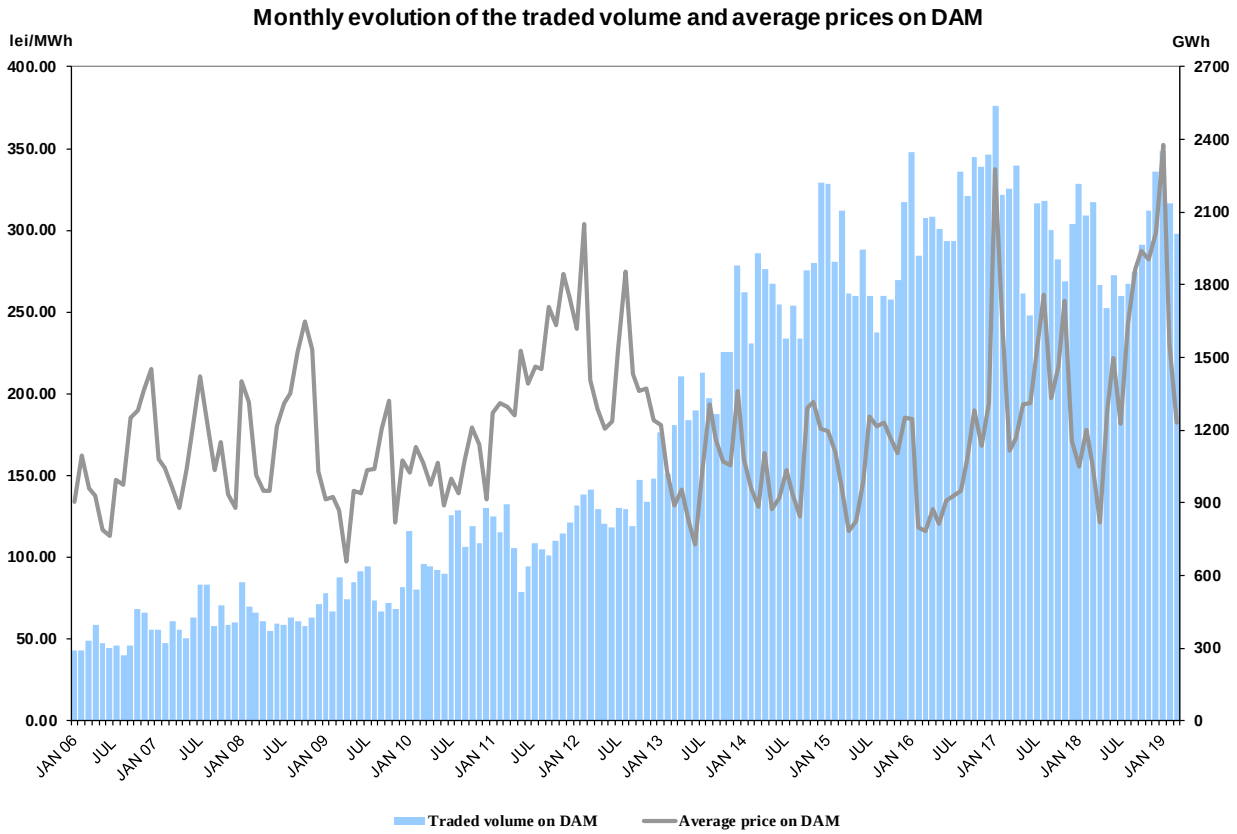


Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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	February 2019	March 2019	March 2018
Export			
traded volume (GWh)	**306**	**321**	**559**
average price (lei/MWh)	200.90	171.53	152.37
% from internal consumption	6.5	6.8	10.8
of which, through coupled DAM			
traded volume (GWh)	**149**	**104**	**150**
average price (lei/MWh)	191.94	172.52	137.52
% from internal consumption	3.2	2.2	2.9
Import			
traded volume (GWh)	**301**	**290**	**217**
average price (lei/MWh)	253.51	213.87	186.80
% from internal consumption	6.4	6.1	4.2
of which, through coupled DAM			
traded volume (GWh)	88	**107**	**72**
average price (lei/MWh)	286.26	186.88	166.00
% from internal consumption	1.9	2.3	1.4

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



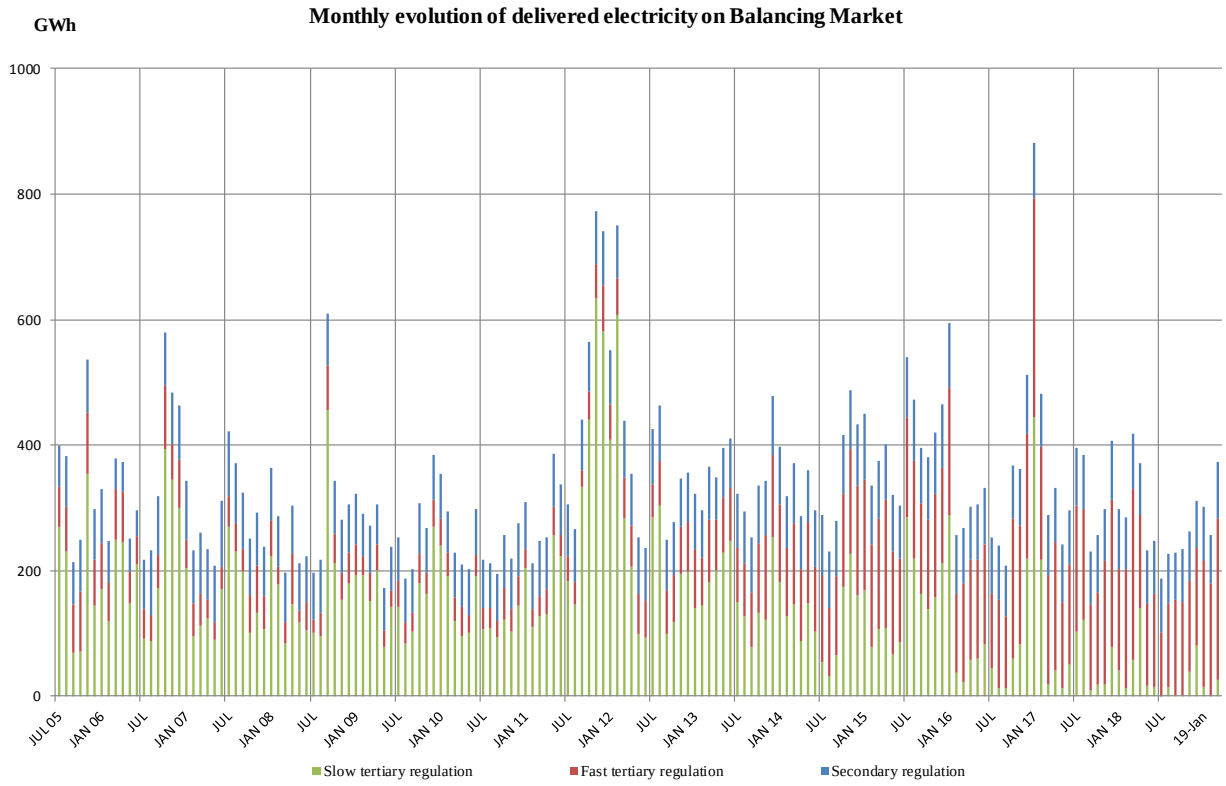
Source: Monthly reports of Opcom SA and CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

Balancing electricity is determined by the dispatch orders (accepted offers) received by generators. After settlement, the actual electricity delivered by generators on the balancing market is determined based on the measured (approved) values; the relation between the selected and delivered electricity in March 2019 is presented in the following table:

March 2019	Dispach order (GWh)	Delivered electricity (GWh)	Deviation (%)
Secondary regulation	**91**	**91**	
upward	30	30	
downward	61	61	
Fast tertiary regulation	**268**	**257**	**4**
upward	29	28	3
downward	239	229	4
Slow tertiary regulation	**27**	**25**	**0**
upward	0	0	0
downward	27	25	0
TOTAL	**386**	**374**	
upward	59	58	
downward	327	316	
INTERNAL CONSUMPTION		**4725**	
% share of traded volumes from internal consumption		***7.9%***	

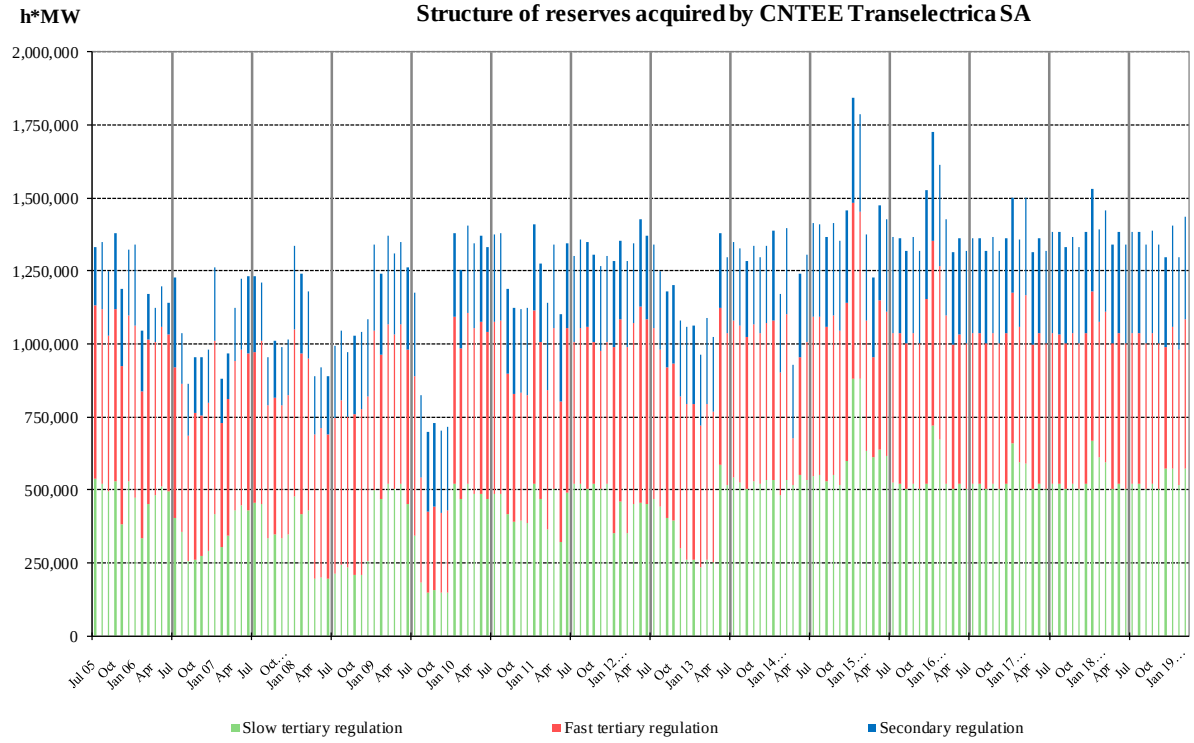
Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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:



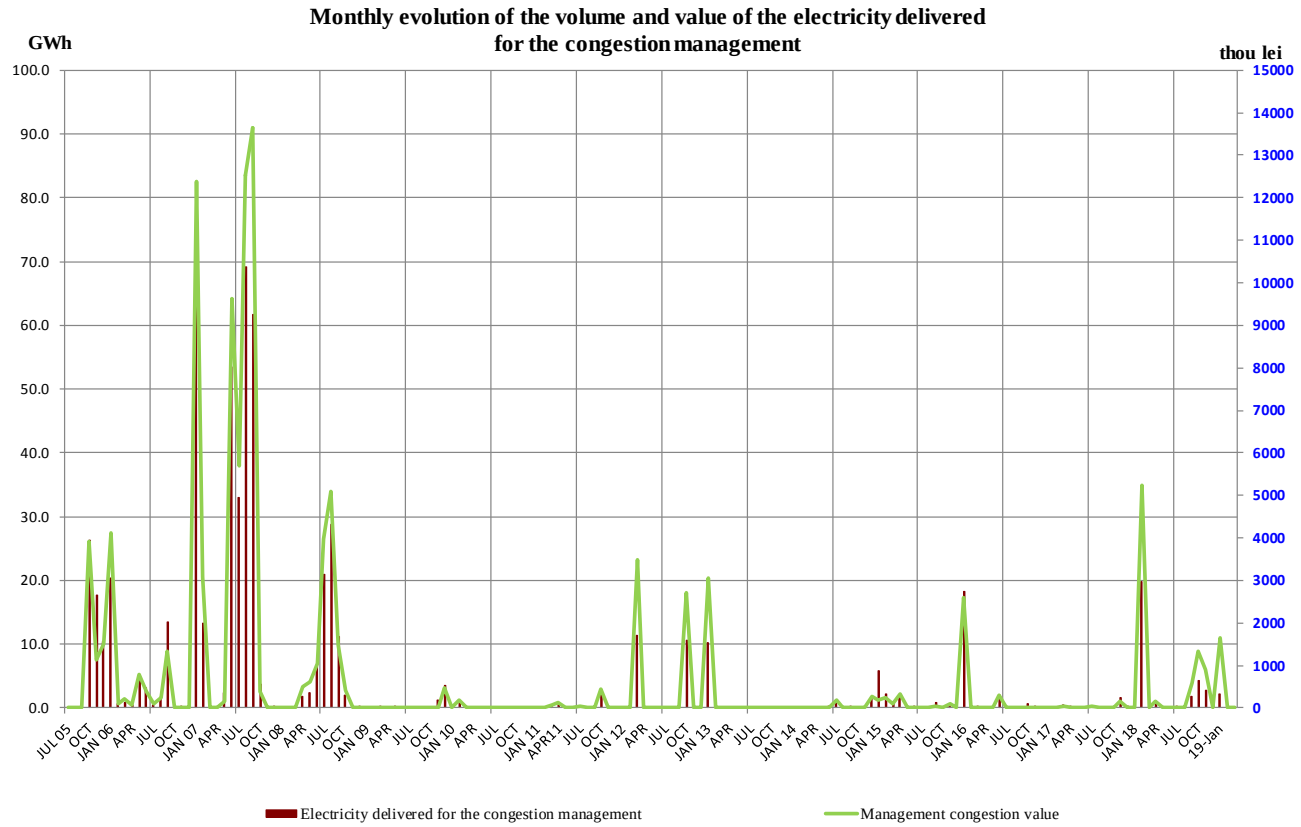
Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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 Transelectrica S.A. for the period July 2005 - March 2019:



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

The following graph presents the monthly evolution of the electricity traded by CNTEE Transelectrica 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 Transelectrica SA – Electricity Market Monitoring Unit assessment

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

Producers

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

-GWh-

Trade type	March 2018	March 2019
Regulated with last resort suppliers, thermal, hydro and nuclear producer	-	252.37
Negotiated contracts, to suppliers	42.38	23.21
Contracts concluded on the Opcom centralized markets:	3752.04	3158.42
CMBC-EA	*1829.55*	*1558.46*
CMBC-CN	*850.18*	*903.37*
CM-OTC	*1072.31*	*696.59*
CMUS	425.13	137.47
DAM	1338.23	1384.60
ID	9.00	33.89
Supply contracts to final customers, from which:	505.65*	433.51
Households	*0.34*	*0.31*
Non-households	*505.31**	*433.20*
Total	**6072.72***	**5423.47**

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

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

Suppliers

In March 2019, on the electricity market there were active 89 undertakings having as the main activity that of electricty supply; out of these, 27 are suppliers that only operate on the wholesale electricity market (some of which have a license for electricity trading) and 62 are suppliers that are also active in 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 March 2019, compared to the similar period in 2018:

-GWh-

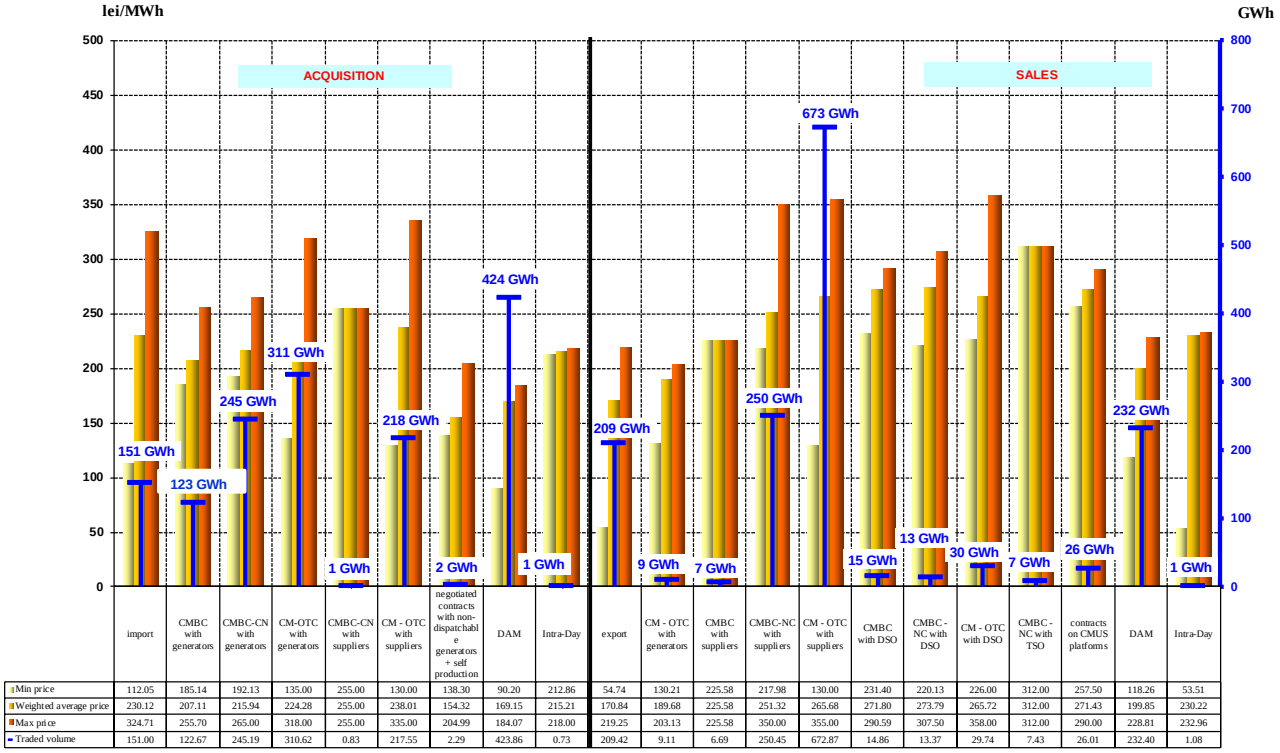
Trades structure of suppliers acting exclusively on WEM	**March 2018**	**March 2019**
Buy		
Import	133.65	151.00
Contracts concluded on Opcom centralized markets, out of which:	1316.11	896.03
- *on CMBC-EA with producers*	*89.74*	*122.67*
- *on CMBC-CN with producers*	*183.08*	*245.19*
- *on CM-OTC with producers*	*603.59*	*310.62*
- *on CMBC-EA with other suppliers*	*23.19*	*0.0007*
- *on CMBC-CN with other suppliers*	*22.30*	*0.00*
- *on CM-OTC with other suppliers*	*394.21*	*217.55*
- production from its own sources	2.35	2.29
DAM	326.02*	423.86
ID	2.22	0.73
Sell		
Export	366.19	209.42
Contracts concluded on Opcom centralized markets, out of which:	990.73	1004.52
- *on CMBC-EA with producers*	*2.97*	*0.00*
- *on CM-OTC with producers*	*22.88*	*9.11*
- *on CMBC-EA with suppliers*	*38.64*	*6.69*
- *on CMBC-NC with other suppliers*	*195.00*	*250.45*
- *on CM-OTC with other suppliers*	*662.77*	*672.87*
- *on CMBC-EA with DO*	*4.47*	*14.86*
- *on CMBC-CN with DO*	*44.62*	*13.37*
- *on CM-OTC with DO*	*19.39*	*29.74*
- *on CMBC-CN with TSO*	*0.00*	*7.43*
CMUS with last resort suppliers	18.58	26.01
DAM	399.07*	232.40
ID	5.59	1.08

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

*Note: * The differences from the March 2018 Electricity Market Monitoring Report are determined by the corrections reported by the market participants that were included in the current report.*

In addition to the data from the table above, the following graph presents the lowest, average and highest prices by categories of trades concluded by the suppliers acting exclusively on WEM (traders), in March 2019.

Trades concluded by suppliers acting exclusively on WEM
- March 2019 -



	import	CMBC with generators	CMBC-CN with generators	CM-OTC with generators	CMBC-CN with suppliers	CM - OTC with suppliers	negotiated contracts with non-dispatchable generators + self production	DAM	Intra-Day	export	CM - OTC with generators	CMBC with suppliers	CMBC-NC with suppliers	CM - OTC with suppliers	CMBC with DSO	CMBC - NC with DSO	CM - OTC with DSO	CMBC - NC with TSO	contracts on CMUS platforms	DAM	Intra-Day
Min price	112.05	185.14	192.13	135.00	255.00	130.00	138.30	90.20	212.86	54.74	130.21	225.58	217.98	130.00	231.40	220.13	226.00	312.00	257.50	118.26	53.51
Weighted average price	230.12	207.11	215.94	224.28	255.00	238.01	154.32	169.15	215.21	170.84	189.68	225.58	251.32	265.68	271.80	273.79	265.72	312.00	271.43	199.85	230.22
Max price	324.71	255.70	265.00	318.00	255.00	335.00	204.99	184.07	218.00	219.25	203.13	225.58	350.00	355.00	290.59	307.50	358.00	312.00	290.00	228.81	232.96
Traded volume	151.00	122.67	245.19	310.62	0.83	217.55	2.29	423.86	0.73	209.42	9.11	6.69	250.45	672.87	14.86	13.37	29.74	7.43	26.01	232.40	1.08

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 on the structure by market segments/REM participants of total purchases and sales made by these market participants in March 2019 compared with the similar period of 2018:

-GWh -

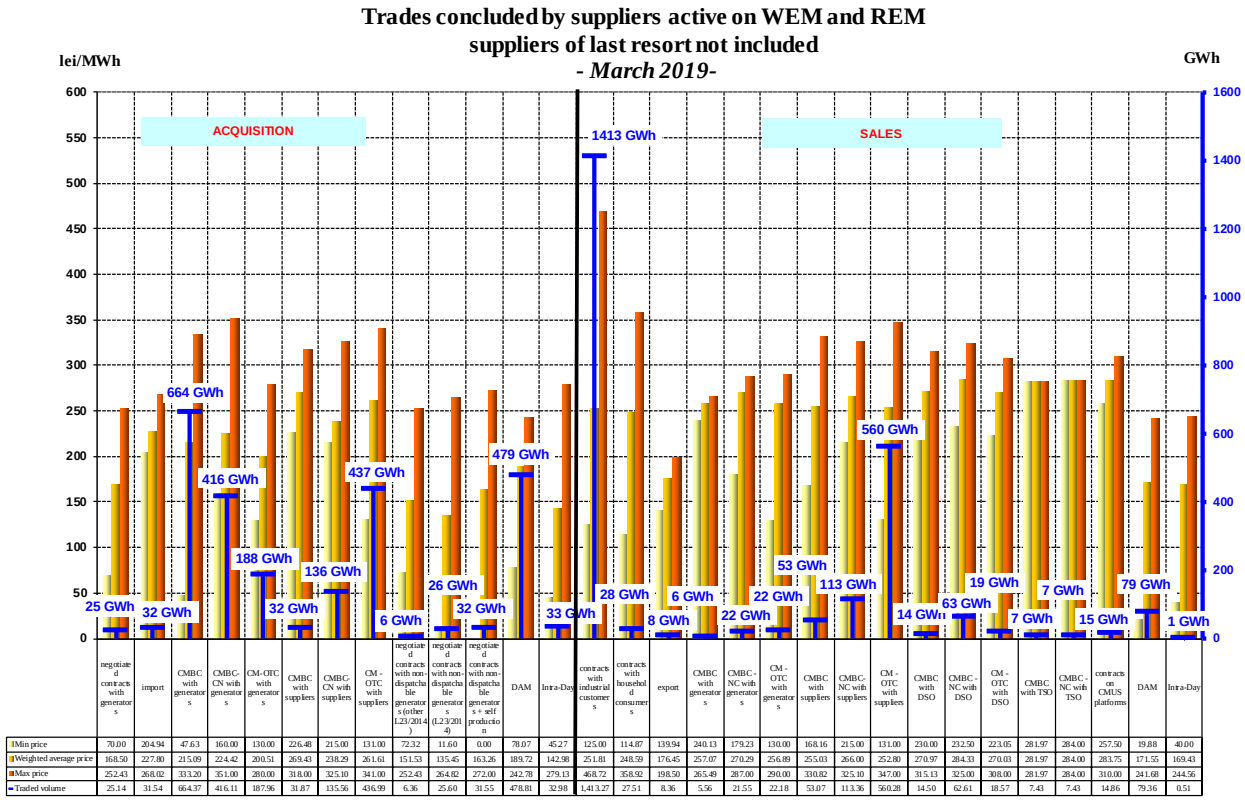
Trades structure of suppliers acting on REM (suppliers of last resort not included)	**March 2018**	**March 2019**
Buy		
Import	11.18	31.54
Negotiated trades with producers	46.75	25.14
Trades concluded on Opcom centralized markets, out of which:	2254.67	1873.69
- *on CMBC-EA with* producers	*1045.06*	*664.37*
- *on CMBC-CN with* producers	*345.06*	*416.11*
- *on CM-OTC with* producers	*245.38*	*187.96*
- *on CMBC-EA with other suppliers*	*82.63*	*31.87*
- *on CMBC-CN with other suppliers*	*112.34*	*136.39*
- *on CM-OTC with other suppliers*	*424.21*	*436.99*
production from own sources	*31.48*	31.55
Negociated trades with non-dispatchable producers (others than under Law 220/2008)*	9.84	6.36
Negociated trades with non-dispatchable producers (amendments and additions to Law 220/2008)**	22.21	25.60
DAM	333.89***	478.81
ID	9.62	32.98

Trades structure of suppliers acting on REM (not including suppliers of last resort)	**March 2018**	**March 2019**
Sell		
Export	42.38	8.36
Trades concluded on Opcom centralized markets, out of which:	1001.43	886.53
- *on CMBC-EA with producers*	*6.53*	*5.56*
- *on CMBC-NC with producers*	*22.29*	*21.55*
- *on CM-OTC with producers*	*16.21*	*22.18*
- *on CMBC-EA with other suppliers*	*125.13*	*53.07*
- *on CMBC-CN with other suppliers*	*133.81*	*113.36*
- *on CM-OTC with other suppliers*	*553.72*	*560.28*
- *on CMBC-EA with DO*	*52.56*	*14.50*
- *on CMBC-CN with DO*	*69.86*	*62.61*
- *on CMBC-OTC with DO*	*0.00*	*18.57*
- *on CMBC-EA with TSO*	*21.32*	*7.43*
- *on CMBC-CN with TSO*	*0.00*	*7.43*
CMUS with last resort suppliers	0.00	14.86
DAM	237.65***	79.36
ID	1.81	0.51
Households	24.20	27.51
Non-household customers	1407.31***	1413.27

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

Note: **negociated trades with non-dispatchable producers that do **not** fall under the provisions of Law no. 220/2008, with subsequent modifications and additions.*
*** negociated trades with non-dispatchable producers that fall under the provisions of Law no. 220/2008, with subsequent modifications and additions.*
****The differences with March 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 March 2019, for suppliers active on the REM and WEM are shown in the following graph:



	negotiated contracts with generators	import	CMBC with generators	CMBC-CN with generators	CM-OTC with generators	CMBC with suppliers	CMBC-CN with suppliers	CM - OTC with suppliers	negotiated contracts with non-dispatchable generators (other L23/2014)	negotiated contracts with non-dispatchable generators (L23/2014)	negotiated contracts with non-dispatchable generators + self production	DAM	Intra-Day	contracts with industrial customers	contracts with household consumers	export	CMBC with generators	CMBC - NC with generators	CM - OTC with generators	CMBC with suppliers	CMBC-NC with suppliers	CM - OTC with suppliers	CMBC with DSO	CMBC - NC with DSO	CM - OTC with DSO	CMBC with TSO	CMBC - NC with TSO	contracts on CMUS platforms	DAM	Intra-Day
Min price	70.00	204.94	47.63	160.00	130.00	226.48	215.00	131.00	72.32	11.60	0.00	78.07	45.27	125.00	114.87	139.94	240.13	179.23	130.00	168.16	215.00	131.00	230.00	232.50	223.05	281.97	284.00	257.50	19.88	40.00
Weighted average price	168.50	227.80	215.09	224.42	209.51	269.43	238.29	261.61	151.53	135.45	163.26	189.72	142.98	251.81	248.59	176.45	257.07	270.29	256.89	255.03	266.00	252.80	270.97	284.33	270.03	281.97	284.00	283.75	171.55	169.43
Max price	252.43	268.02	333.20	351.00	280.00	318.00	325.10	341.00	252.43	264.82	272.00	242.78	279.13	468.72	358.92	198.50	265.49	287.00	290.00	330.82	325.10	347.00	315.13	325.00	308.00	281.97	284.00	310.00	241.68	244.56
Traded volume	25.14	31.54	664.37	416.11	187.96	31.87	135.56	436.99	6.36	25.60	31.55	478.81	32.98	1,413.27	27.51	8.36	5.56	21.55	22.18	53.07	113.36	560.28	14.50	62.61	18.57	7.43	7.43	14.86	79.36	0.51

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 Universal Service regime, last resort regime and inactive clients is shown in the table below for March 2019, compared with the similar period of 2018:

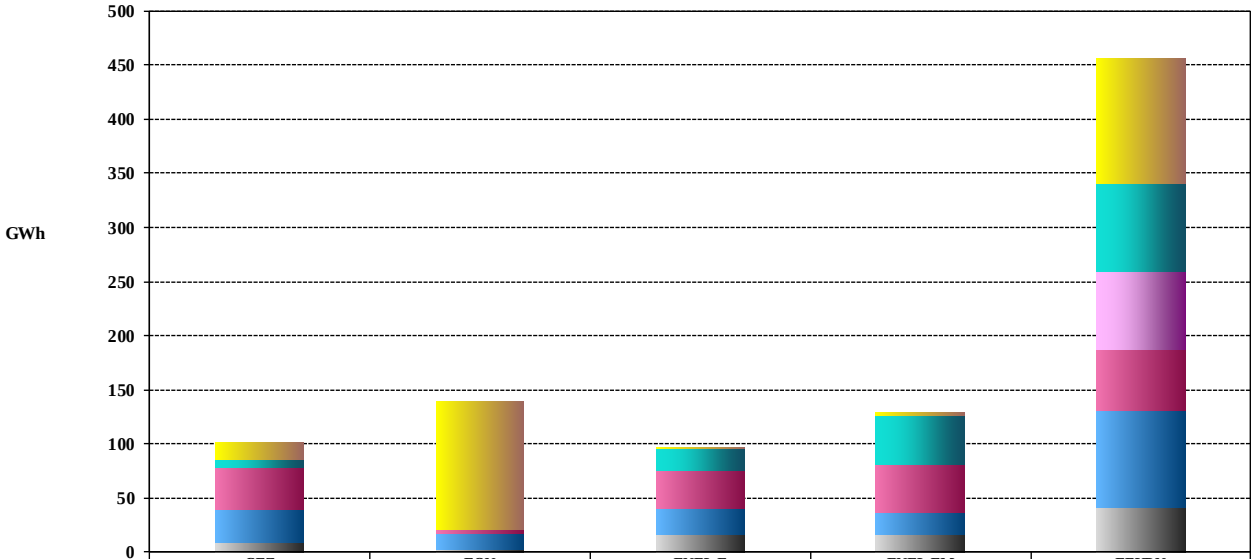
- GWh -

Structure of trades concluded by suppliers of last resort to supply final clients (Universal Service and last resort regime and inactive clients)	**March 2018**	**March 2019**
Regulated contracts with producers	-	252.37
Negociated trades with non-dispatchable producers (changes and additions to Law 220/2008)*	0.41	0.01
Trades concluded on Opcom centralized markets, out of which:	479.16	406.98
- *trades on CMBC-EA with producers*	*31.49*	*148.56*
- *trades on CMBC-CN with producers*	*66.71*	*22.49*
- *trades on CM-OTC with producers*	*10.04*	*37.45*
- *trades on CMBC-EA with other suppliers*	*37.52*	*7.61*
- *trades on CMBC-CN with other suppliers*	*151.19*	*50.13*
- *trades on CM-OTC with other suppliers*	*182.20*	*140.75*
Trades with prosumers	-	0.0057
Centralized market for universal service:	443.71	178.33
- *trades on CMUS with producers*	*425.13*	*137.47*
- *trades on CMUS with suppliers*	*18.58*	*40.87*
Trades concluded on DAM:	168.10	0.67
- *buy*	*195.83*	*83.81*
- *sell*	*27.73*	*83.15*
Trades concluded on ID:	0.19	0.00
- *buy*	*0.19*	*0.00*
- *sell*	*0.19*	*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 Universal Service and last resort regime and inactive clients for March 2019 is presented in the following graph:

Structure of trades made by suppliers of last resort to supply final clients (Universal Service, last resort regime and inactive clients)
- March 2019-



	CEZ	EON	ENEL E	ENEL EM	EFURN
Regulated	15	117	1	3	116
Purchase on CMBC-EA	8	1	21	45	82
Purchase on CMBC-CN	1	0	0	0	72
Purchase on CM-OTC	39	4	35	45	56
Purchase on CMSU	30	15	25	20	89
Purchase on DAM	9	2	15	16	42

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

In accordance with the provisions of the *Regulation for competitive selection to designate suppliers of last resort*, approved by ANRE Order no. 26/2018 as amended by ANRE Order no. 17/2019, ANRE has designated, as obligated suppliers of last resort for each network area, until 30 June 2022, 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 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, for different network areas. 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 household clients 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 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 household clients and non-household final clients bills from their portfolio, the following types of approved tariffs/ endorsed 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 household clients, *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 fulfill the

conditions or did not request to be supplied under the Universal Service regime and the *last resort price* to non-household final clients taken over because of not having secured the supply from any other source.

Universal Service price and *inactive clients price* are determined by adding the electricity acquisition components and the supply component for that client category to which is 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 household clients 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 last resort supplier of that network area).

Based on the provisions of the ANRE Order no. 10/2019, in order to ensure the consumption of household clients 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 established (through decisions, for the period 1 March 2019 – 31 December 2019) obligations to sell fixed quantities at a regulated price. Suppliers of last resort ensure household clients 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 intended 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 March 2019, compared with the similar period of 2018:

-GWh-

Trades'structure of suppliers of last resort for Universal Service/regulated supply	**March 2018**		**March 2019**	
	Quantity [GWh]	**Average price [lei/MWh]**	**Quantity [GWh]**	**Average price [lei/MWh]**
Regulated contracts with producers	-	-	252.37	148.05
Negociated trades with non-dispatchable producers (amendments and additions to Law 220/ 2008)	0.39	240.00	0.00	0.00
Trades on Opcom centralized markets:	414.15	228.38	343.32	263.73
- *trades on CMBC-EA with producers*	*24.98*	*226.13*	*117.99*	*248.69*
- *trades on CMBC-CN with producers*	*65.41*	*233.86*	*22.29*	*218.96*
- *trades on CM-OTC with producers*	*9.33*	*246.85*	*29.72*	*282.00*
- *trades on CMBC-EA with other suppliers*	*37.15*	*234.18*	*7.43*	*231.48*
- *trades on CMBC-CN with other suppliers*	*124.98*	*237.03*	*48.30*	*261.91*
- *trades on CM-OTC with other suppliers*	*152.30*	*216.74*	*117.59*	*285.47*
Trades with prosumers	-	-	0.006	223.00
Trades on CMUS, out of which:	443.71	249.67	178.33	292.59
- with producers	*425.13*	*249.86*	*137.46*	*297.54*
- with other suppliers	*18.58*	*245.40*	*40.87*	*275.91*
Trades on DAM:	146.54	219.34	*-13.48*	228.58
- buy	*172.33*	*201.20*	*67.62*	*239.79*
- sell	*25.79*	*98.13*	*81.10*	*161.94*
TOTAL	**1004.79**	**236.47**	**760.55**	**240.84**

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 March 2019 is shown in the following table:

- GWh -

Trades'structure of suppliers of last resort to supply inactive clients	**March 2019**	
	Quantity [GWh]	**Average price [lei/MWh]**
Negociated contracts with non-dispatchable producers (changes and additions to Law 220/2008)*	0.01	68.84
Trades on centralized contracts markets:	61.20	261.02
- *on CMBC-EA with producers*	*29.46*	*261.40*
- *on CMBC-CN with producers*	*0.20*	*237.75*
- *on CM-OTC with producers*	*7.54*	*261.84*
- *on CMBC-EA with other suppliers*	*0.18*	*234.41*
- *on CMBC-CN with other suppliers*	*1.83*	*264.57*
- *on CM-OTC with other suppliers*	*21.99*	*260.36*
Trades with prosumers	*0.0001*	*211.00*
Trades on DAM, of which:	*13.47*	220.51
- buy	*15.39*	*210.84*
- sell	*1.92*	*143.16*
TOTAL	**74.67**	**253.68**

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

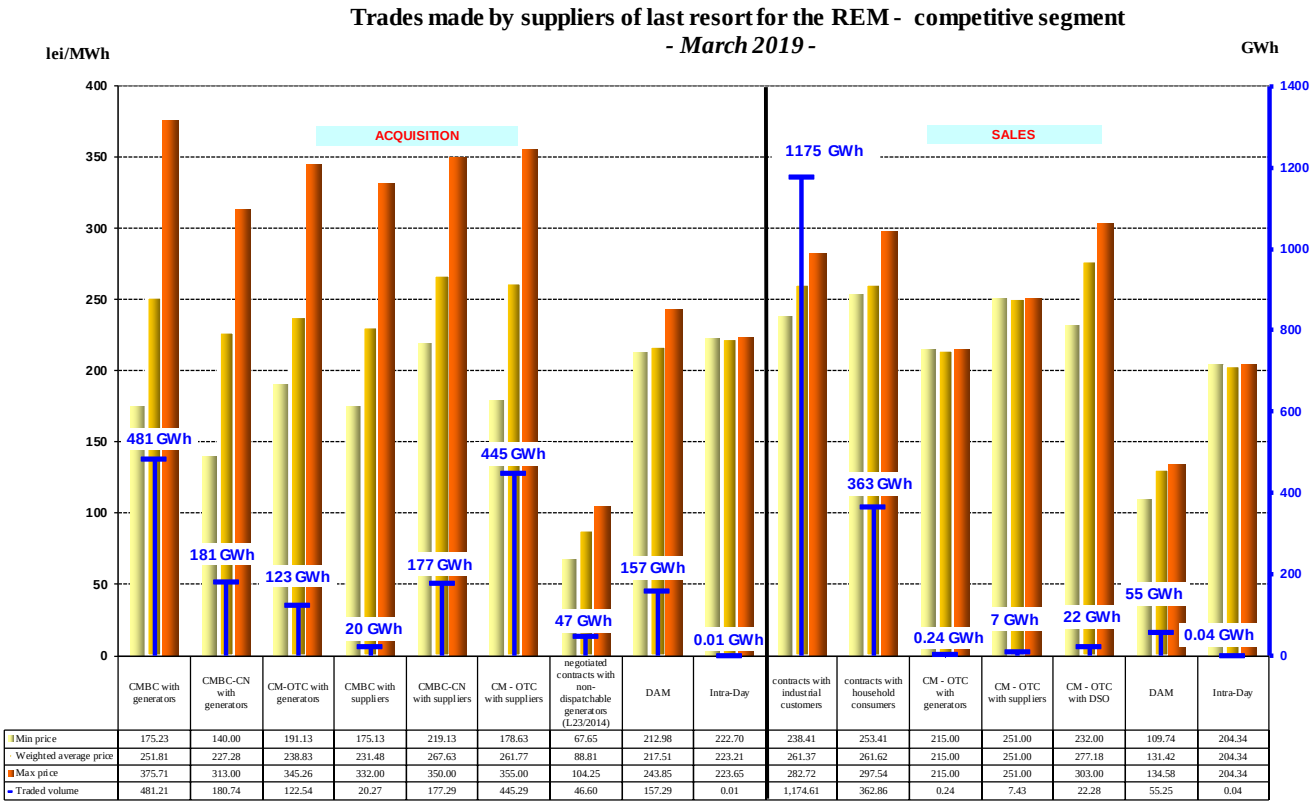
The following table presents the electricity acquisition structure of suppliers of last resort before the delivery interval, corresponding to the competitive segment of REM for March 2019, compared to the similar period of 2018:

-GWh-

Structure of trades made by suppliers of last resort for the competitive segment of REM	**March 2018**	**March 2019**
Buy		
Trades on centralized contracts markets, of which:	1137.35	1427.34
- *on CMBC-EA with producers*	*423.14*	481.21
- *on CMBC-CN with producers*	*208.48*	*180.74*
- *on CM-OTC with producers*	*178.90*	*122.54*
- *on CMBC-EA with other suppliers*	*20.42*	*20.27*
- *on CMBC-CN with other suppliers*	*42.98*	*177.29*
- *on CM-OTC with other suppliers*	*263.43*	*445.29*
Negociated trades with non-dispatchable producers (amendments and additions to Law 220/2008)*	21.79	*46.60*
Trades on DAM	370.93	157.29
Trades on ID	0.04	0.01
Sell		
Trades on centralized contracts markets:	47.55	7.67
- *on CM-OTC with other suppliers*	*47.55*	*0.24*
- *on CMBC-OTC with DO*	*0.00*	*7.43*
- Trades on DAM	0.62	55.25
- Trades on ID	0.00	0.04
Household clients	200.07	362.86
Non-household final clients	1328.17	1180.92

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 March 2019:



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

Main distribution operators

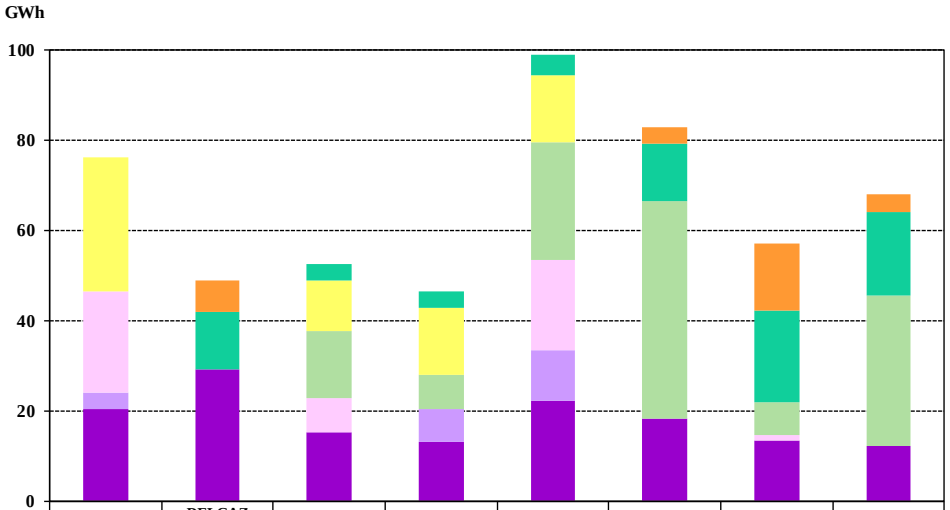
The following table shows the electricity acquisition structure of the main distribution operators made before the delivery interval, to cover the distribution networks losses, for March 2019 compared with the similar previous period: **- GWh -**

Structure of trades	March 2018	March 2019
Trades on centralized contracts markets:	456.55	386.61
- CMBC-EA with producers	*235.86*	*137.40*
- CMBC-CN with producers	*29.81*	*50.99*
- CM-OTC with producers	*0.00*	*22.29*
- CMBC-EA with suppliers	*57.03*	*29.36*
- CMBC-CN with suppliers	*114.47*	*75.98*
- CM-OTC with suppliers	*19.39*	*70.59*
Trades on ID	0.31	0.15
- buy	*0.31*	*0.15*
- sell	*0.00*	*0.00*
Trades on DAM:	130.41	144.10
- buy	*130.72*	*144.24*
- sell	*0.31*	*0.14*

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

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

Structure of electricity trades of distribution operators to cover distribution network losses
MARCH 2019



	DEO	DELGAZ GRID	ENEL-B	ENEL-D	ENEL-M	MND	TRN	TRS
Buy on CMBC-EA from suppliers	0	7	0	0	0	4	15	4
Buy on CMBC-NC from suppliers	0	13	4	4	4	13	20	19
Buy on CM-OTC from suppliers	30	0	11	15	15	0	0	0
Buy on CMBC-EA from generators	0	0	15	7	26	48	7	33
Buy on CMBC-NC from generators	22	0	7	0	20	0	1	0
Buy on CM-OTC from generators	4	0	0	7	11	0	0	0
Sell on DAM	20	29	15	13	22	18	14	12

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

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

According to the economic theory, the following market concentration indicators may be defined:

- HHI, Herfindahl-Hirschman Index = sum of square market shares (%) of market participants:

  The indicator values signify:
  HHI < 1000 — non-concentrated market;
  1000 < HHI < 1800 — moderately concentrated market;
  HHI > 1800 — highly concentrated market.

- C1 = market share of the main market participant (%)

  The indicator values signify:
  C1>20% — alarming concentrated market;
  C1>40% — suggests the existence of a dominant position;
  C1>50% — clearly indicates a dominant position.

- C3 = sum of market shares of the three main market participants (%):

  The indicator values signify:
  40% < C3 < 70% — moderately concentrated market;
  C3 > 70% — highly concentrated market.

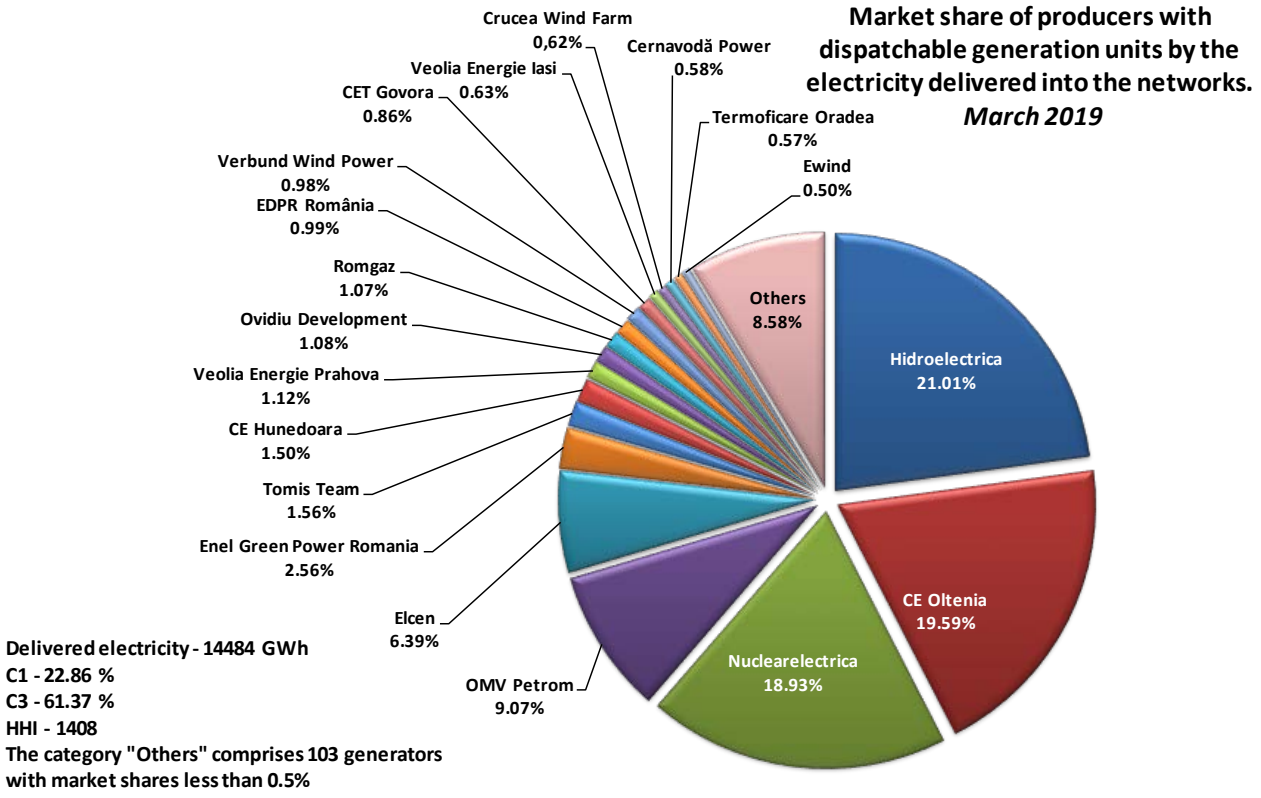
These concentration indicators may be defined for the entire wholesale market (electricity market or ancillary services market) or for each of its components where direct competition takes place.

Concentration indicators and market shares of electricity producers

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

The following table presents the concentration indicators of electricity generation for March 2019 and the graph presents the market shares of electricity producers with dispatchable generation units, on all the segments of the wholesale market, determined based on the electricity delivered into the networks.

Concentration indicators - March 2019 -	C1 (%)	C3 (%)	HHI
Value	26.61	66.34	1582



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

A component of the WEM on which direct competition between generators is manifested is the Balancing Market (BM). The values of concentration indicators on this market for March 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 - MARCH 2019-	Regulation					
	Secondary		Fast tertiary		Slow tertiary	
	upward	downward	upward	downward	upward	downward
C1 - % -	68	68	63	49	0	62
C3 - % -	98	99	97	97	0	99
HHI	5427	5446	4993	3584	0	4675

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

Under Government Decision no. No 773/2018 and EGO no. 26/2018 adopting measures for the safety and security of the power supply of the NPS, ANRE President Decision no. 1911/2018 was approved, regarding the acquisition at a regulated price for the period from 1 December 2018 to 31 March 2019 from the producer Electrocentrale Galati SA of an amount of ancillary services representing slow tertiary reserve for a capacity of 70 MW, and also ANRE President Decision no. 2047/2018 regarding the acquisition at a regulated price for the period 1 January to 31 December 2019 from the producer CE Hunedoara SA of an amount of ancillary services representing slow tertiary reserve for a capacity of 400 MW. In addition, CNTEE Transelectrica S.A. organized auctions to buy reserves on all types of regulation.

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

Concentration indicators on Ancillary Services Market - March 2019 -		Secondary reserve	Fast tertiary reserve	Slow tertiary reserve
regulated component	contracted quantity (h*MW)	-	-	349210
	C1 (%)	-	-	85.1
	C3 (%)	-	-	100.0
competitive component	contracted quantity (h*MW)	349850	514100	222900
	C1 (%)	70.3	83.1	50.2
	C3 (%)	100.0	94.4	100.0
	HHI	5706	7008	5000

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 licensees and for foreign economic operators 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 - March 2019 -	C1 (%)	C3 (%)	HHI
Selling	16.03	36.73	608
Buying	20.59	34.51	650

Source: Monthly reports of Opcom SA

7. Prices evolution on wholesale electricity market

Starting with November 2014, the Romanian DAM is coupled with the spot markets from Hungary, Slovakia and the Czech Republic based on the price coupling mechanism, project known as 4M MC. This coordinated corelation mechanism uses an unique pan-European method for price coupling of regions (called *Price Coupling of Regions* - PCR-initiative) in order to fulfil the harmonization of national european markets and create the internal european electricity market. The functioning of these spot markets 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 (who became PCR member starting with 1 January 2016). After succesfully 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.

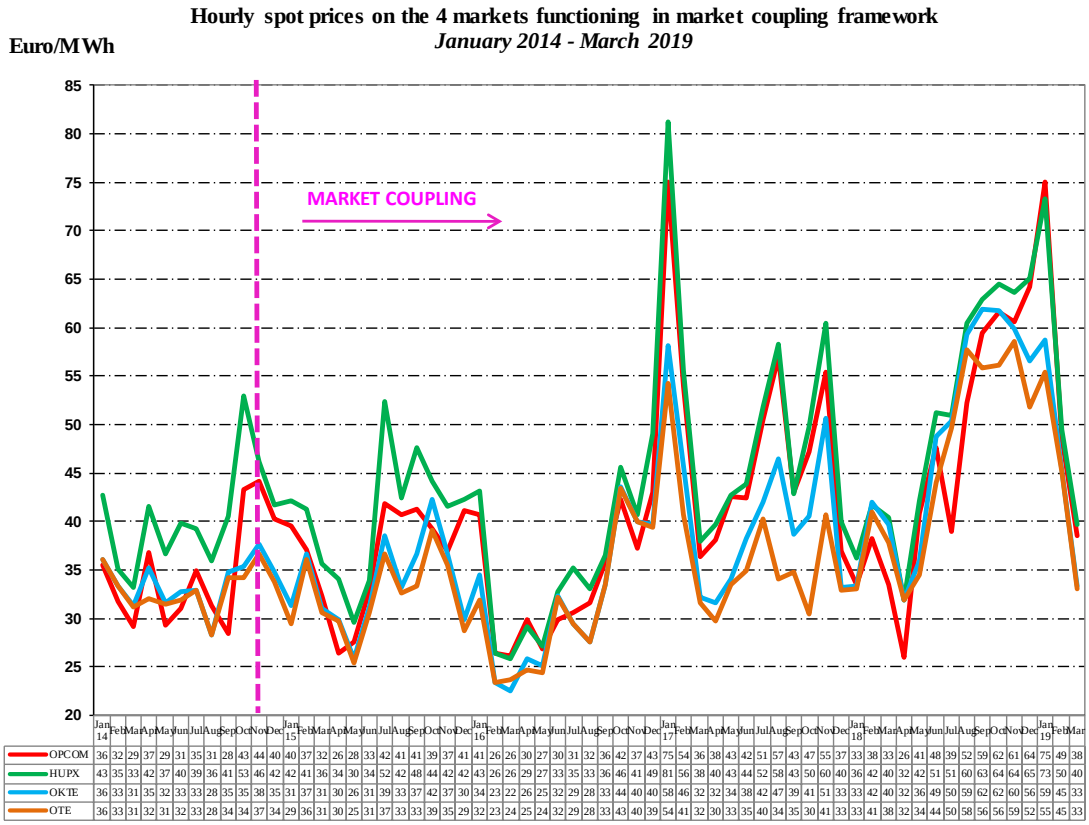
According to EU legislation, coordinated cross-border capacity allocation is under the governance of the TSOs from the 4 countries and the allocation model used is that of implict allocation on DAM of the available interconnection capacity.

To better meet the purpose of the DAM coupling mechanism, respectively the electricity transfer 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 subperiod and 80% from the lowest ATC value resulted for the subperiods of the respective month, plus the capacity allocated at the annual auction, returned to TSO.

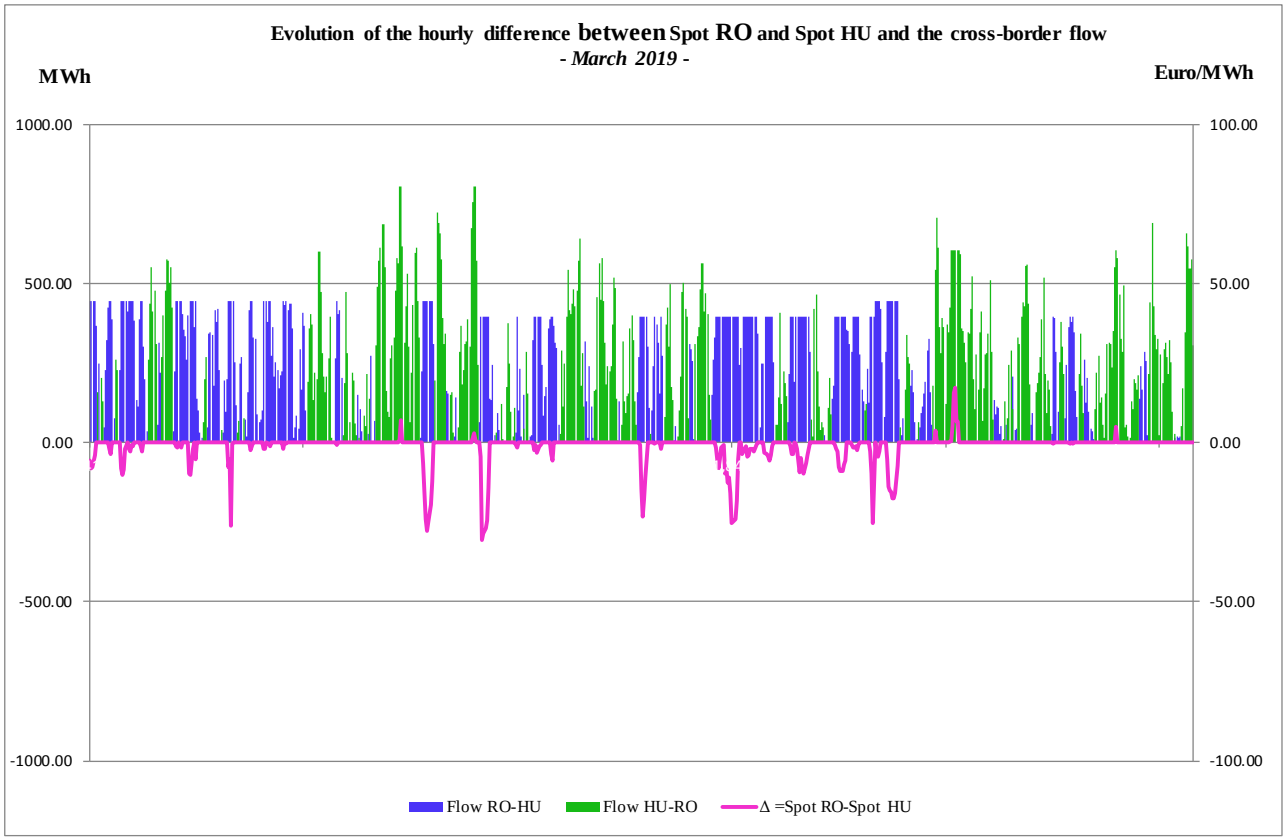
Particularly, for the Hungarian border, if 80% of the lowest value of the ATC calculated monthly for subperiods is lower than 80 MW, interconnection capacity for monthly allocation will be 80% from the ATC calculated for each subperiod, to which is added the allocated capacity at the yearly auction returned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



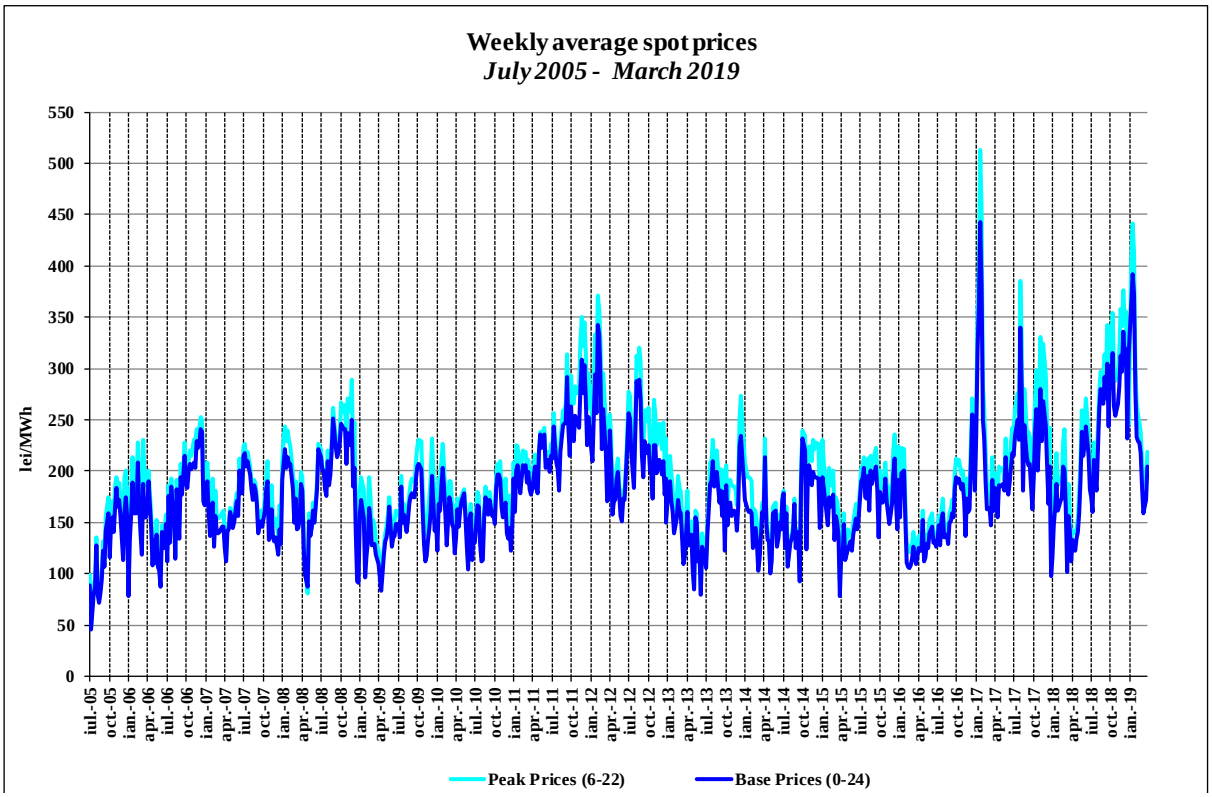
Source: Monthly reports of Opcom SA – Electricity Market Monitoring Unit assessment

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 March 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

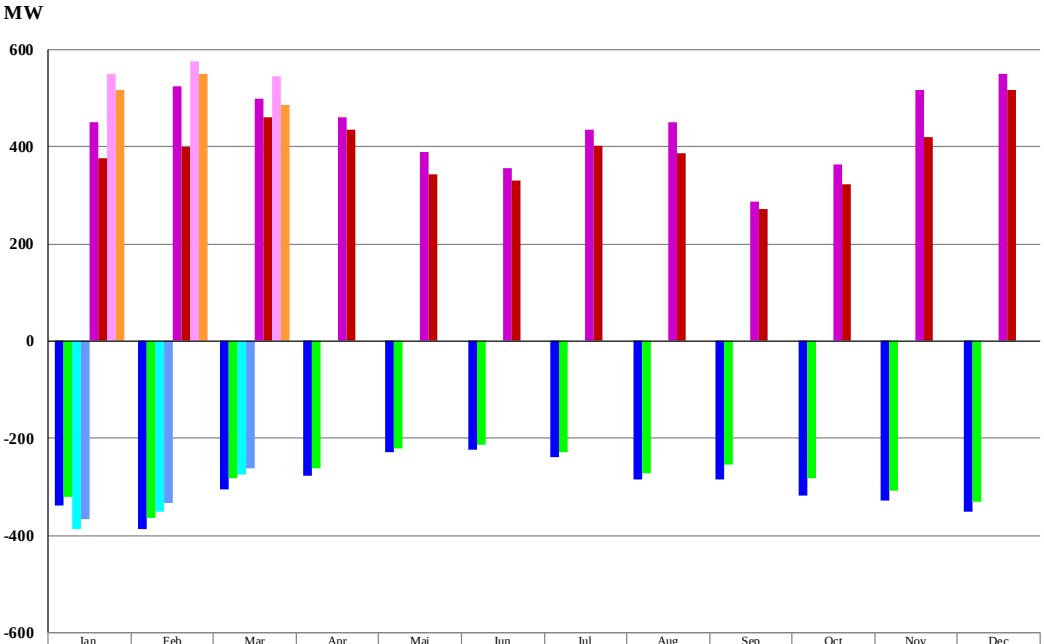
On Romania's borders with Hungary, Bulgaria and Serbia, interconnection capacity allocation is done through market mechanisms, coordinated bilaterally on both directions, for 100% of the allocation capacity through long and short term auctions.

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 being conditional 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 neighboring 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

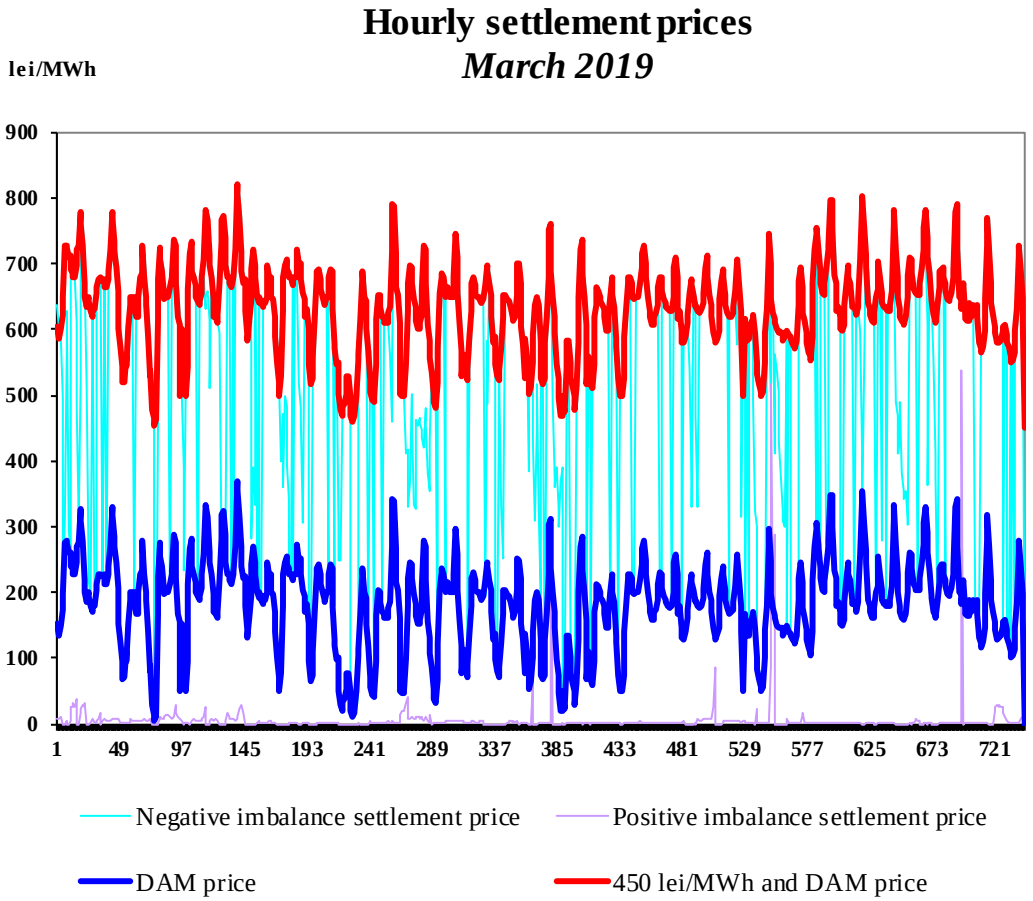


	Ian	Feb	Mar	Apr	Mai	Iun	Iul	Aug	Sep	Oct	Nov	Dec
NTC export 2018 (MW)	-338	-388	-306	-277	-228	-224	-240	-286	-285	-318	-328	-350
LT export allocation 2018 (MW)	-320	-364	-281	-262	-220	-214	-228	-272	-253	-282	-309	-330
NTC export 2019 (MW)	-388	-350	-274									
LT export allocation 2019 (MW)	-367	-332	-262									
NTC import 2018 (MW)	450	525	500	462	388	355	434	450	287	363	517	550
LT import allocation 2018 (MW)	376	400	461	434	343	331	401	387	271	323	419	518
NTC import 2019 (MW)	550	575	544									
LT import allocation 2019 (MW)	518	550	486									

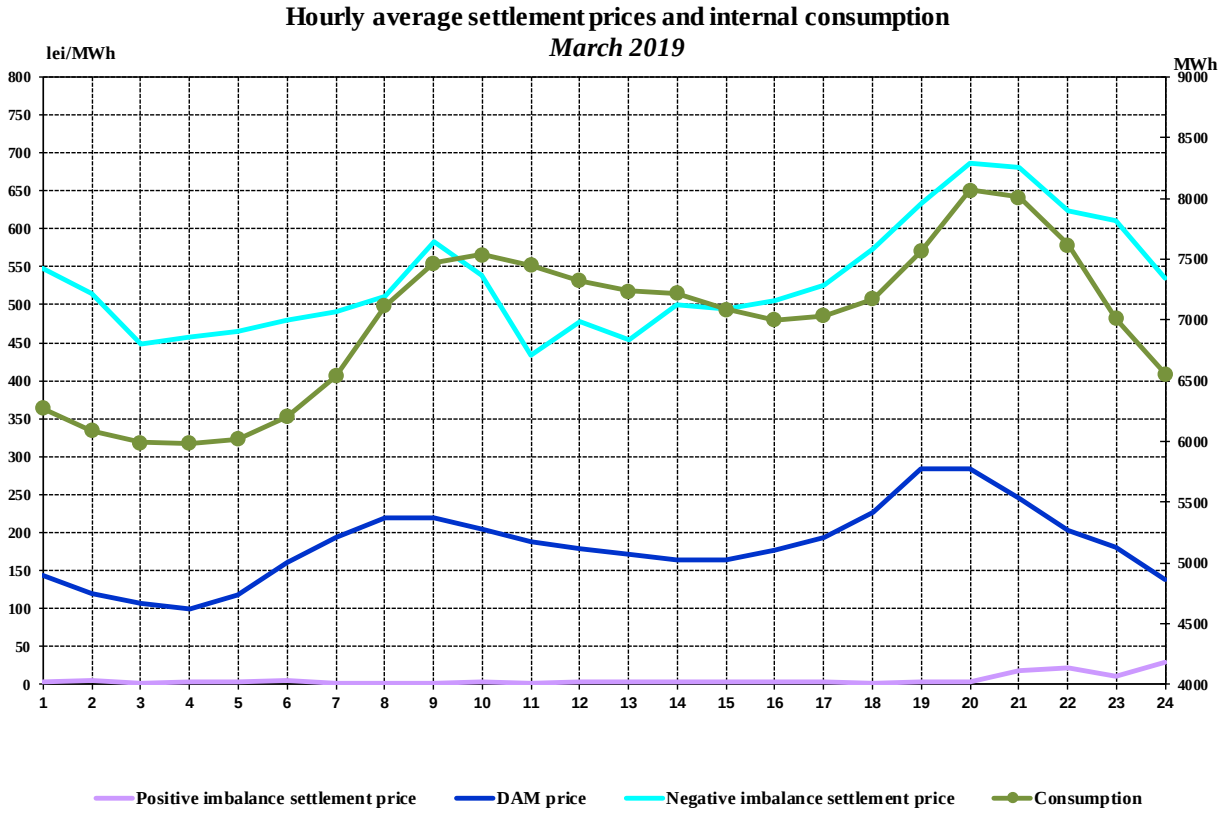
Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

In order to cover the differences between planned/contracted values of consumption and generation and their values in real time, the system operator (CNTEE Transelectrica SA) operates the balancing market (BM), ”buying” or "selling" electricity at prices determined by the merit order of dispatchable generators 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.

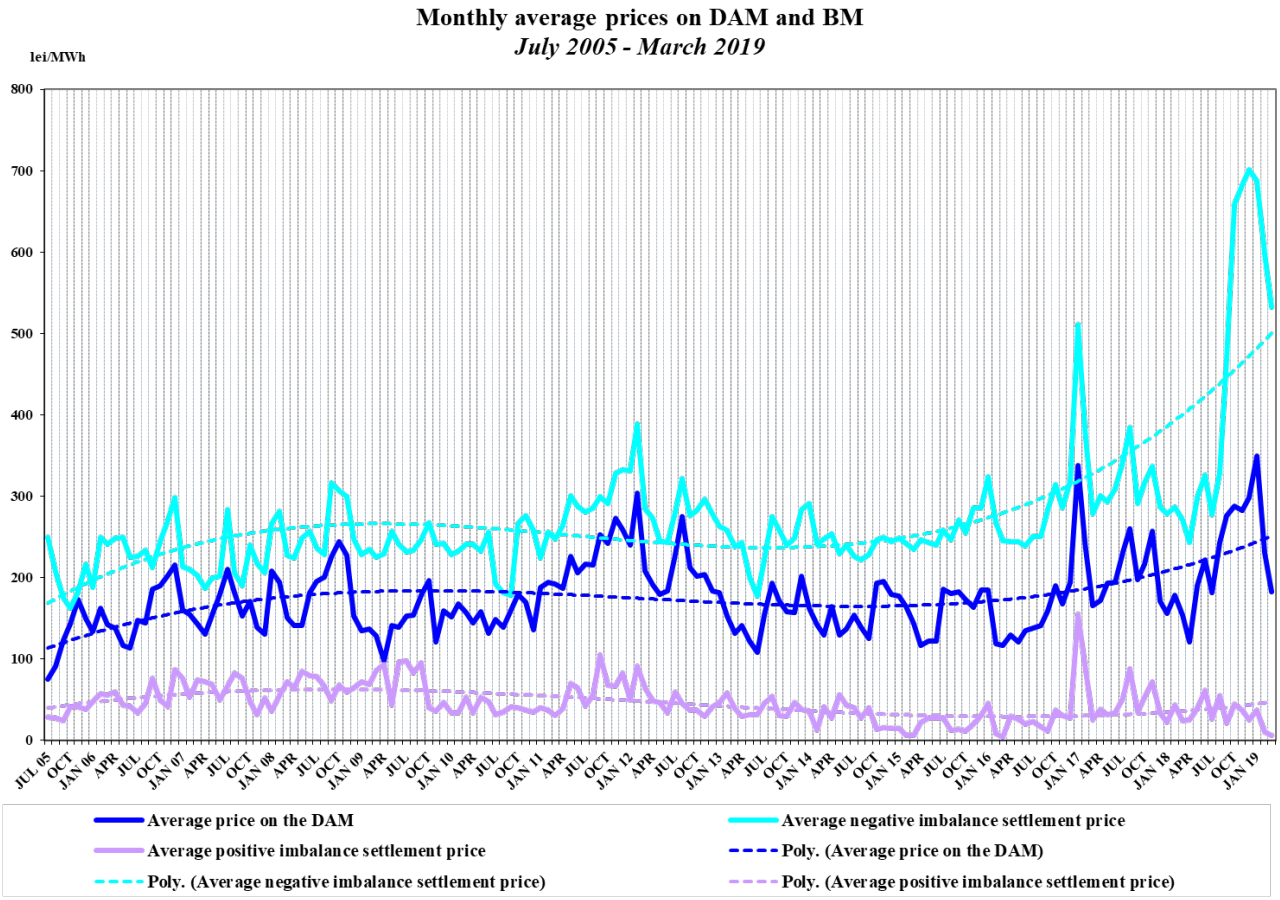
The settlement prices (market closing price on DAM, negative imbalance price and positive imbalance price) are represented on the same graph, thus showing the two markets correlation degree. In the first graph the settlement prices are expressed in hourly values, in the second graph in hourly average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



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



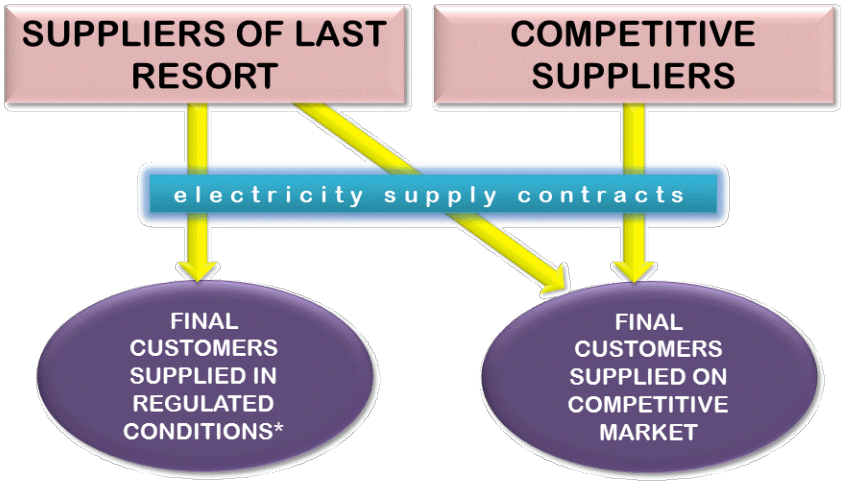
Source: Monthly reports of Opcom SA and CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment



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

III. RETAIL ELECTRICITY MARKET

1. Structure of the retail electricity market

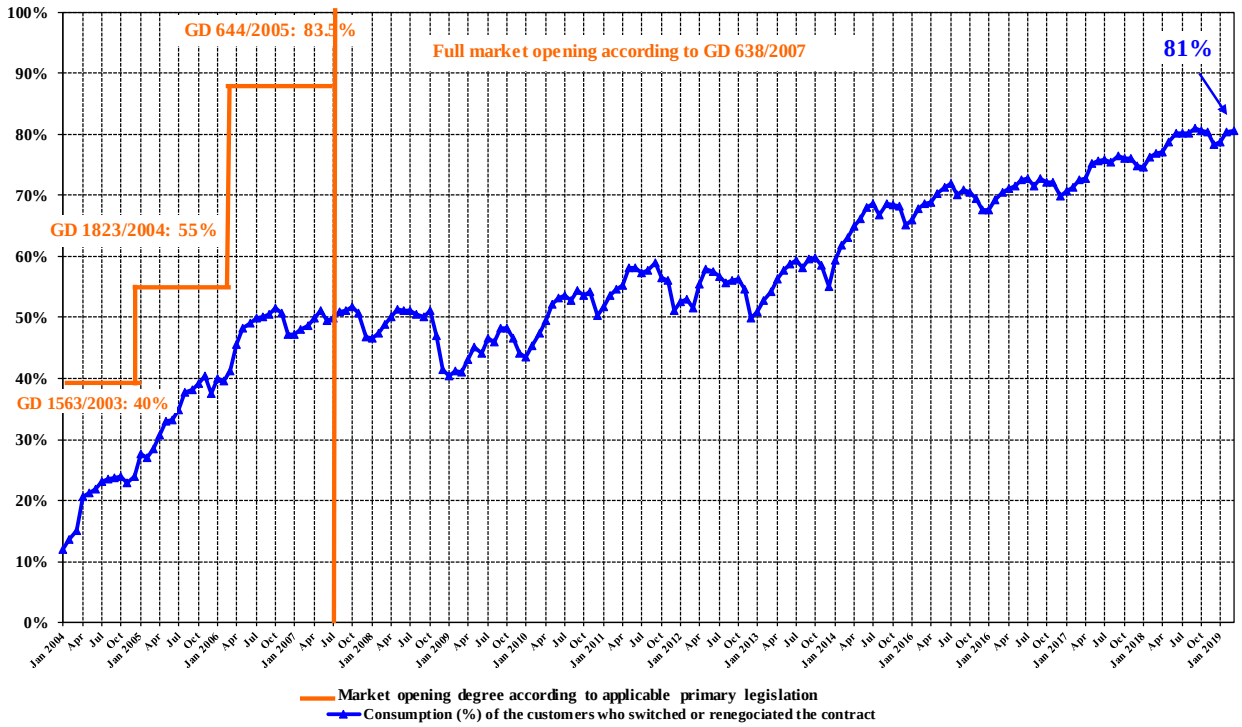


* according to art. 53 (2) and art. 55 (1) from Electricity and Gas Law no. 123/2012

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 – March 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 - March 2019

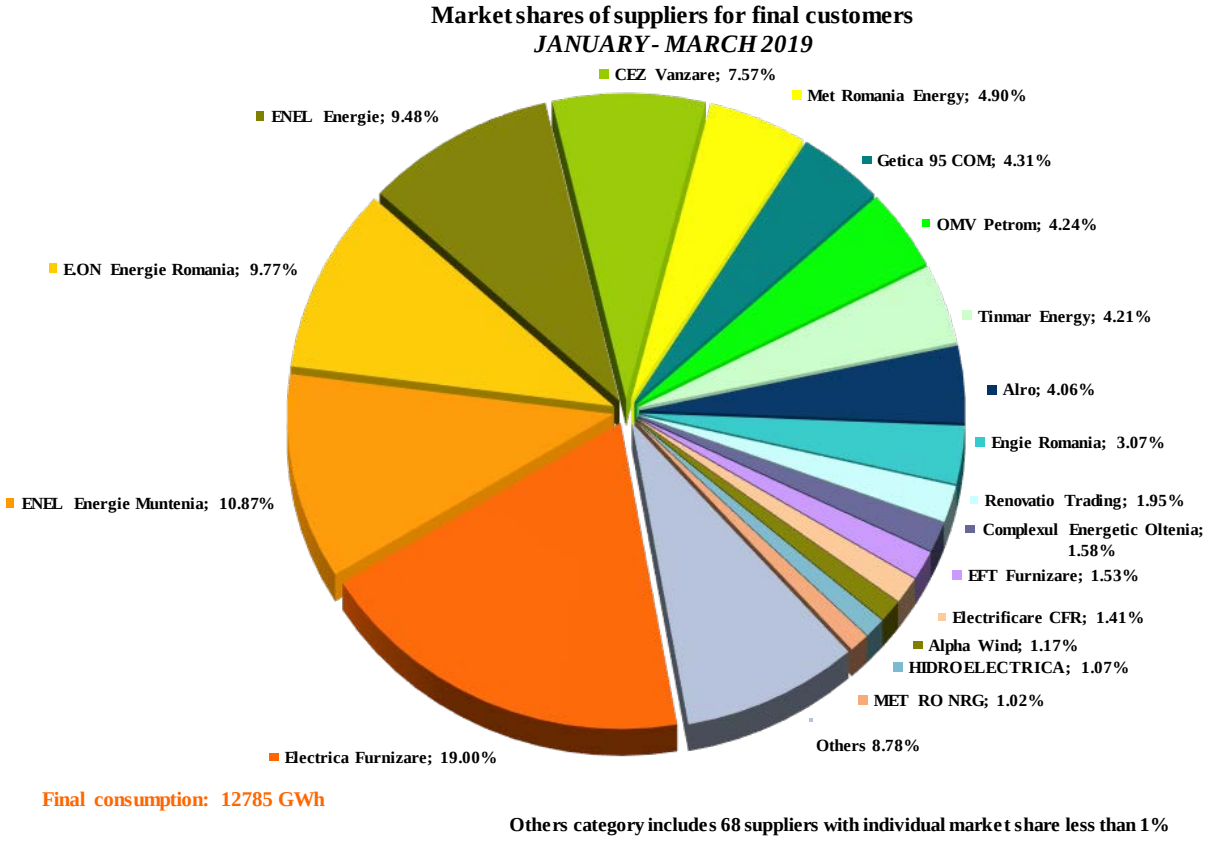


Source: Monthly reports of the final customers suppliers – Electricity Market Monitoring Unit assessment

3. Market shares of electricity suppliers

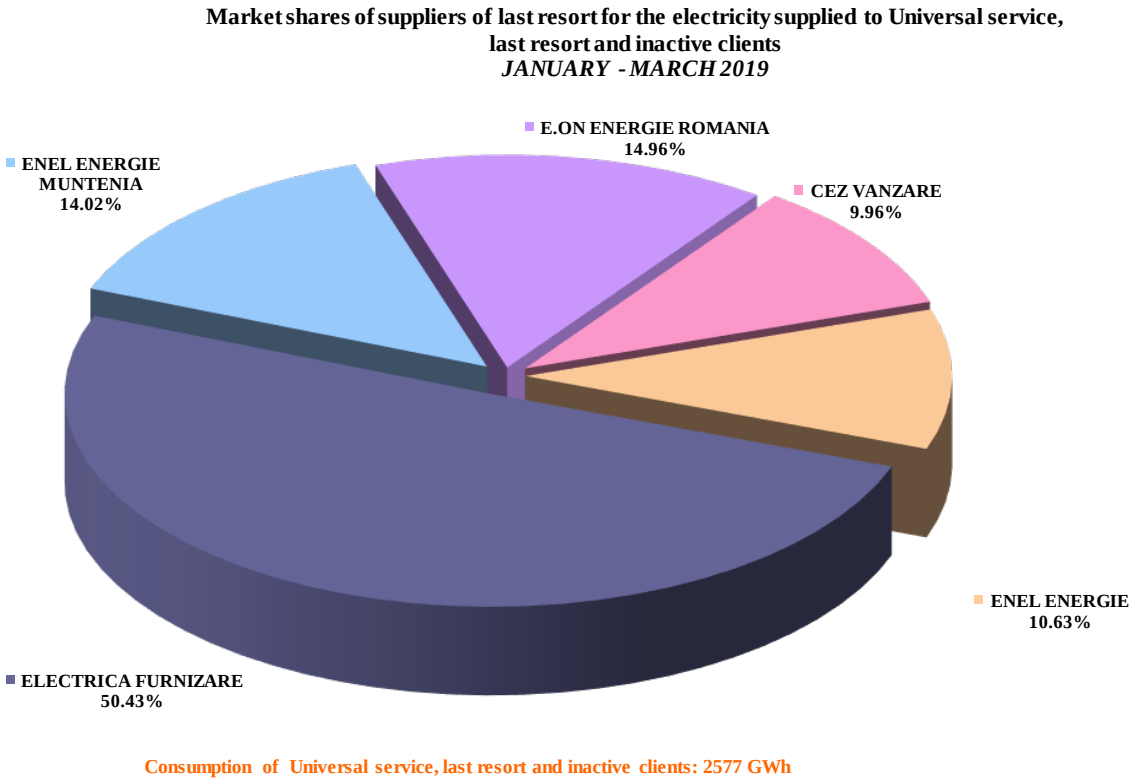
In the following three graphs are presented the market shares of electricity suppliers on the retail market, calculated:

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 Universal Service and last resort regime and inactive clients and to consumers who have switched their supplier or have negotiated their contract;



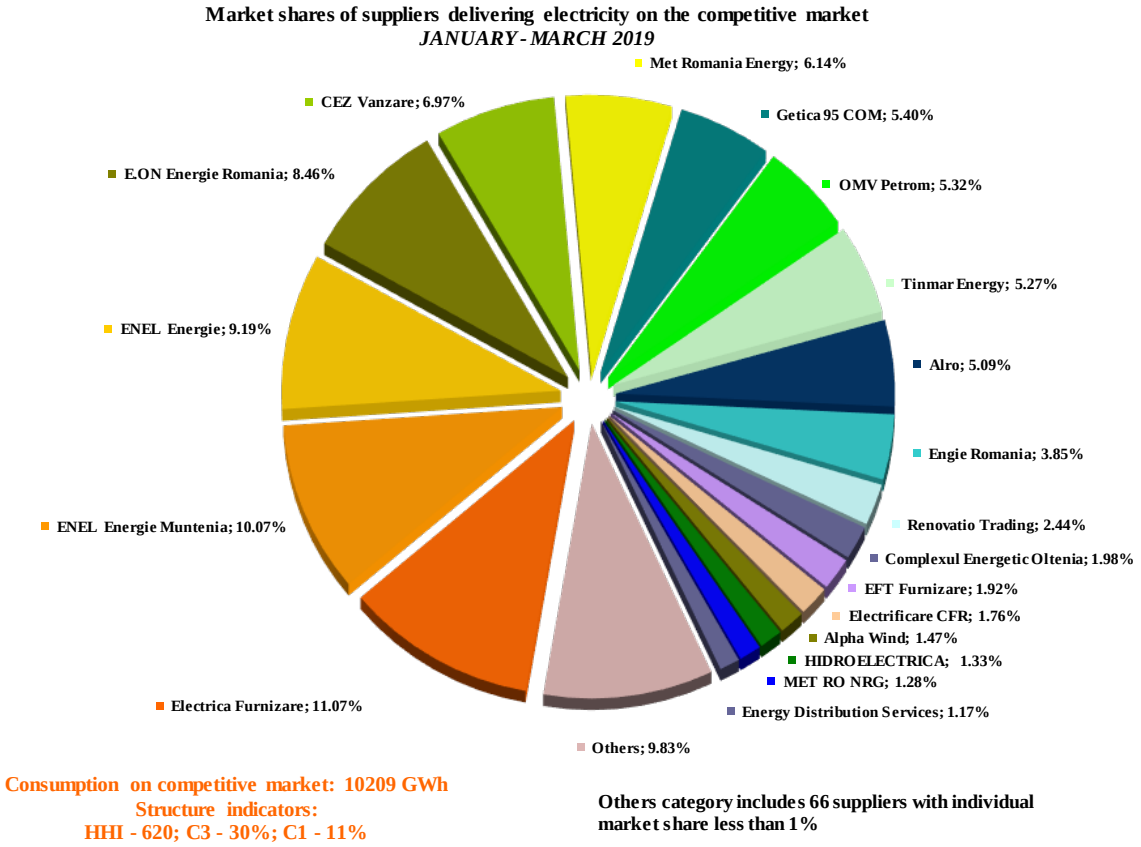
Source: Monthly reports of suppliers for final customers – Electricity Market Monitoring Unit assessment

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



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 each supplier's market share was established 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 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 March 2019.

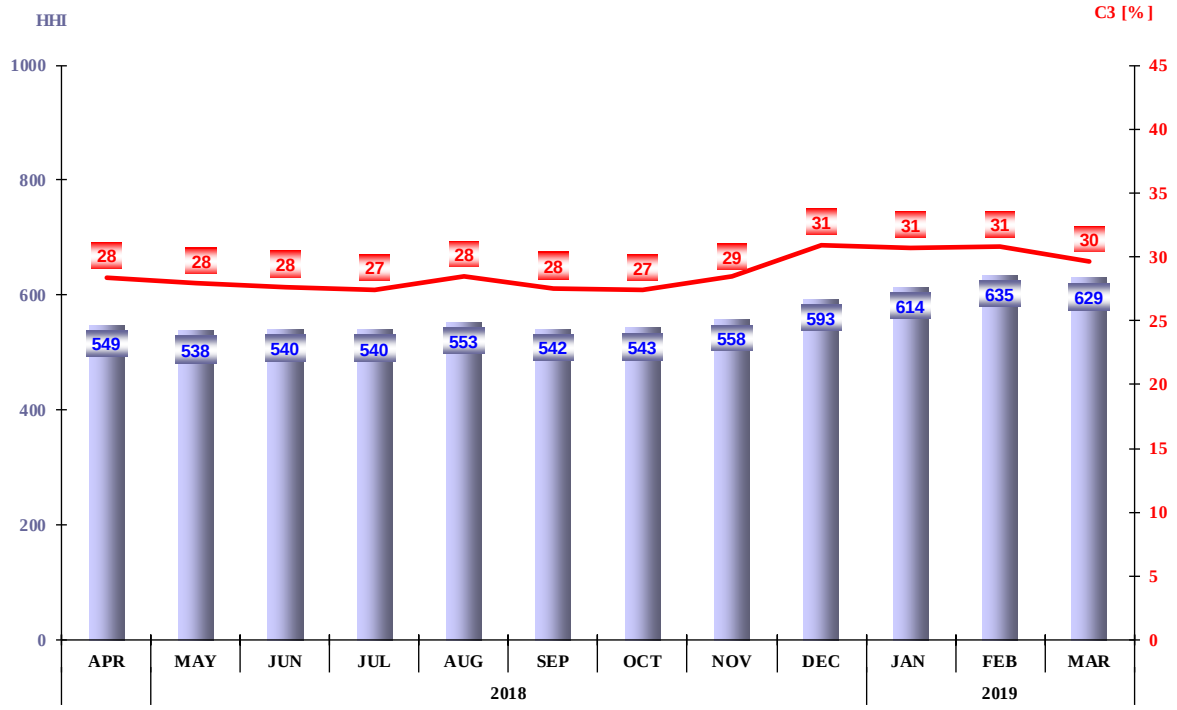
Number of suppliers	**Share of sales to final customers from total sales trades**			
	100%	**75% - 100%**	**50% - 75%**	**<50%**
Competitive	12	17	9	19
Of last resort	0	5	0	0

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 March 2019 in the following graph:

Herfindahl-Hirschman (HHI) and Concentration Ratio of the three main suppliers delivering electricity on competitive market (C3)



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 March 2019, calculated for each consumption band defined by the Regulation (EU) 2016/1952, for household clients and non-household final clients:

Indicators - Mar 2019	Consumption bands - Non-household customers							
	IA	IB	IC	ID	IE	IF	IG	Total
C1 - % -	30	24	18	11	15	14	20	**12**
C3 - % -	75	52	41	32	41	31	51	**29**
HHI	2096	1301	898	677	902	689	1188	**601**
Consumption - GWh -	150	390	301	688	423	220	857	**3028**
No. of SUPPLIERS	59	70	60	59	23	19	16	**82**
No. of suppliers of last resort	5	5	5	5	5	4	3	**5**
No. of competitive suppliers	39	49	42	43	13	11	7	**56**
No. of producers	15	16	13	11	5	4	6	**21**

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

Indicators -March 2019	Consumption bands - Household customers					
	DA	DB	DC	DD	DE	Total
C1 - % -	48	32	29	29	34	**35**
C3 - % -	91	81	76	70	67	**81**
HHI	3611	2290	2137	2031	2017	**2454**
Consumption - GWh -	130	124	70	50	17	**391**
No. of SUPPLIERS	36	35	37	37	36	45
No. of suppliers of last resort	5	5	5	5	5	**5**
No. of competitive suppliers	27	27	28	29	27	**34**
No. of producers	4	3	4	3	4	**6**

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

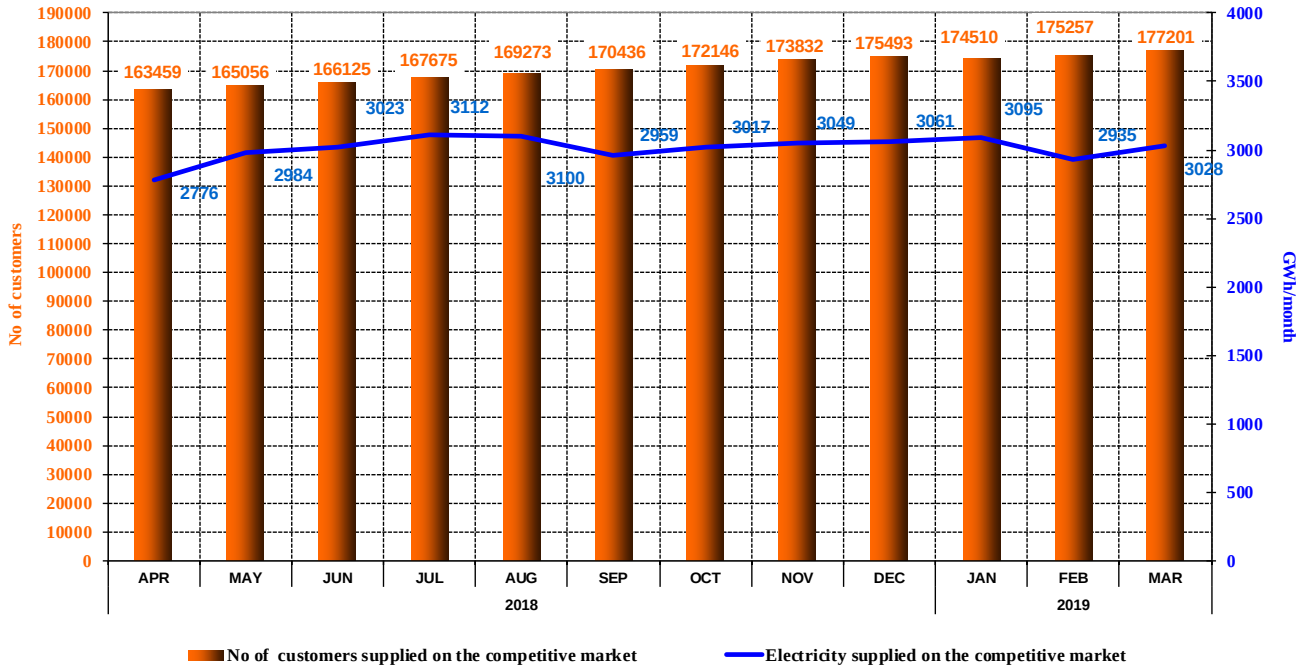
5. The evolution of the number of clients and of the electricity delivered

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 March 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 range 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	

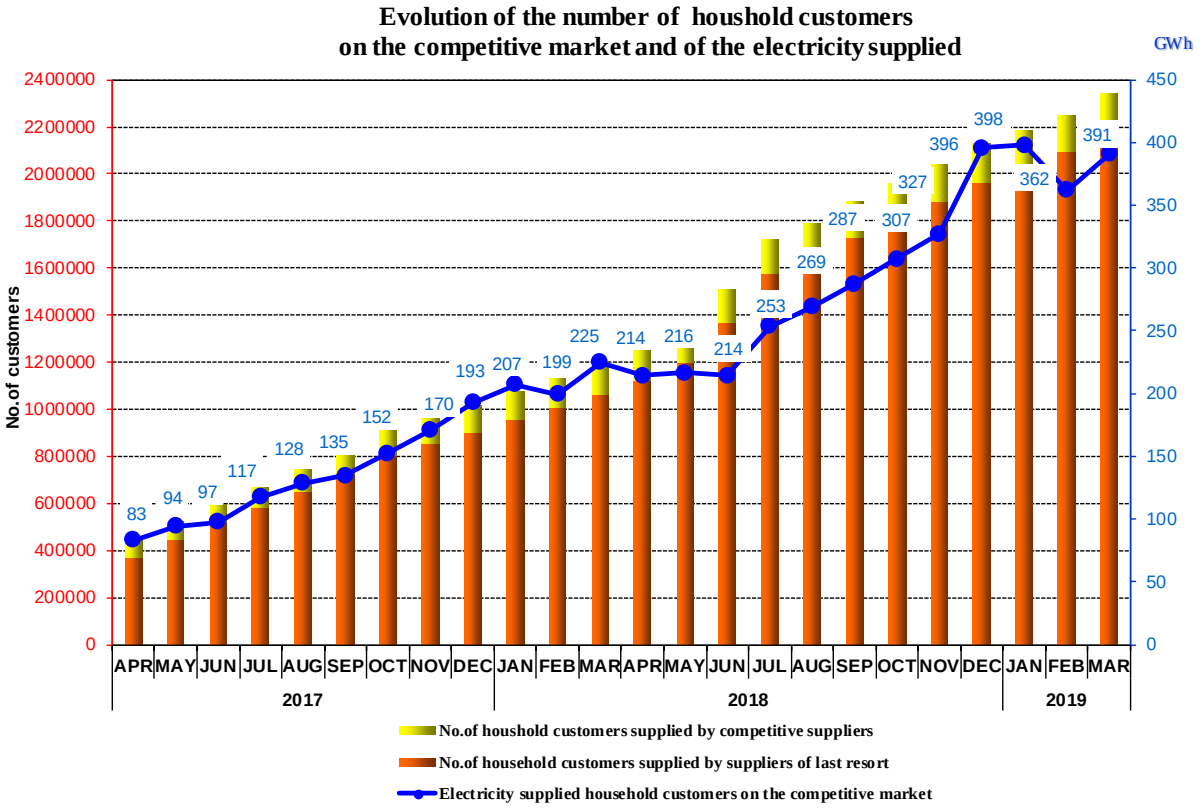
Household customers	Annual electricity consumption (kWh):	
DA		<1000
DB	>=1000	<2500
DC	>=2500	<5000
DD	>=5000	<15000
DE	>=15000	

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



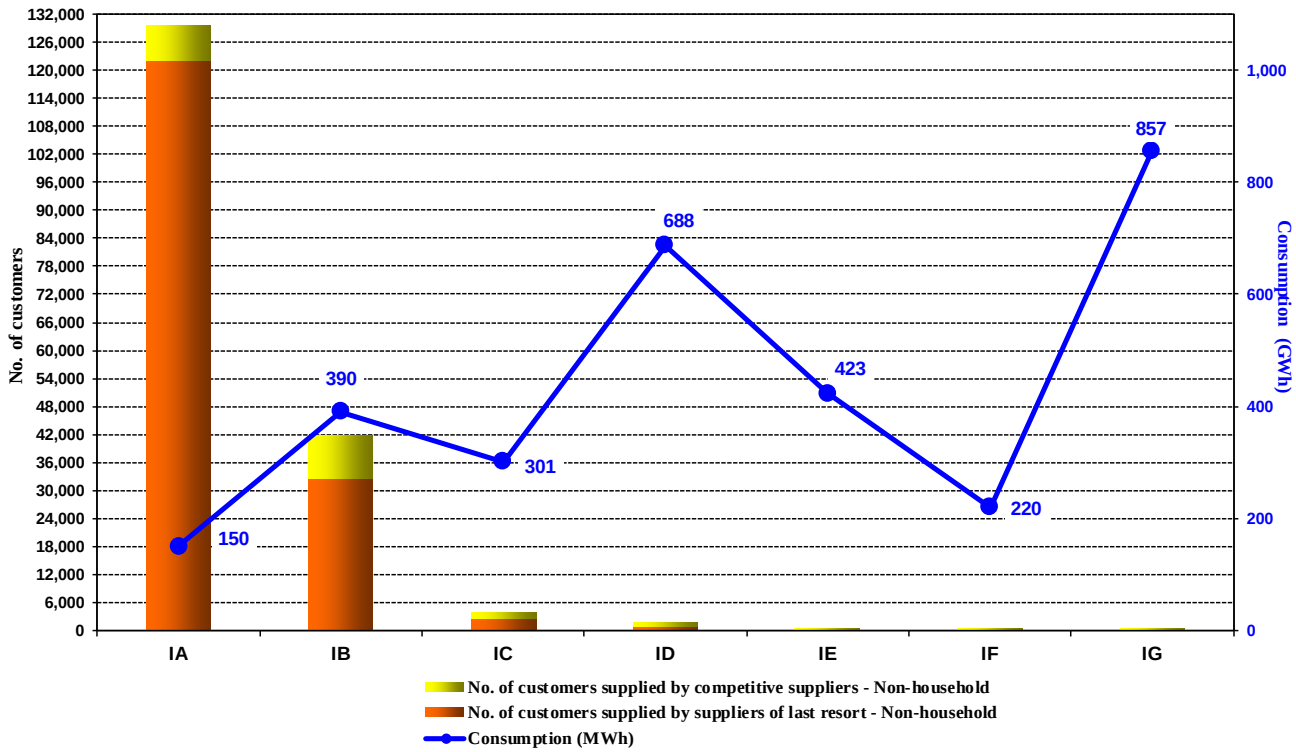
Source: Monthly reports of the competitive suppliers – Electricity Market Monitoring Unit assessment

Electricity sales under competitive conditions to household clients between April 2017 and March 2019 are shown in the following graph:

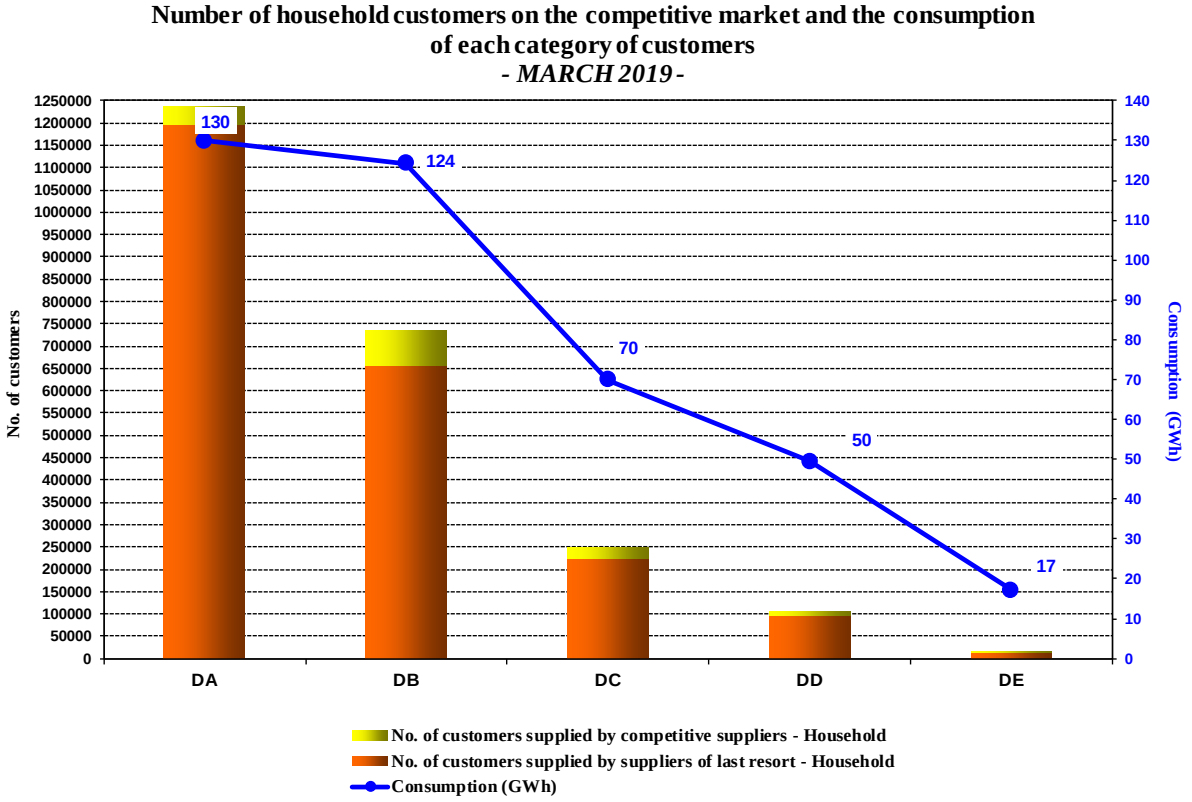


Source: Monthly reports of the suppliers – Electricity Market Monitoring Unit assessment

Number of non-household customers on the competitive market and the consumption of each category of customers
- MARCH 2019-



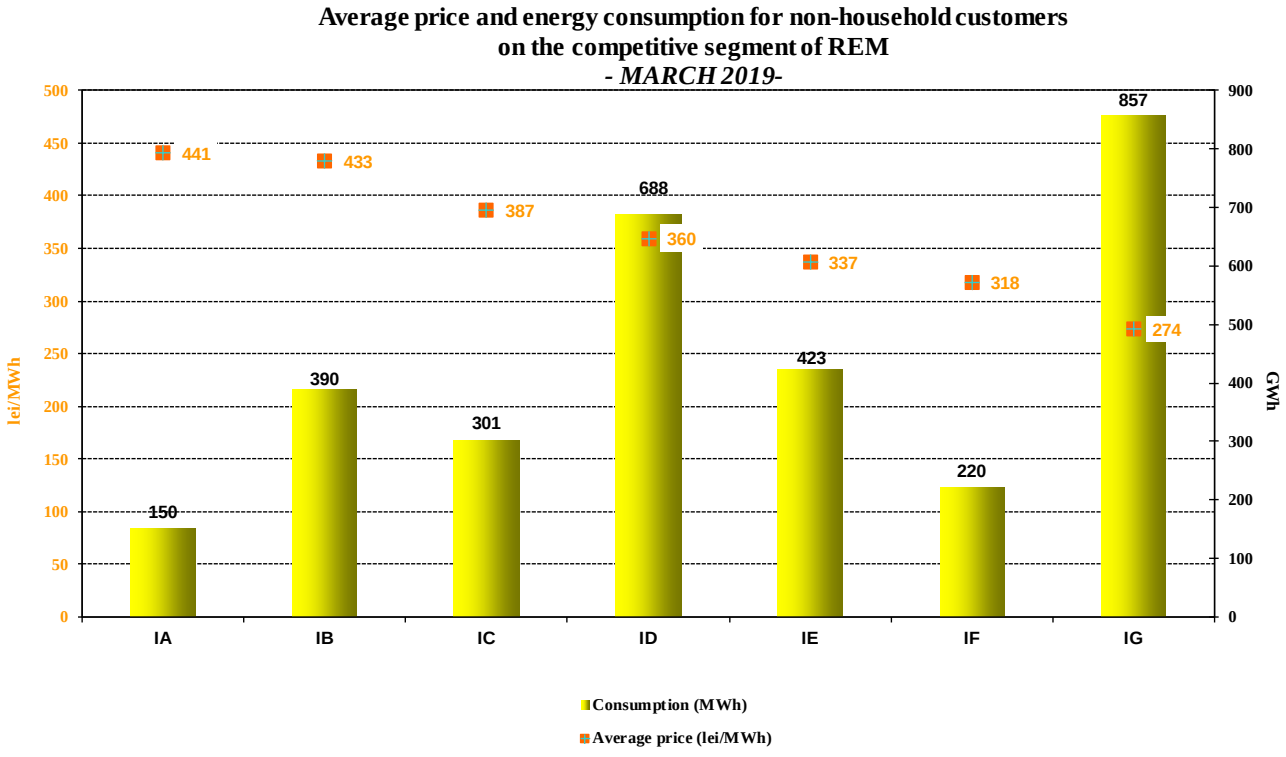
Source: Monthly reports of the suppliers – Electricity Market Monitoring Unit assessment



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

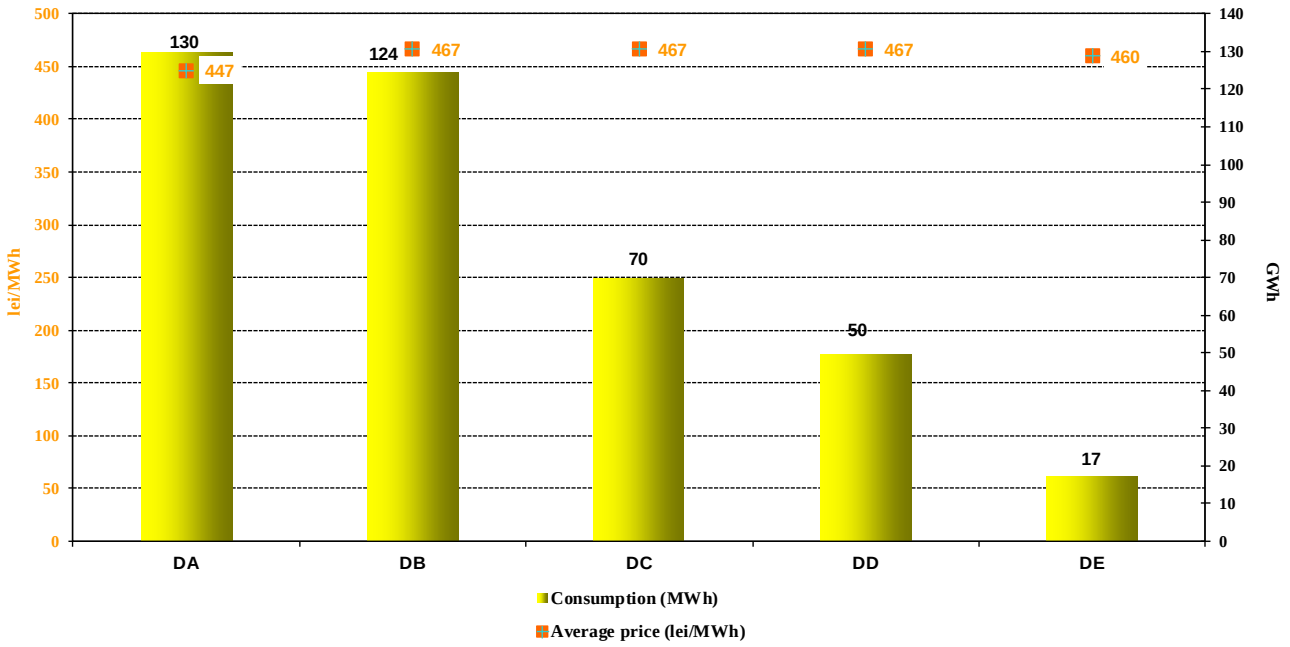
6. *Average selling prices to final clients on the competitive market*

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



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

Average price and energy consumption for household customers on the competitive segment of REM
- MARCH 2019 -



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

***Disclaimers**: 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.*

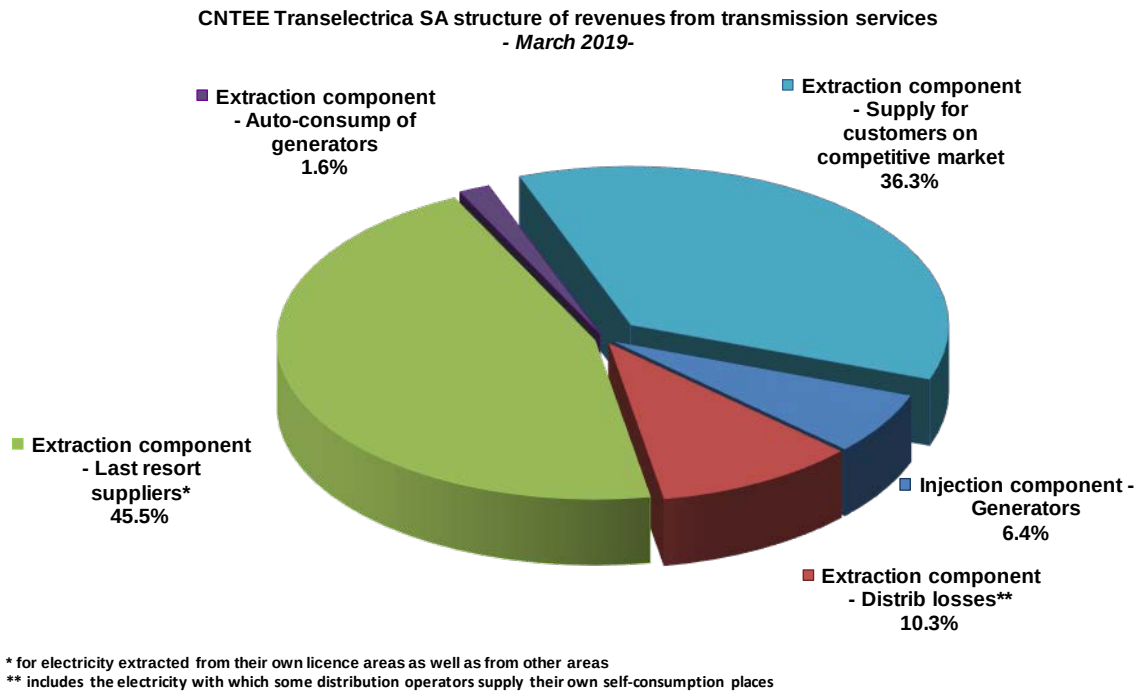
IV. TRANSMISSION AND SYSTEM OPERATOR CNTEE TRANSELECTRICA SA

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 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.

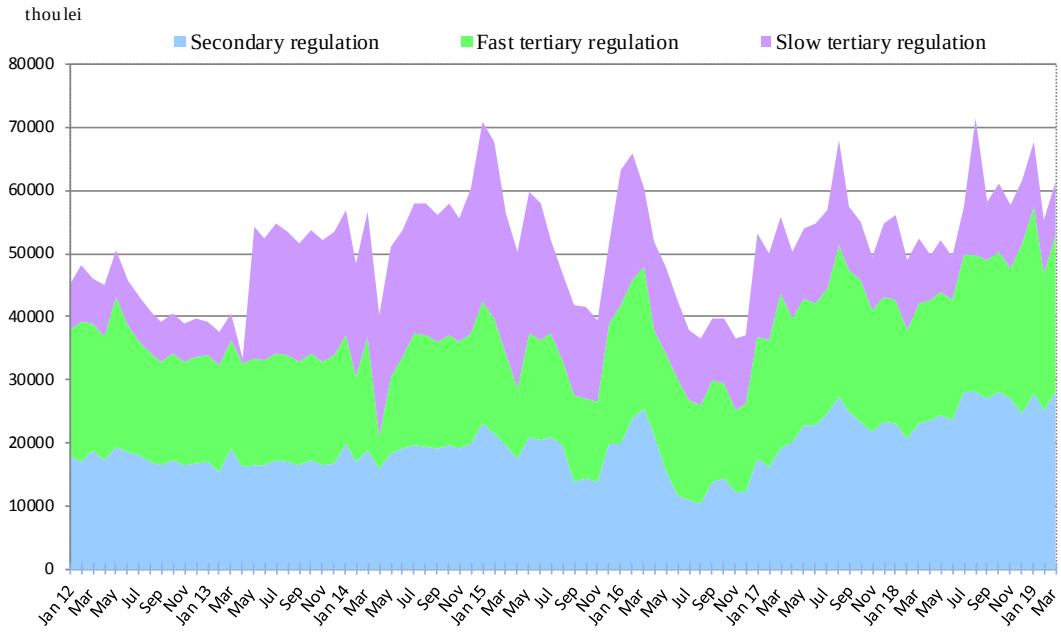
The following graph presents the structure of the revenues for March 2019, following the provision of the transmission service.



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

In order to perform the system operator tasks, CNTEE Transelectrica SA assesses and contracts reserves (ancillary services) from qualified participants, which are integrated on BM. The ancillary services which may be used are reserves for secondary, fast tertiary, slow tertiary and reactive energy. The following graph represents the evolution of the costs of the transmission and system operator, starting with January 2012, for the aquisition (regulated and/or through market mechanisms) of ancillary services. In order 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 MARCH 2019

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

- ANRE President Order no. 46/ 29 March 2019 approving the modification and completion of the Regulation for the organization and functioning of the Green Certificates Market, approved by the ANRE President Order no. 77/2017;
- ANRE President Decision no. 563/2019 approving the "Region-specific Annex for CORE capacity calculation region for the harmonized allocation rules for long-term transmission rights according to Article 52 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation;
- ANRE President Decision no. 472/20 March 2019 approving the quantities produced in high efficiency cogeneration units benefiting from the bonus scheme for February 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 under universal service and last resort regime*** represents the consumption of customers supplied by the suppliers of last resort at CMC and last resort prices;
- ***Consumption of final customers on competitive market*** represents the consumption of customers supplied at negociated 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 (according to ANRE President Order No. 89/2013).

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 Electricty 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