



ROMANIAN ENERGY REGULATORY AUTHORITY

DEPARTMENT FOR MONITORING, REMIT



ELECTRICITY MARKET MONITORING REPORT

MARCH 2020

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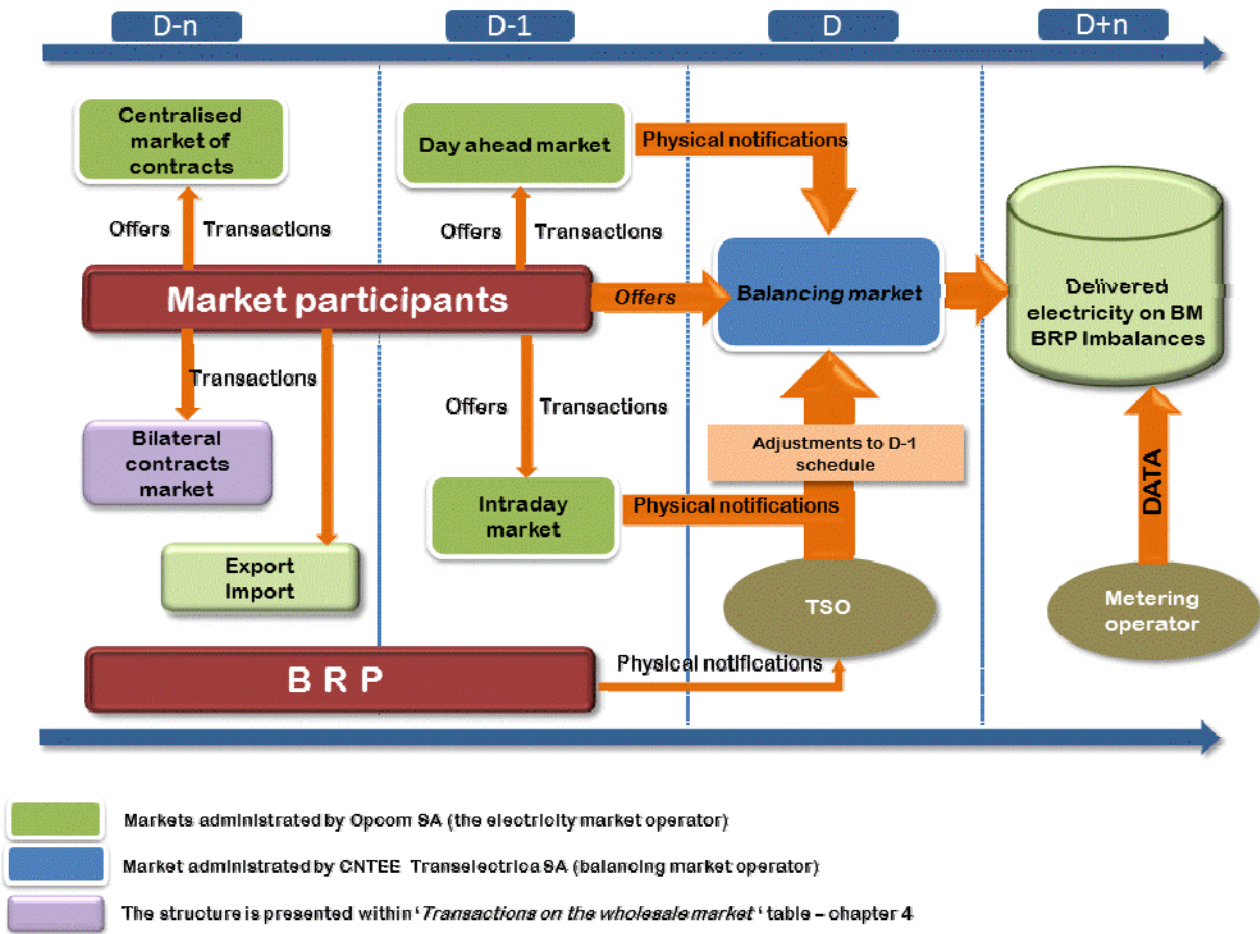
I. MAIN EVENTS IN THE DEVELOPMENT OF THE ROMANIAN ELECTRICITY MARKET

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

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

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 2020 are presented below, split into categories:

No.	Category	No.	Category
A	Electricity generators on classic sources operating dispatching units	D	Electricity generators on solar source operating dispatching units
1	Bepco SRL	1	Blue Sand Investment SRL
2	CET Arad SA	2	Caracal Solar Alpha SRL
3	CET Govora SA	3	Casa Crang SRL
4	CE Hunedoara SA	4	Clue Solar SRL
5	CE Oltenia SA	5	Corabia Solar SRL
6	Contour Global Solutions SRL	6	Cujmir Solar SRL
7	Electrocentrale Bucuresti SA	7	Delta & Zeta Energy SRL
8	Electrocentral eGalați SA	8	Ecosfer Energy SRL
9	Electro Energy Sud SRL	9	Eye Mall SRL
10	Enet Focsani SA	10	Fort Green Energy SRL
11	Modern Calor SA	11	Foton Epsilon SRL
12	OMV Petrom SA	12	Gama & Delta Energy SRL
13	Petrotel-Lukoil SA	13	GPSB Solaris 48 SRL
14	Rulmenti SA	14	Greenlight Solution SRL
15	SNGN Romgaz SA	15	Green Vision Seven
16	Termoficare Oradea SA	16	Kentax Energy SRL
17	Veolia Energie Iasi SRL	17	Lemar Grup SRL
18	Veolia Energie Prahova SRL	18	IJG Green Source Energy Alpha SA
19	Vest Energo SA	19	IJG Green Source Energy Beta SRL
		20	IJG Green Source Energy Gamma SRL
B	Electricity generators on wind source operating dispatching units	21	Long Bridge Milenium SRL
1	Alizeu Eolian SA	22	Mar-Tin Solar Energy SRL
2	Arinna Development SRL	23	Potehi Solar SRL
3	Blue Line Energy SRL	24	Power L.I.V.E. One SRL
4	Braia Winds SRL	25	RA-RA PARC SRL
5	Bridgeconstruct SRL	26	Romkumulo SRL
6	Catalan Electric SRL	27	Simico Prod Factory SRL
7	Cernavoda Power SRL	28	Skybase Energy SRL
8	Corni Eolian SRL	29	Solar Electric Frasinet SRL
9	Crucea Wind Farm SRL	30	Solar Future Energy SRL
10	Dan Holding MGM SRL	31	Solaria Green Energy SRL
11	Eco Power Wind SRL	32	Solprim SRL
12	Ecoenergia SRL	33	Spectrum Tech SRL
13	EDPR Romania SRL	34	Studina Solar SRL
14	Electrica Serv SRL	35	Sun Energy Complet SA
15	Electricom SA	36	Tis Energy SRL
16	Elektra Green Power SRL	37	Tinmar Green Energy SRL
17	Elektra Wind Power SRL	38	Urdel Energy SRL
18	Enel Green Power Romania SRL	39	Vanju Mare Solar SRL
19	Energia Verde Venturo SRL	40	Varokub Energy Development SRL
20	Energo Proiect SRL	41	VIR Company International SRL
21	Enex SRL	42	VIS Solaris 2011 SRL
22	Eol Energy SRL	43	Vrsh Pro Investments SRL
23	Eol Energy Moldova SRL	44	Warehouses de Paw Romania
24	Eolian Center SRL	45	Xalandine Energy SRL
25	Eolca Dobrogea One SRL	46	XPV SRL
26	EP Wind Project (ROM) SIX SA		
27	Eviva Nalbant SRL	E	Electricity generators on hydro source operating dispatching units
28	Ewind SRL	1	Hidroelectric SA
29	General Concrete Cernavoda SRL		
30	Green Energy Farm SRL	F	Electricity generator on nuclear source operating dispatching units
31	Ground Investment Corp SRL	1	SN Nuclearelectrica SA
32	Holrom Renewable Energy SRL		
33	Horia Green SRL	G	Transmission System Operator
34	Intertrans Karla SRL	1	CNTEE TRANSELECTRICA SA
35	Kelavent Charlie SRL		
36	Kelavent Echo SRL	H	Operator DAM, ID, CMBC-EA, CMBC-CN, CMBC-CP, CM-OTC, MCP, CMUS, CME-RES-GC
37	Land Power SRL	1	OPCOM SA
38	LC Business SRL		
39	M&M 2008 SRL	I	Distribution operators
40	Mireasa Energies SRL	1	Distributie Energie Oltenia
41	East Wind Farm SRL	2	Delgaz Grid
42	Ovidiu Development SRL	3	E-Distributie Banat
43	Peștera Wind Farm SRL	4	E-Distributie Dobrogea
44	Romconstruct Top SRL	5	E-Distributie Muntenia
45	Sibioara Wind Farm SRL	6	SDEE Muntenia Nord
46	Smart Clean Power SRL	7	SDEE Transilvania Nord
47	Smartbreeze SRL	8	SDEE Transilvania Sud
48	Soft Grup SRL		
49	Tomis Team SRL	J	Obligated Suppliers of Last Resort
50	Verbund Wind Power Romania SRL	1	CEZ Vanzare SA
51	Wind Park Invest SRL	2	ENEL Energie SA
52	Windfarm MV I SRL	3	E.ON Energie Romania SA
53	VS Wind Farm SRL	4	ENEL Energie Muntenia SA
		5	Electrica Furnizare SA
C	Electricity generators on biomass source operating dispatching units		
1	Bioenergy Suceava SRL		

K	Category
	<i>Electricity Suppliers acting exclusively on the wholesale market</i>
1	AIK Energy Ltd
2	Axpo Energy Romania SRL
3	CEZ as
4	Danske Commodities/s Aarhus
5	EDF Trading Limited
6	Elpetra Energy E.A.D.
7	Energi Danmark A/S
8	Energo-Pro Trading EAD
9	Energovia EOOD
10	Energy Deta SRL
11	Energy Supply D.O.O
12	Energy Republic Trading SRL
13	Eolian Project SRL
14	EVN Trading South East Europe
15	Ezpada AG
16	Flavus Investiții SRL
17	Freepoint Commodities Europe Ltd
18	GEN I trgovanje in prodaja elektricne energije doo
19	Holding Slovenske Elektrarne
20	Interenergo Energetski, Inženiring d.o.o.
21	Kompact Grid SRL
22	Lord Energy SRL
23	MFT Energy A/S
24	MVM Partner Zrt
25	Neptun SA
26	Nis Petrol SRL
27	OMV Gas Marketing & Trading GmbH
28	Petrol, Slovenska energetska družba
29	Ritam-4- TB ood
30	Statkraft Markets GmbH
L	<i>Electricity Suppliers acting also on the retail market</i>
1	A Energy Ind SRL
2	Absolute Energy SRL
3	Aderro G.P. Energy SRL
4	Alive Capital SRL
5	Alro SA
6	Anchor Grup SA
7	Apuron Energy SRL
8	Aqua Energia SA
9	Conarg Real Estate SRL
10	Cotroceni Park SA
11	Crest Energy SRL
12	Cyeb SRL
13	Egger Romania SRL

L	Category
	<i>Electricity Suppliers acting also on the retail market</i>
14	EFT Furnizare SRL
15	Elcata MHC SRL
16	Electric Planners SRL
17	Electrificare CFR SRL
18	Electrocarbon SA
19	Electromagnetica SA
20	Elsid SA
21	Energia Gas & Power SRL
22	Energy Distribution Services SRL
23	Engie Romania SA
24	Energy Trade Activ SRL
25	Energy Grid SRL
26	Enero Furnizare SRL
27	Enol Grup SA
28	Entrex Services SRL
29	Evobits Information Technology
30	Getica 95 Com SRL
31	Grenerg SRL
32	Hermes Energy International SRL
33	ICCO Energy SRL
34	ICPE Electrocond Technologies SA
35	Imperial Development SRL
36	Industrial Energy SA
37	Izvor de Lumina SRL
38	Liberty Galați SA
39	Luxten LC SA
40	MET Romania Energy SA
41	Monsson Trading SRL
42	Next Energy Parteners SRL
43	Nova Power&Gas SRL
44	P.C. Management & Consulting SRL
45	Photovoltaic Green Project SRL
46	Plenerg SRL
47	QMB Energ SRL
48	RCS&RDS SA
49	Renovatio Trading SRL
50	RES Energy Solutions SA
51	Restart Energy One SRL
52	Romelectro SA
53	Stock Energy SRL
54	Tinmar Energy SA
55	Transenergo Com SA
56	Transformer Energy Supply SRL
57	Uzinsider General Contractor SA
58	Veolia Energie România SA
59	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. 167/2019, with subsequent amendments and additions. The table above does not include the Balancing Responsible Parties (BRP). The updated BRP list is published on the Balancing Market Operator website, CNTEE TRANSELECTRICA SA - www.transelectrica.ro.

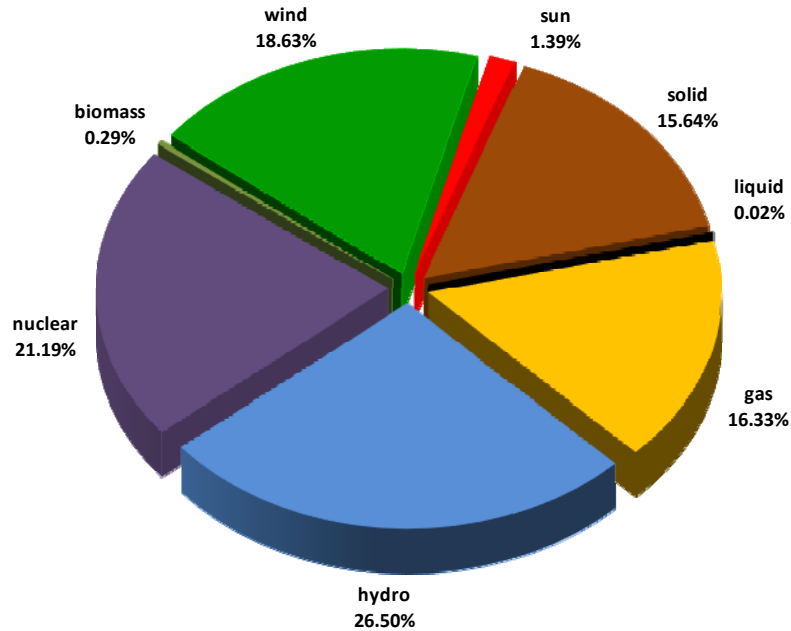
The monitored electricity generation license holders are producers holding dispatchable groups, which, according to the *Regulation for programming production units and dispatchable consumers*, approved by the ANRE Order no. 32/2013 are classified under the following power categories:

- 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 types of resources

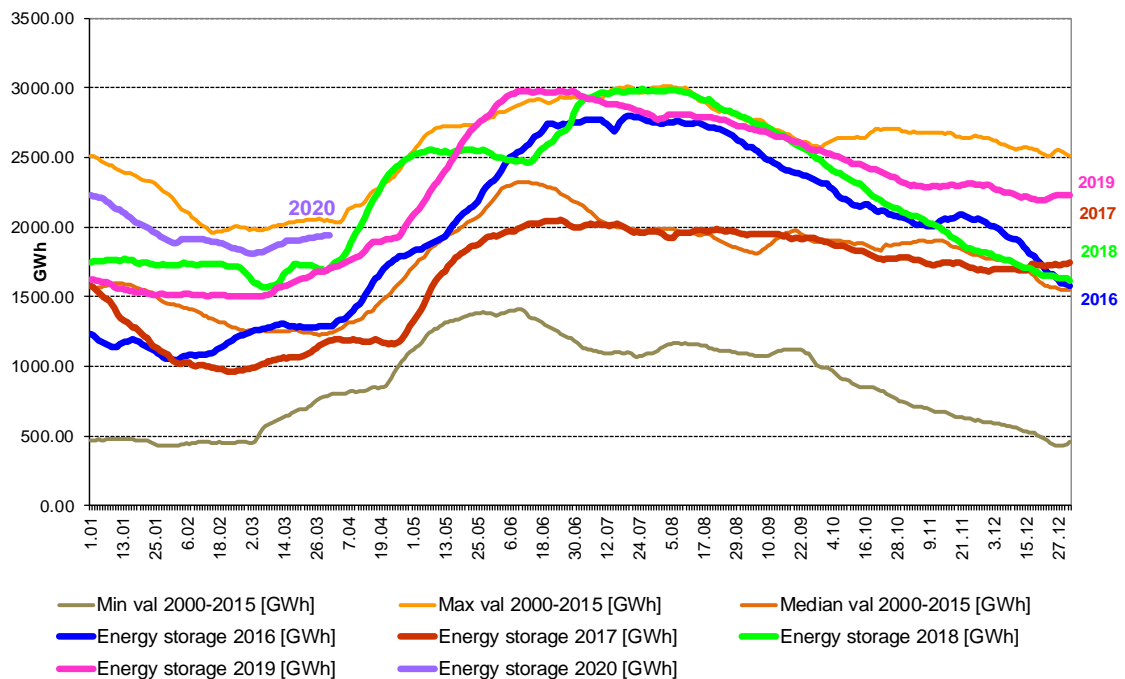
Electricity structure by primary sources (delivered by generators with dispatchable units)
-March 2020



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 2020 compared to the daily values of the last 4 years and to the minimum, maximum and median values from 2000-2015.

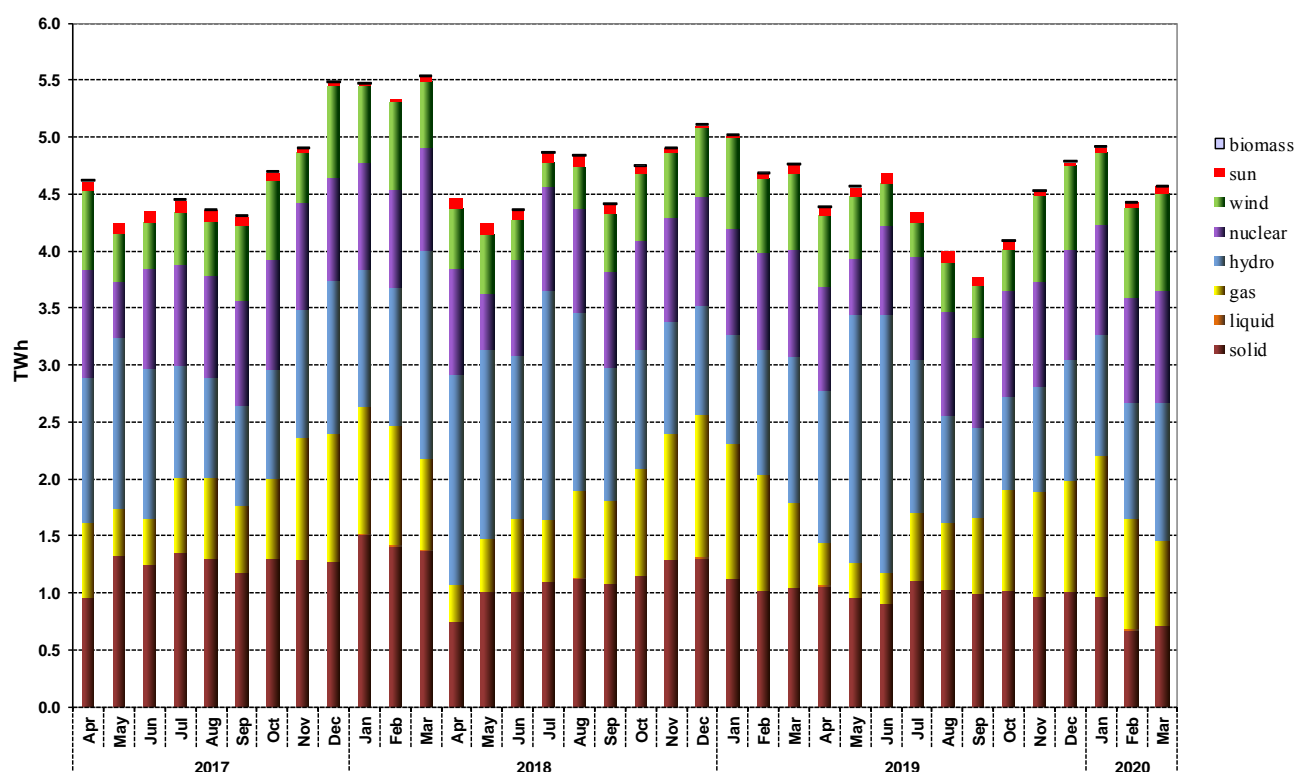
Yearly evolution of daily values of energy stored in the main water reservoir



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

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

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



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

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

Nr. crt.	INDICATOR	UM	March 2019	March 2020	%	Jan-Mar 2019	Jan-Mar 2020	%
0	1	2	3	4	$5=4/3*100$	6	7	$8=7/6*100$
1	Generated electricity	TWh	5.07	4.85	95.66	15.45	14.81	95.86
2	Delivered electricity	TWh	4.76	4.58	96.22	14.48	13.93	96.21
3	Import	TWh	0.29	0.59	203.45	1.13	1.98	175.23
4	Export	TWh	0.32	0.57	178.13	0.86	1.56	181.40
5	Internal consumption (2+3-4)	TWh	4.73	4.60	97.26	14.75	14.35	97.29
6	Consumption of households:	TWh	1.12	1.17	104.46	3.46	3.53	102.02
6.1	- on US/regulated regime	TWh	0.73	0.73	100.00	2.31	2.20	95.24
6.2	- on the competitive market	TWh	0.39	0.44	112.82	1.15	1.33	115.65
7	Consumption of non-household customers:	TWh	3.12	2.92	93.59	9.33	8.97	96.14
7.1	- on US, last resort regime and inactive clients	TWh	0.09	0.08	88.89	0.27	0.27	100.00
7.2	- on the competitive market	TWh	3.03	2.84	93.73	9.06	8.70	97.11
8	Transmission–Injection component	TWh	4.66	4.48	96.14	14.17	13.66	96.40
9	Transmission–Extraction component	TWh	4.77	4.64	97.28	14.68	14.43	98.30
10	Transmission grid losses	TWh	0.09	0.08	88.89	0.26	0.24	92.31
11	Heat generated for delivery	Tcal	1308.69	1238.47	94.64	4759.71	4107.02	86.29
12	Heat in co-generation	Tcal	1022.70	992.22	97.02	3568.44	3271.43	91.68

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. 81/2019);
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 and no. 217/2019).

4. The structure of trades on the wholesale electricity market

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

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

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

At the same time, 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 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. By the same Law, it was allowed the possibility of aggregating 2 or more producers of electricity from renewable sources regardless of the technology used to participate in the competitive energy markets, by derogation from the provisions of Article 23(1) and Article 28 b) and c) of Law no. 123/2012. As a result, the specific regulatory framework has been modified to reflect the possibility of the aggregate entity's participation in trading on centralized electricity markets.

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 2020	March 2019
1. BILATERAL CONTRACTS MARKET			
traded volume (GWh)	688	462	276
average price (lei/MWh)	142.09	141.72	150.28
% from internal consumption (%)	14.7	10.0	5.8
1.1. Sales on regulated contracts			
traded volume (GWh)	658	431	252
average price (lei/MWh)	139.63	137.78	148.05
% from internal consumption (%)	14.0	9.4	5.3
1.2. Sales on negotiated contracts¹⁾			
traded volume (GWh)	30	30	23
average price (lei/MWh)	195.92	197.41	174.52
% from internal consumption (%)	0.6	0.7	0.5
2. EXPORT			
traded volume (GWh) ²⁾	419	571	321
average price (lei/MWh)	189.44	143.86	171.53
% from internal consumption (%)	8.9	12.4	6.8
3. CENTRALIZED MARKETS OF BILATERAL CONTRACTS			
traded volume (GWh)	3691	4121	5079
average price (lei/MWh)	279.20	267.07	239.26
% from internal consumption	78.5	89.7	107.5
3.1. Extended auction mechanism CMBC-EA³⁾			
traded volume (GWh)	1378	1399	1661
average price (lei/MWh)	273.10	271.08	232.35
% from internal consumption	29.3	30.04	35.1
3.2. Continuous negotiation mechanism CMBC-CN³⁾			
traded volume (GWh)	625	686	1380
average price (lei/MWh)	283.27	276.32	236.14
% from internal consumption	13.3	14.9	29.2
3.3. CM-OTC mechanism³⁾			
traded volume (GWh)	1687	2031	2039
average price (lei/MWh)	282.67	261.33	247.00
% from internal consumption	35.9	44.2	43.2
3.4. CME-RES-GC			
traded volume (GWh)	0.7	4	
average price (lei/MWh)	287.8	194.2	-
% from internal consumption	0.02	0.1	
4. CENTRALIZED MARKET FOR UNIVERSAL SERVICE - CMUS			
traded volume (GWh)	0	0	178
average price (lei/MWh)	0.00	0.00	292.59
% from internal consumption	0.0	0.0	3.8
5. DAY AHEAD MARKET			
traded volume (GWh)	2870	2462	2013
average price (lei/MWh) ⁴⁾	193.69	143.07	182.78
% from internal consumption	61.1	53.6	42.6
6. INTRADAY MARKET			
traded volume (GWh)	57	56	40
average price (lei/MWh) ⁵⁾	211.30	180.33	154.52
% from internal consumption	1.2	1.2	0.8
7. BALANCING MARKET			
traded volume (GWh)	258	372	374
% from internal consumption	5.5	8.1	7.9
upward volume (GWh)	52	36	58
average price for negative imbalance (lei/MWh)	560.31	512.97	531.86
downward volume (GWh)	206	336	316
average price for positive imbalance (lei/MWh)	6.23	6.21	6.08
INTERNAL CONSUMPTION (GWh) <i>(distribution and transmission losses included)</i>	4699	4596	4725

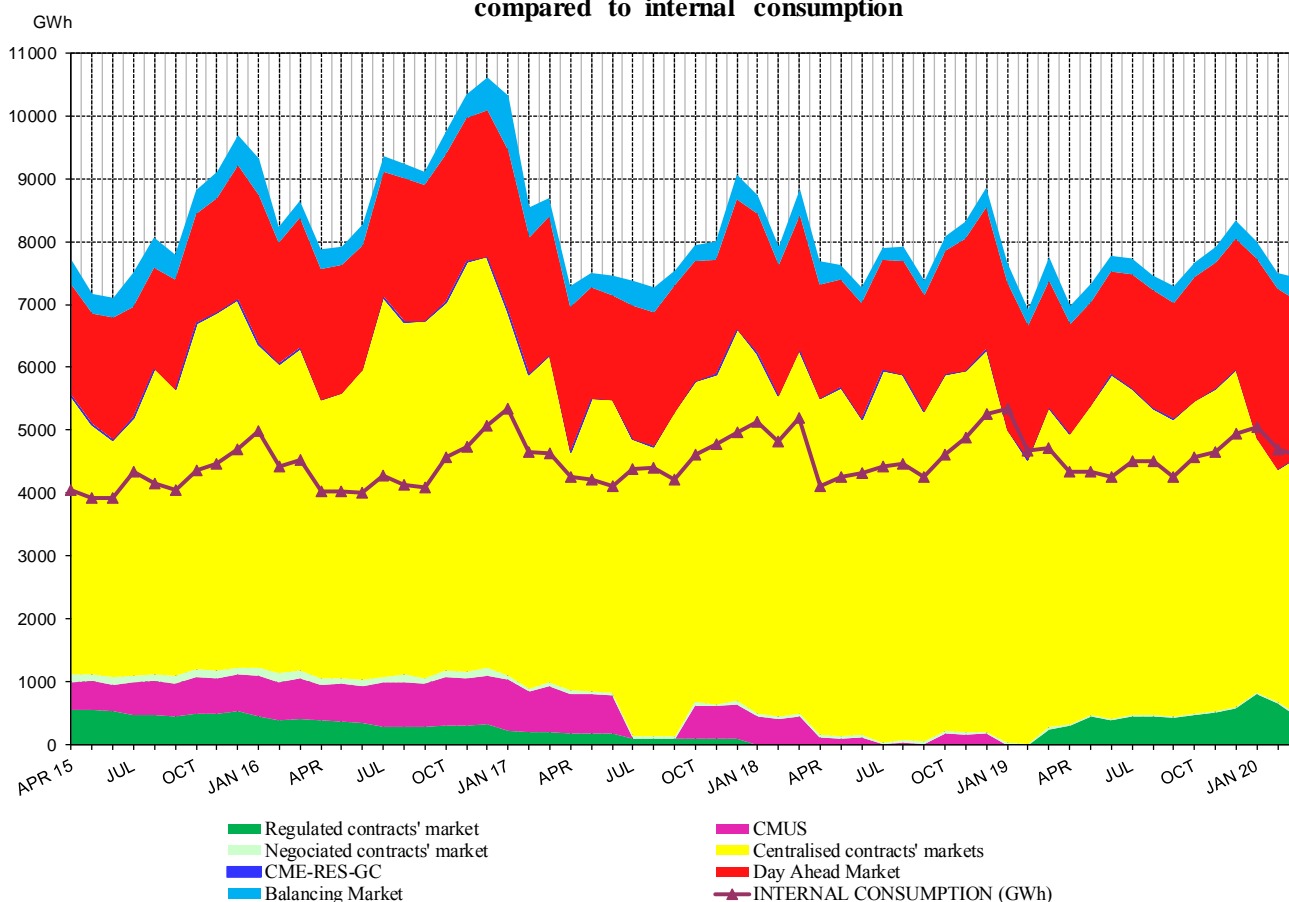
* The differences with the March 2019 Electricity Market Monitoring Report are determined by the corrections reported by the market participants, which were included in the current report.

- 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 is 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 determined as an arithmetic average of the hourly closing prices and is published by Opcom SA; the average price calculated as a weighted average of the hourly closing prices with the traded volumes was 146.87 lei/MWh in March 2020, and it was also published by OPCOM SA;
- 5) The average monthly price is calculated based on the monthly traded volumes and values, published by OPCOM SA.

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 of the relation between the volumes sold on each market and the estimated internal consumption for the period April 2015 – March 2020:

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

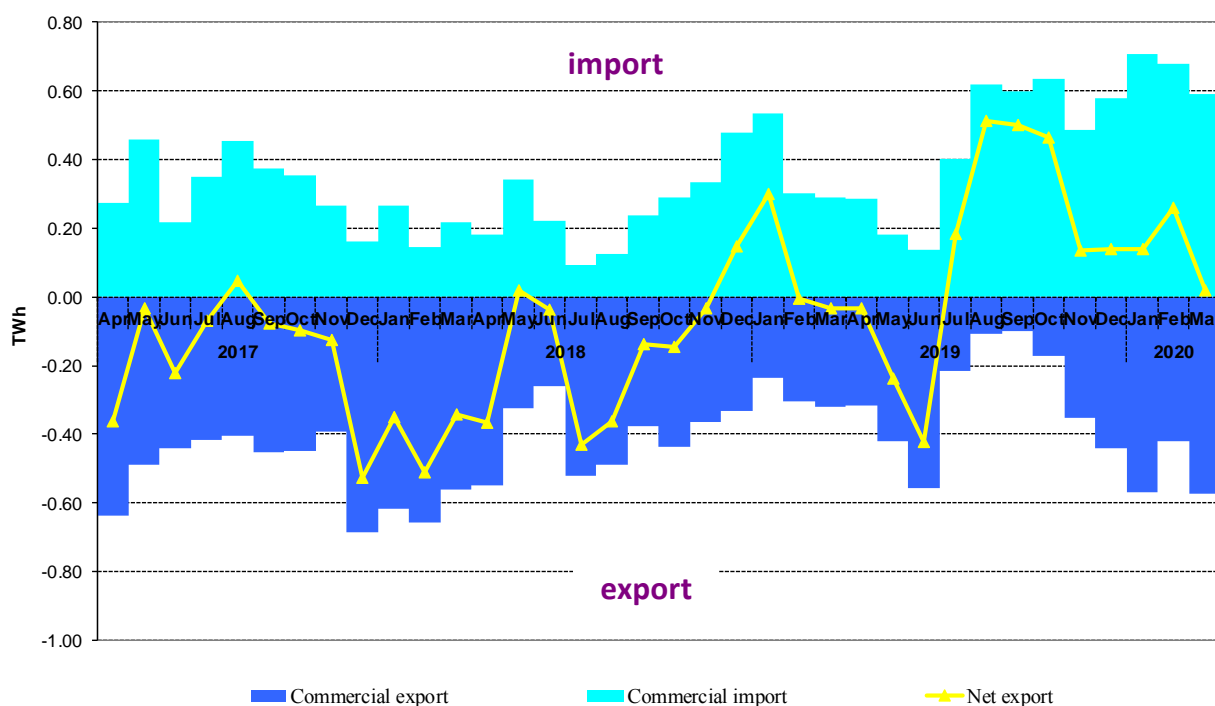


Source: Monthly reports of wholesale market participants, Opcom SA and CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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 36 months:

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



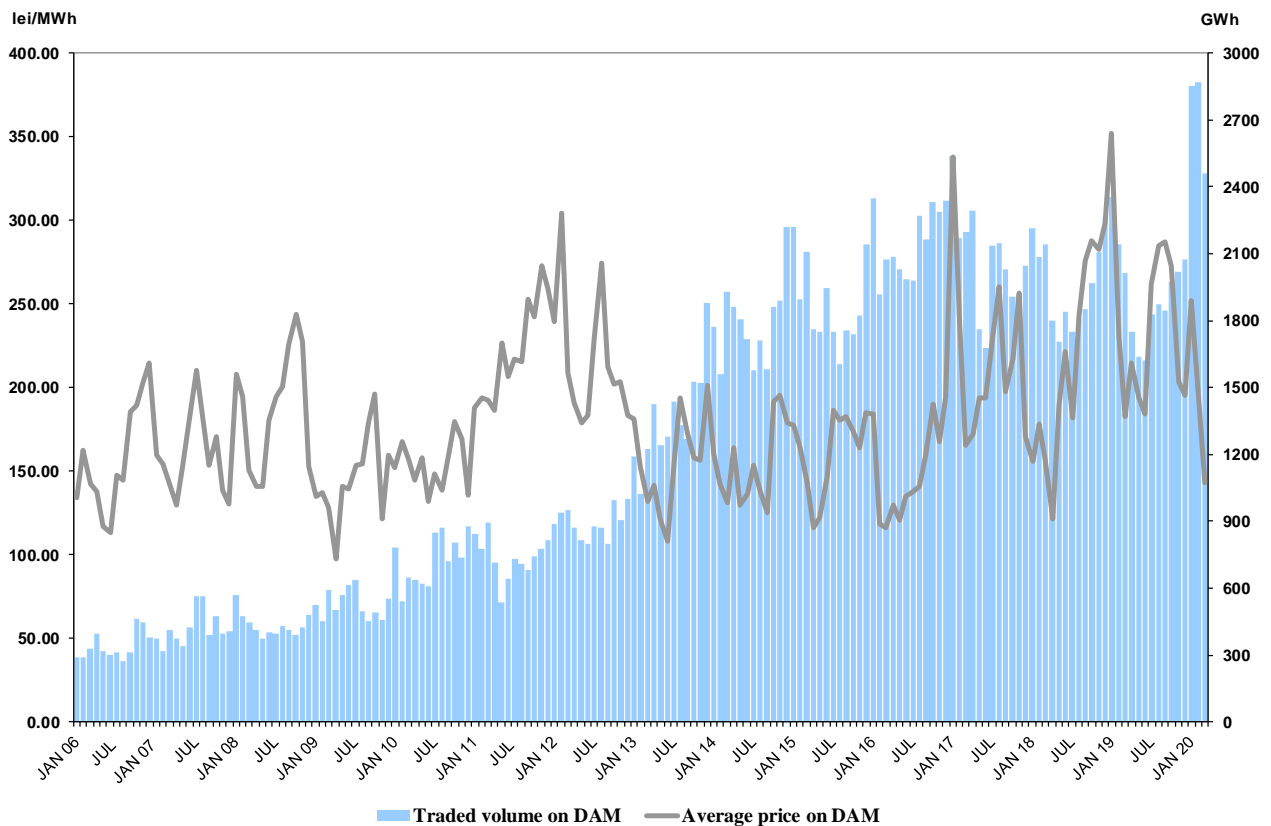
Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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	February 2020	March 2020	March 2019
Export			
traded volume (GWh)	419	571	321
average price (lei/MWh)	189.44	143.86	171.53
% from internal consumption	8.9	12.4	6.8
of which, through coupled DAM			
traded volume (GWh)	75	167	104
average price (lei/MWh)	182.99	141.27	172.52
% from internal consumption	1.59	3.64	2.2
of which, through coupled ID			
volum tranzacționat (GWh)	10	11	-
preț mediu (lei/MWh)	213.03	158.27	-
% din consumul intern	0.21	0.23	-
Import			
traded volume (GWh)	679	591	290
average price (lei/MWh)	230.22	203.64	213.87
% from internal consumption	14.4	12.9	6.1
of which, through coupled DAM			
traded volume (GWh)	148	62	107
average price (lei/MWh)	205.51	135.12	186.88
% from internal consumption	3.1	1.3	2.3
of which, through coupled ID			
traded volume (GWh)	13	14	-
average price (lei/MWh)	211.34	157.53	-
% from internal consumption	0.28	0.30	-

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

Monthly evolution of the traded volume and average prices on DAM



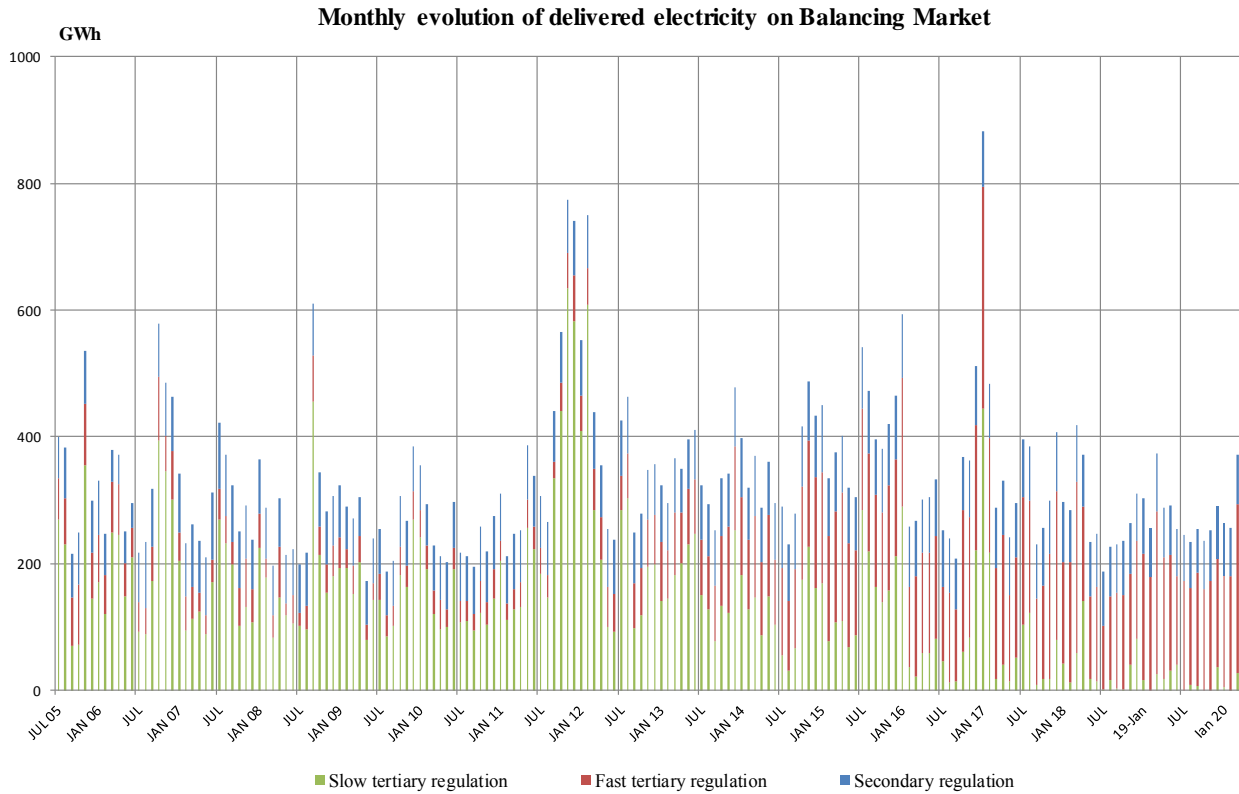
Source: Monthly reports of Opcom SA and CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

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 March 2020 is presented in the following table:

March 2020	Dispatch order (GWh)	Delivered electricity (GWh)	Deviation (%)
Secondary regulation	79	79	
upward	23	23	
downward	57	57	
Fast tertiary regulation	276	266	4
upward	13	13	2
downward	262	253	4
Slow tertiary regulation	27	27	0
upward	0	0	0
downward	27	27	0
TOTAL	382	372	
upward	36	36	
downward	346	336	
INTERNAL CONSUMPTION		4596	
% share of traded volumes from internal consumption		8.1%	

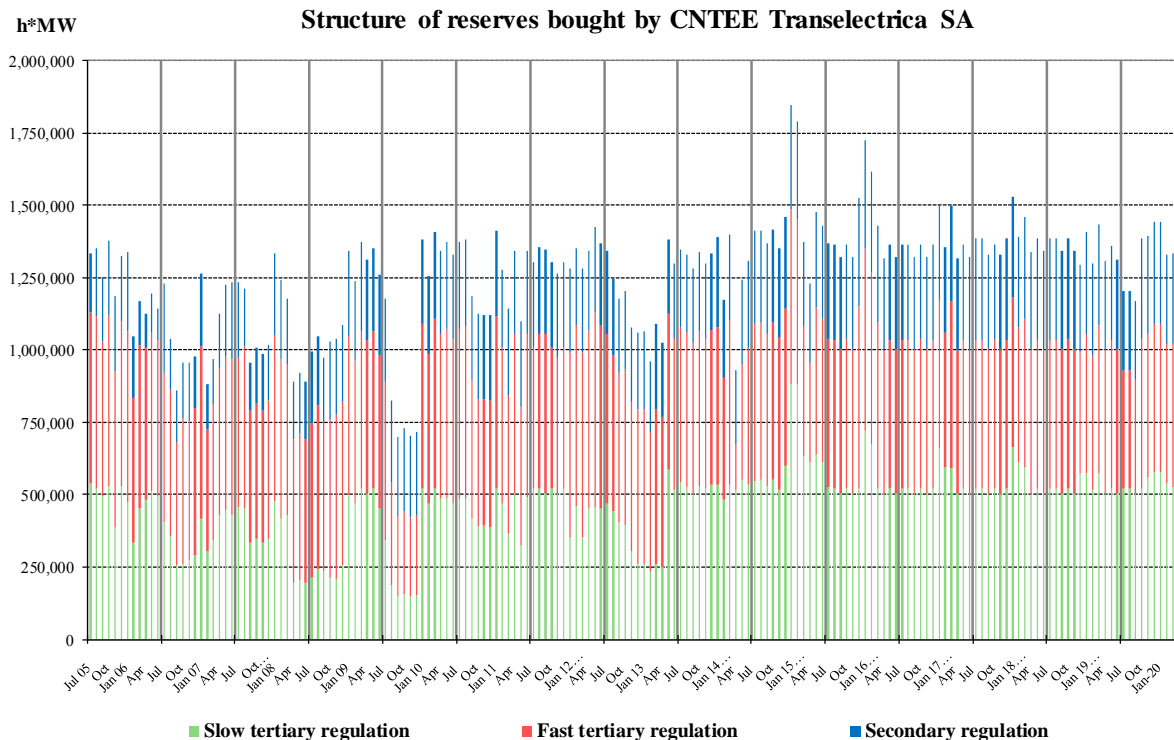
Source: Monthly reports of CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

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



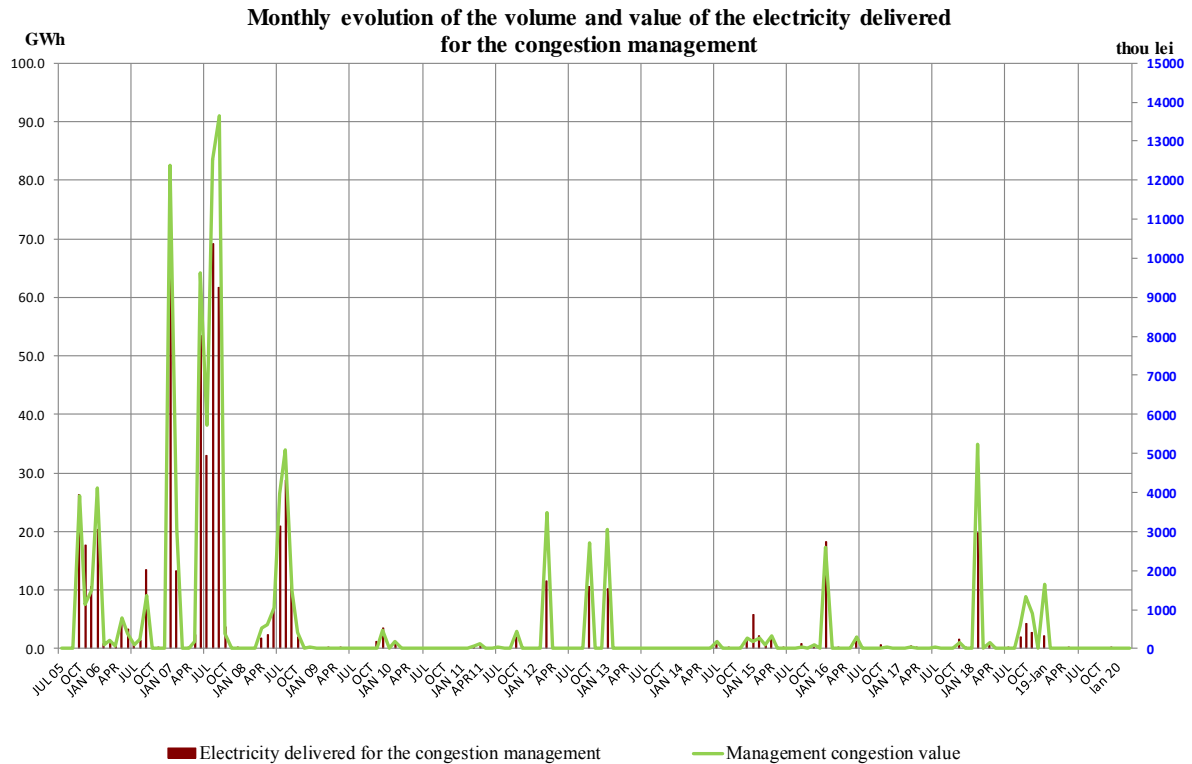
Source: Monthly reports of CNTEE Tranelectrica SA – Electricity Market Monitoring Unit assessment

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 - March 2020:



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

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



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

Trade type	-GWh-	
	March 2019	March 2020
Thermal, hydro and nuclear producers, regulated contracts with last resort suppliers	252.37	431.23
Negotiated contracts, to suppliers	23.21	30.49
Contracts concluded on the Opcom centralized markets:	3158.42	2305.89
CMBC-EA	1558.46	1202.66
CMBC-CN	903.37	270.78
CM-OTC	696.59	828.41
CME-RES-GC		4.05
CMUS	137.47	0.00
DAM	1384.60	1948.20
ID	33.89	36.87
Supply contracts to final customers, out of which:	433.33*	357.16
Households	0.31	0.32
Non-households	433.02*	356.84
Total	5423.29*	5109.83

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

* The differences with the March 2019 Electricity Market Monitoring Report are determined by the corrections reported by the market participants, which were included in the current report.

Suppliers

In March 2020, 94 undertakings having as the main activity that of electricity supply were active on the electricity market; out of these, 30 are suppliers that only operate on the wholesale electricity market (some of which have a license for electricity trading) and 64 are suppliers that are also active on the retail electricity market (including the last resort suppliers, that are active both on the regulated and the competitive segments of the REM).

Suppliers acting exclusively on WEM

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

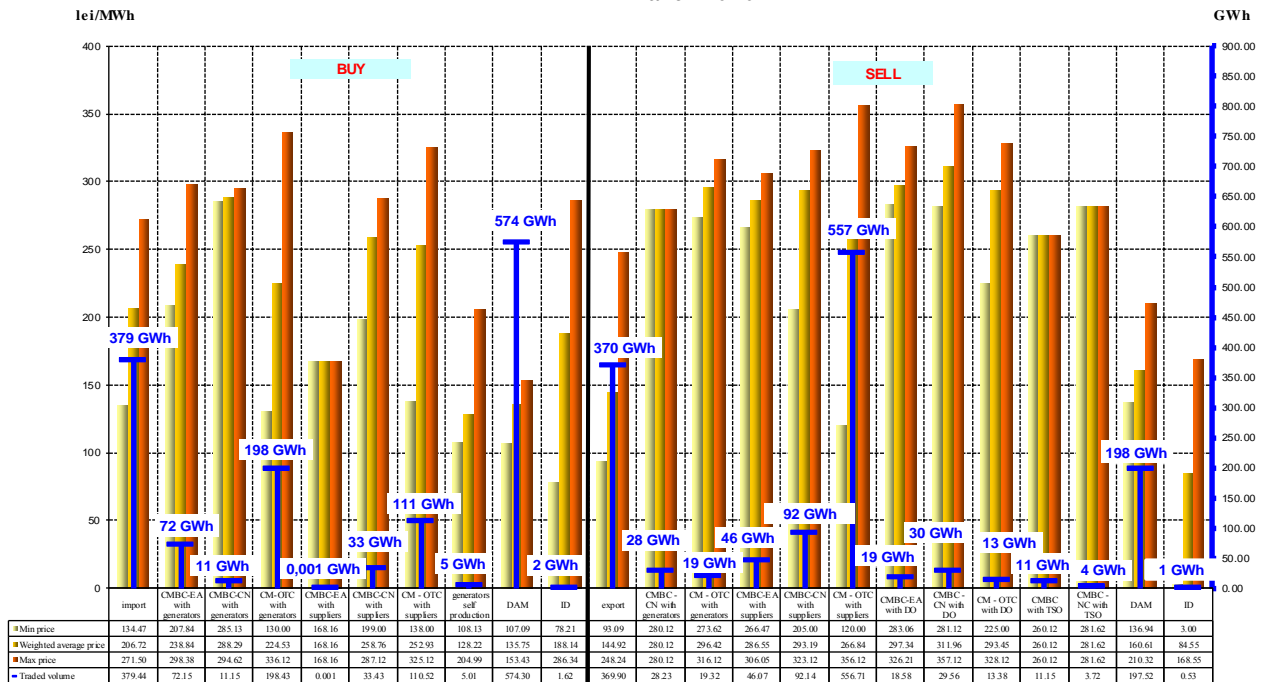
-GWh-

Trades' structure of suppliers acting exclusively on WEM	March 2019	March 2020
Buy		
Import	151.00	379.44
Contracts concluded on Opcom centralized markets, out of which:	896.03	425.68
- on CMBC-EA with producers	122.67	72.15
- on CMBC-CN with producers	245.19	11.15
- on CM-OTC with producers	310.62	198.43
- on CMBC-EA with other suppliers	0.0007	0.001
- on CMBC-CN with other suppliers	0.00	33.43
- on CM-OTC with other suppliers	217.55	110.52
production from own sources	2.29	5.01
DAM	423.86	574.30
ID	0.73	1.62
Sell		
Export	209.42	369.90
Contracts concluded on Opcom centralized markets, out of which:	1004.52	818.84
- on CMBC-CN with producers	0.00	28.23
- on CM-OTC with producers	9.11	19.32
- on CMBC-EA with other suppliers	6.69	46.07
- on CMBC-CN with other suppliers	250.45	92.14
- on CM-OTC with other suppliers	672.87	556.71
- on CMBC-EA with DO	14.86	18.58
- on CMBC-CN with DO	13.37	29.56
- on CM-OTC with DO	29.74	13.38
- on CMBC-EA with TSO	0.00	11.15
- on CMBC-CN with TSO	7.43	3.72
CMUS with last resort suppliers	26.01	0.00
DAM	232.40	197.52
ID	1.08	0.53

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

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

**Trades concluded by suppliers acting exclusively on WEM
- March 2020-**



Source: Monthly reports of 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 acquisitions and sales made by these market participants in March 2020, compared with the similar period of 2019:

Trades' structure of suppliers acting on REM (suppliers of last resort not included)	-GWh -	
	March 2019	March 2020
Buy		
Import	31.54	136.20
Negotiated trades with producers	23.60***	29.67
Trades concluded on Opcom centralized markets, out of which:	1873.69	1646.68
- on CMBC-EA with producers	664.37	411.50
- on CMBC-CN with producers	416.11	118.66
- on CM-OTC with producers	187.96	259.37
- on CMBC-EA with other suppliers	31.87	71.79
- on CMBC-CN with other suppliers	136.39	113.30
- on CM-OTC with other suppliers	436.99	487.50
- on CME-RES-GC with producers	-	3.02
production from own sources	31.78***	28.85
Negotiated trades with non-dispatchable producers (others than under Law 220/2008)*	6.36	4.18
Negotiated trades with non-dispatchable producers (amendments, additions Law 220/2008)**	27.33***	28.51
Trades with prosumers		0.01
DAM	479.35***	930.37
ID	32.98	30.77

Trades' structure of suppliers acting on REM (not including suppliers of last resort)	March 2019	March 2020
Sell		
Export	8.36	23.16
Trades concluded on Opcom centralized markets, out of which:	886.53	961.25
- on CMBC-EA with producers	5.56	0.00
- on CMBC-CN with producers	21.55	9.19
- on CM-OTC with producers	22.18	66.88
- on CMBC-EA with other suppliers	53.07	66.58
- on CMBC-CN with other suppliers	113.36	160.07
- on CM-OTC with other suppliers	560.28	470.13
- on CMBC-EA with DO	14.50	40.88
- on CMBC-CN with DO	62.61	56.38
- on CMBC-OTC with DO	18.57	63.18
- on CMBC-EA with TSO	7.43	13.10
- on CMBC-CN with TSO	7.43	14.86
CMUS with last resort suppliers	14.86	0.00
DAM	79.36	115.43
ID	0.51	0.87
Households	27.35***	28.72
Non-households	1414.86***	1455.75

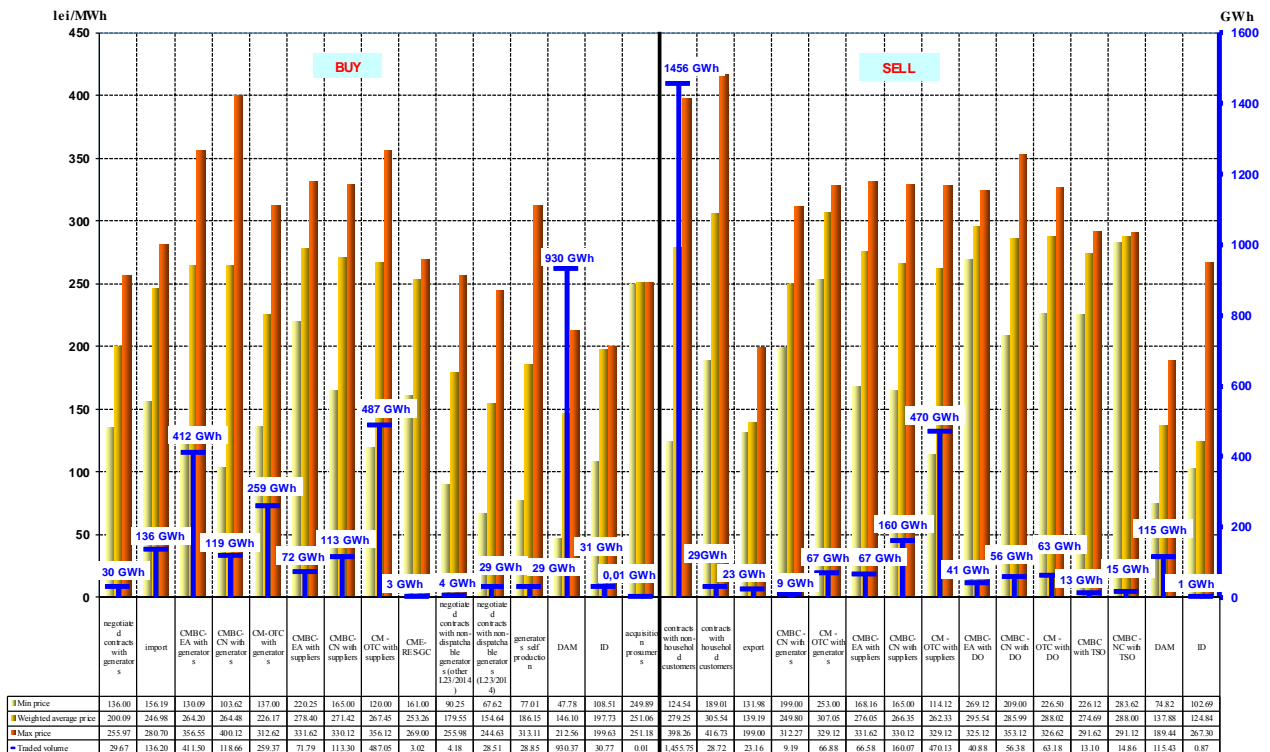
Source: Monthly reports of the competitive suppliers – Electricity Market Monitoring Unit assessment

Notes:

- *negotiated trades with non-dispatchable producers that do not fall under Law no. 220/2008, with subsequent modifications and additions.
- ** Negotiated trades with non-dispatchable producers that fall under Law no. 220/2008, with subsequent modifications and additions.
- ***Differences with March 2019 Electricity Market Monitoring Report are caused by the corrections reported by market participants.

The analysis by types of sources/ destinations of the volumes traded, the average, highest and lowest prices in March 2020, 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 - March 2020 -



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, last resort regime and inactive clients is shown in the table below for March 2020, compared with the similar period of 2019:

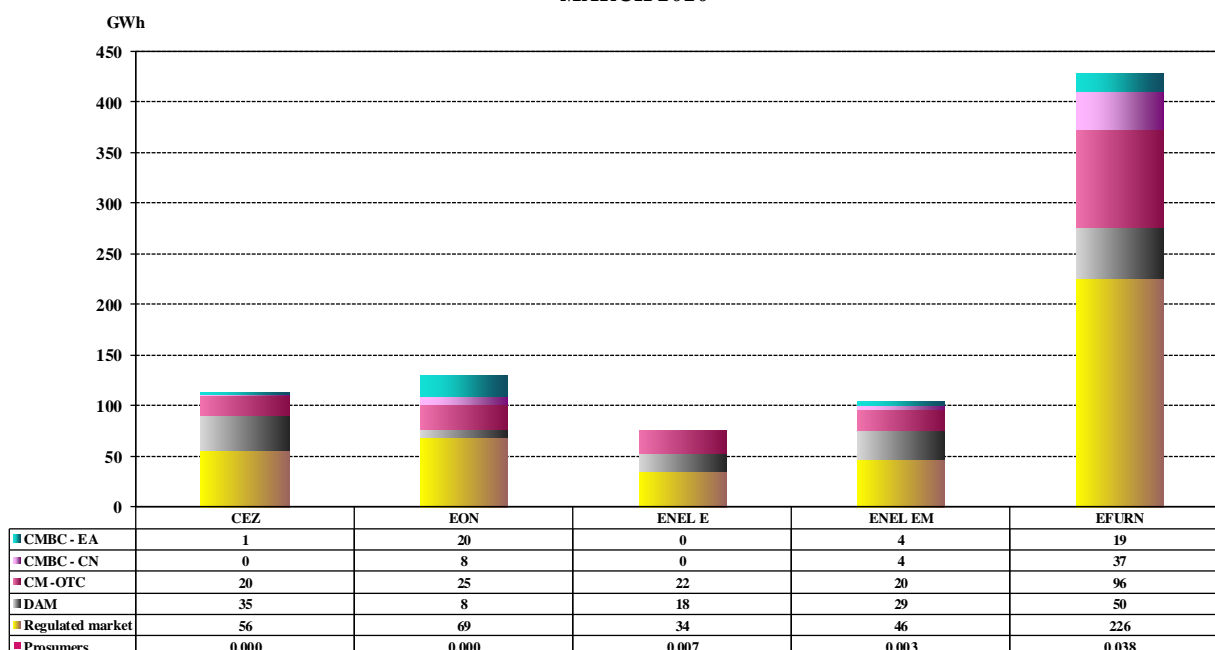
-GWh -

Structure of trades concluded by suppliers of last resort to supply final clients (regulated, Universal Service, last resort regime and inactive clients)	March 2019	March 2020
Regulated contracts with producers	252.37	431.23
Negotiated trades with non-dispatchable producers (changes, additions to Law 220/2008)*	0.01	0.0009
Trades concluded on Opcom centralized markets, out of which:	406.98	277.18
- trades on CMBC-EA with producers	148.56	38.86
- trades on CMBC-CN with producers	22.49	7.73
- trades on CM-OTC with producers	37.45	48.82
- trades on CME-RES-GC with producers	-	1.26
- trades on CMBC-EA with other suppliers	7.61	3.82
- trades on CMBC-CN with other suppliers	50.13	41.54
- trades on CM-OTC with other suppliers	140.75	135.14
Trades with prosumers	0.0057	0.05
Trades on CMUS:	178.33	0.00
- trades on CMUS with producers	137.47	0.00
- trades on CMUS with suppliers	40.87	0.00
Trades concluded on DAM:	0.67	128.71
- buy	83.81	139.73
- sell	83.15	11.01
Trades concluded on ID:	0.00	0.00
- buy	0.00	0.00
- 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 March 2020 is presented in the following graph:

Structure of trades made by suppliers of last resort to supply final clients (Regulated, Universal Service and last resort regime and inactive clients)
- MARCH 2020 -



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.

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

According to the *Methodology for setting the regulated tariffs and the prices applied by suppliers of last resort to final clients* (approved by ANRE Order no. 217/2019), during the two periods of applying regulated tariffs (1 January 2020 – 30 June 2020 and 01 July 2020 – 31 December 2020), the consumption of the households that have concluded regulated energy supply contracts with suppliers of last resort is paid at regulated tariffs on voltage levels. The regulated tariffs have been approved by ANRE Orders no. 240, 241, 242, 243 and 244 from 2019 for each network area corresponding to obligated suppliers of last resort, respectively at regulated tariffs on voltage levels approved by ANRE by Orders no. 245, 246, 247, 248 and 249 from 2019 for each optional supplier of last resort.

Also, by Order no. 250/2019, ANRE approved the generic tariffs for electricity, which are applied to households by the suppliers who had the quality of suppliers of last resort when the regulated tariffs were approved, but did not have households in their portfolio in this capacity, or by those suppliers who were not suppliers of last resort, but would acquire this capacity later, following the competitive selection process.

Therefore, starting with 1 January 2020, for every network area and voltage level, suppliers of last resort apply in the bills of household and non-household final clients from their portfolio, the following types of approved tariffs/ authorised prices by ANRE, to which are added the regulated tariffs for the transmission service, ancillary service and distribution service:

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

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

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

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

Based on the provisions of ANRE Order no. 216/2019, in order to cover the consumption of households at regulated tariffs, suppliers of last resort buy the necessary electricity on the basis of regulated sale and purchase contracts concluded with the electricity producers for which ANRE has set obligations to sell fixed quantities at a regulated price for the period between 1 January 2020 – 30 June 2020 and maximum quantities to be sold based on regulated contracts for the period 1 July 2020 – 31 December 2020. Suppliers of last resort ensure households' consumption needs also through acquisitions from prosumers, through contracts concluded on the centralized markets, DAM, ID and BM.

ANRE Order no. 27/2018 for the approval of the *Regulation for organizing and conducting the auctions on the centralized market for the universal service* amended the terms of participation of the suppliers of last resort to CMUS for the purchase of electricity estimated to cover the consumption of final clients supplied under a regulated and Universal Service regime, the participation in the auction sessions becoming, thus, voluntary.

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

Trades' structure of suppliers of last resort for Universal Service/regulated supply	March 2019		March 2020	
	Quantity [GWh]	Average price [lei/MWh]	Quantity [GWh]	Average price [lei/MWh]
Regulated contracts with producers	252.37	148.05	431.23	137.78
Negotiated contracts with non-dispatchable producers (changes, additions to Law 220/2008)*	0.00	0.00	0.0001	185.57
Trades on Opcom centralized markets:	343.32	263.73	225.84	230.59
<i>CMBC-EA with producers</i>	117.99	248.69	21.82	262.09
<i>CMBC-CN with producers</i>	22.29	218.96	7.52	235.38
<i>CM-OTC with producers</i>	29.72	282.00	47.96	229.86
<i>CME-RES-GC with producers</i>	-	-	1.26	164.49
<i>CMBC-EA with other suppliers</i>	7.43	231.48	0.02	275.02
<i>CMBC-CN with other suppliers</i>	48.30	261.91	21.39	217.50
<i>CM-OTC with other suppliers</i>	117.59	285.47	125.87	228.00
Trades with prosumers	0.006	223.00	0.04	251.20
Trades on CMUS, out of which:	178.33	292.59	0.00	-
- <i>with producers</i>	137.46	297.54	0.00	-
- <i>with other suppliers</i>	40.87	275.91	0.00	-
Trades on DAM:	-13.48	228.58	108.06	162.35
- <i>buy</i>	67.62	239.79	117.31	159.00
- <i>sell</i>	81.10	161.94	9.26	119.92
Trades concluded on ID:	0.00	-	0.00	-
- <i>buy</i>	0.00	-	0.00	-
- <i>sell</i>	0.00	-	0.00	-
TOTAL	760.55	240.84	765.17	168.65

*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 2020 compared to the similar period of 2019 is shown in the following table:

- GWh -

Trades' structure of suppliers of last resort to supply inactive clients	March 2019		March 2020	
	Quantity [GWh]	Average price [lei/MWh]	Quantity [GWh]	Average price [lei/MWh]
Negotiated contracts with non-dispatchable producers (changes, additions to Law 220/2008)*	0.01	68.84	0.0007	181.24
Trades on centralized contracts markets, out of which:	61.20	261.02	50.77	293.41
- on CMBC-EA with producers	29.46	261.40	16.87	276.13
- on CMBC-CN with producers	0.20	237.75	0.22	247.34
- on CM-OTC with producers	7.54	261.84	0.85	288.83
- on CMBC-EA with other suppliers	0.18	234.41	3.80	318.17
- on CMBC-CN with other suppliers	1.83	264.57	19.97	298.89
- on CM-OTC with other suppliers	21.99	260.36	9.06	304.63
Trades with prosumers	0.0001	211.00	0.005	251.19
Trades on DAM, of which:	13.47	220.51	19.78	174.21
- buy	15.39	210.84	21.52	168.70
- sell	1.92	143.16	1.73	105.76
Trades ID, of which:	0.00	-	0.00	-
- buy	0.00	-	0.00	-
- sell	0.00	-	0.00	-
TOTAL	74.67	253.68	70.56	259.99

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 2020, compared to the similar period of 2019:

GWh-

Structure of trades made by suppliers of last resort for the competitive segment of REM	March 2019	March 2020
Buy		
Negotiated trades with producers	-	1.37
Trades on centralized contracts markets, of which:	1427.34	1367.43
- on CMBC-EA with producers	481.21	581.18
- on CMBC-CN with producers	180.74	57.45
- on CM-OTC with producers	122.54	317.67
- on CMBC-EA with other suppliers	20.27	37.05
- on CMBC-CN with other suppliers	177.29	66.18
- on CM-OTC with other suppliers	445.29	301.56
- on CME-RES-GC with producers	-	6.34
Negotiated trades with non-dispatchable producers (others than amendments, additions to Law 220/2008)*	0.00	1.33
Negotiated trades with non-dispatchable producers (amendments, additions to Law 220/2008)**	46.60	43.36
Trades with prosumers	-	0.07
Trades on DAM	157.29	151.90
Trades on ID	0.01	0.00
Sell		
Trades on centralized contracts markets, of which:	29.95***	34.94
- on CMBC-CN with producers	0.00	19.32
- on CM-OTC with producers	0.24	0.00
- on CMBC-CN with other suppliers	0.00	2.24
- on CM-OTC with other suppliers	7.43	7.44
- on CM-OTC with DO	22.28***	5.94
Trades on DAM	55.25	45.38
Trades on ID	0.04	0.18
Households	362.86	411.13
Non-households	1180.92	1025.43

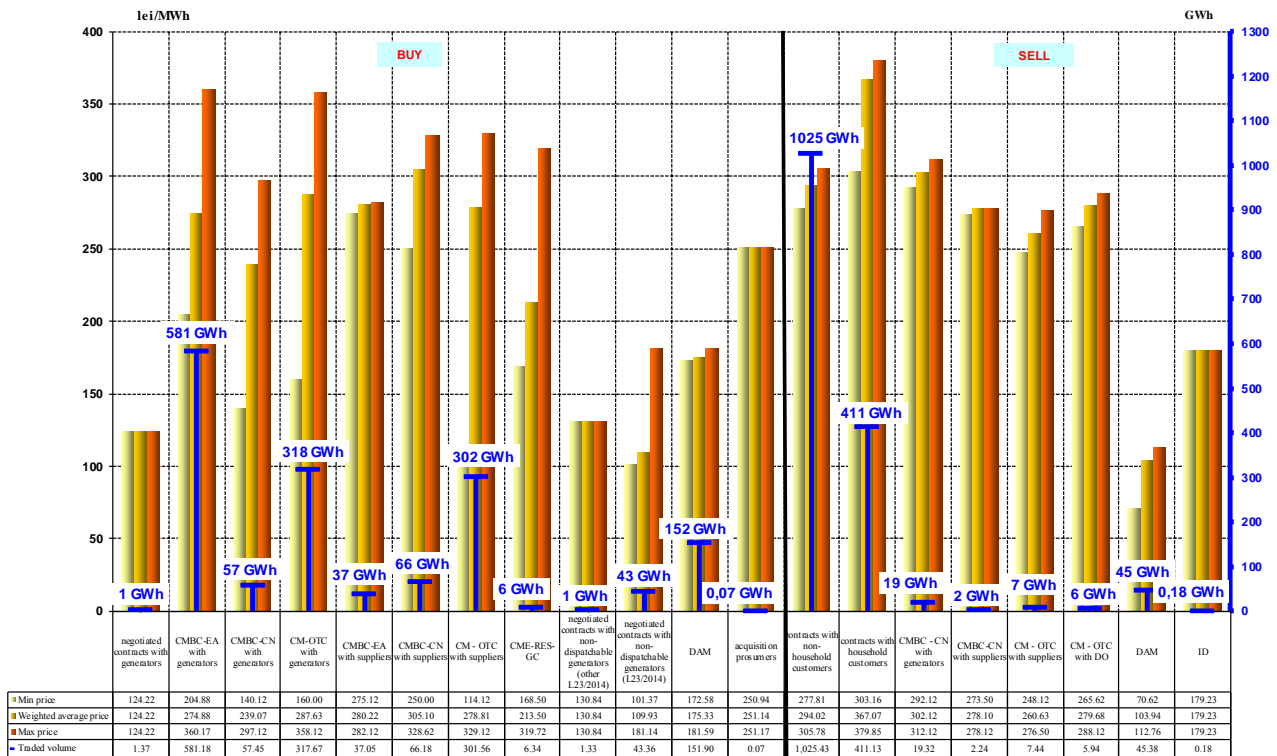
Note: * negotiated trades with non-dispatchable producers that **do not** fall under the provisions of Law no. 220/2008, with subsequent modifications and additions.

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

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

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 2020:

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



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

Main distribution operators

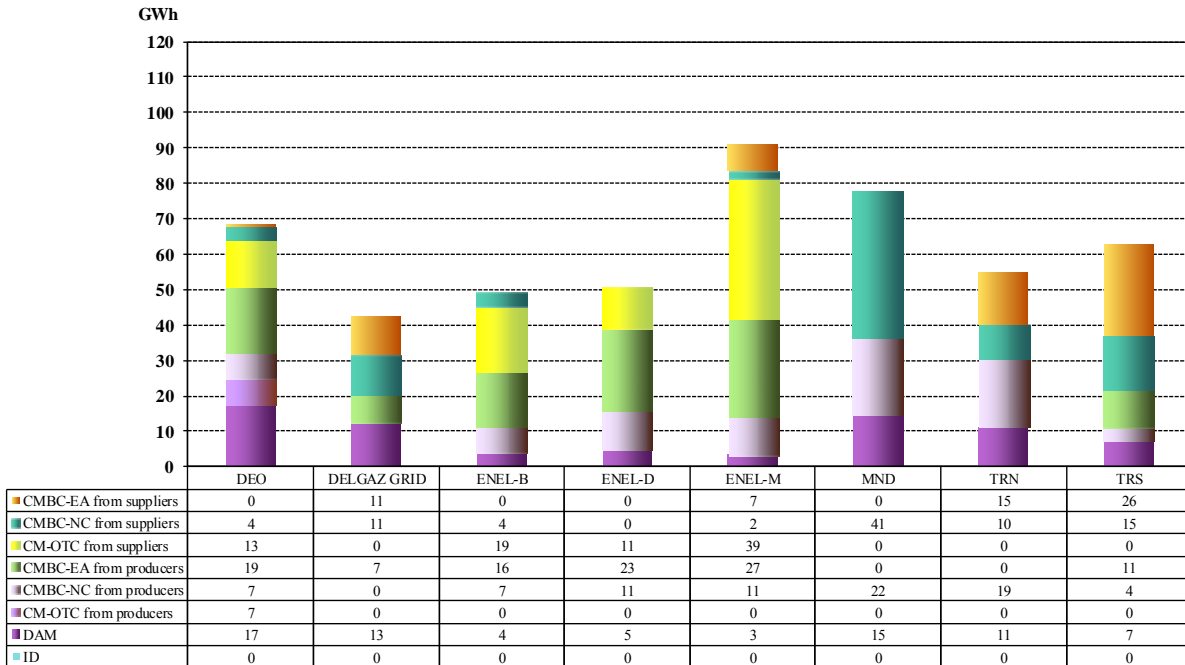
The following table shows the electricity acquisition structure of the main distribution operators made before the delivery interval to cover the distribution networks losses, for March 2020, compared with the similar previous period:

	- GWh -	
Structure of trades	March 2019	March 2020
Trades on centralized contracts markets:	386.61	421.13
- CMBC-EA with producers	137.40	103.30
- CMBC-CN with producers	50.99	82.47
- CM-OTC with producers	22.29	7.45
- CMBC-EA with suppliers	29.36	59.46
- CMBC-CN with suppliers	75.98	85.94
- CM-OTC with suppliers	70.59	82.51
Trades on DAM	144.10	64.95
- buy	144.24	75.37
- sell	0.14	10.42
Trades on ID:	0.15	0.00
- buy	0.15	0.00
- 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 March 2020 is presented in the following graph:

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



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

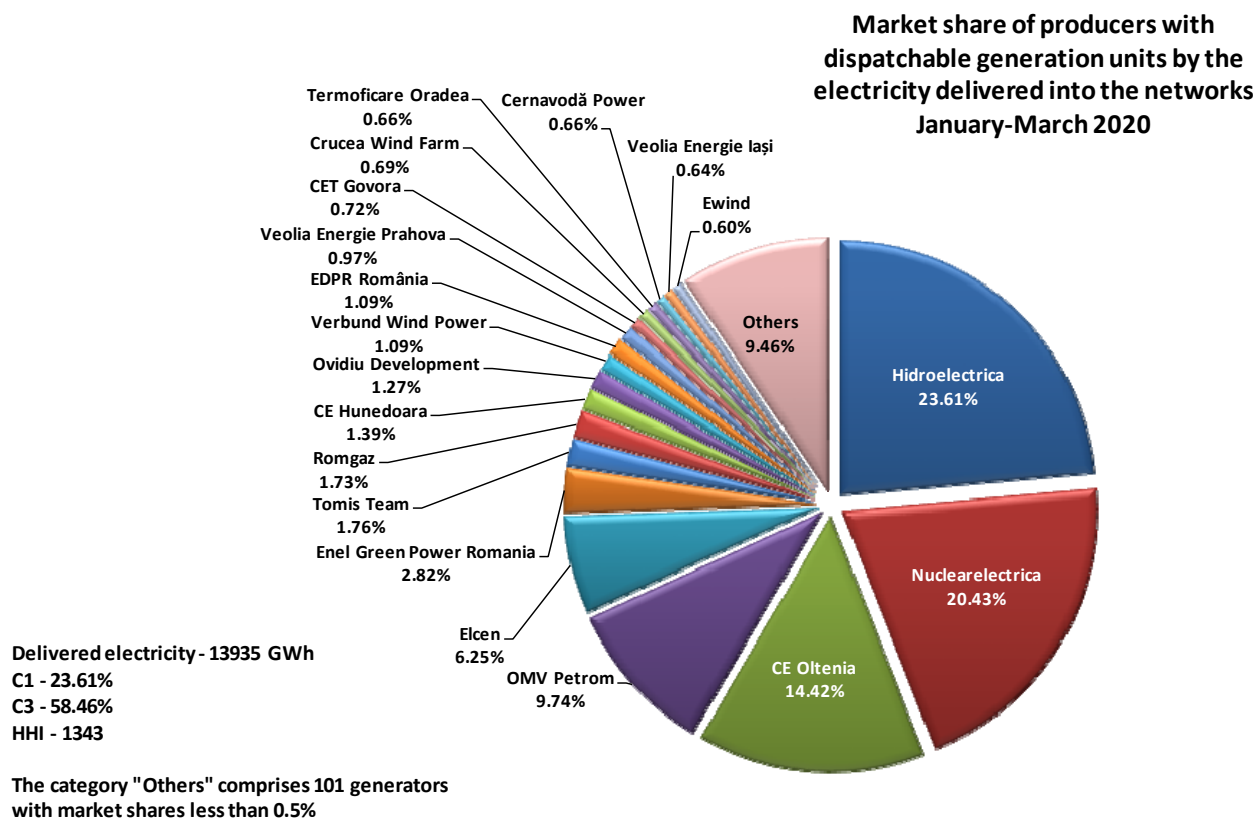
6. Concentration indicators for the wholesale electricity market and its components

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 March 2020 and the graph presents the market shares of electricity producers with dispatchable generation units, determined based on the electricity delivered into the networks.

Concentration indicators - March 2020 -	C1 (%)	C3 (%)	HHI
Value	26.45	60.93	1424



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

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

Structure/concentration indicators of BM - March 2020 -	Regulation					
	Secondary		Fast tertiary		Slow tertiary	
	upward	downward	upward	downward	upward	downward
C1 - % -	59	59	51	51	100	82
C3 - % -	98	98	95	88	100	96
HHI	4284	4305	4332	3401	10000	6868

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

In accordance with the provisions of Government Ordinance no. 593/2019 and Emergency Government Ordinance no. 26/2018 on the adoption of measures for the safety and security of the electricity supply of NPS, ANRE President Decision no. 1851/2019 was issued regarding the acquisition at a regulated price for the period between 1 November 2019 – 31 March 2020 from the producer Electrocentrale Galati SA of a quantity of ancillary services representing slow tertiary reserve for a capacity of 77 MW and ANRE President Decision no. 2212/2019 regarding the acquisition at a regulated price for the period between 1 January – 30 June 2020 from the producer CE Hunedoara SA of a quantity of ancillary services representing slow tertiary reserve for a capacity of 400 MW. Also, CNTEE Transelectrica SA organized auctions to buy 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) for March 2020.

Concentration indicators on Ancillary Services Market - March 2020 -		Secondary reserve	Fast tertiary reserve	Slow tertiary reserve
regulated component	contracted quantity (h*MW)	-	-	354411
	C1 (%)	-	-	83.9
	C3 (%)	-	-	100.0
competitive component	contracted quantity (h*MW)	312700	493800	172800
	C1 (%)	57.3	74.1	41.6
	C3 (%)	84.8	91.0	73.7
	HHI	4179	5744	3452

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, open for both buying and selling, for all license holders and for foreign undertakings who have been granted by ANRE Decision the confirmation of the right to supply or trade electricity in Romania, under the conditions established by the applicable regulations.

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

Concentration indicators on DAM - March 2020 -	C1 (%)	C3 (%)	HHI
Selling	19.14	43.70	765
Buying	11.86	31.81	516

Source: Monthly reports of Opcom SA

7. Prices evolution on wholesale electricity market

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

The coupling mechanism is developed through the coupling operators OTE-Czech Republic, EPEX Spot (operating as services supplier for OKTE-Slovakia and HUPX-Hungary) and, from 17 February 2017, OPCOM-Romania (PCR member from 1 February 2016). After successfully implementing the changes and tests performed, OPCOM operates in its own name the coupling solution implemented in the 4M MC operational mechanism, all processes being performed under the security conditions of the

coupled functioning of the day-ahead markets. Coupling operators are acting as *Coordinators* on a monthly rotation basis.

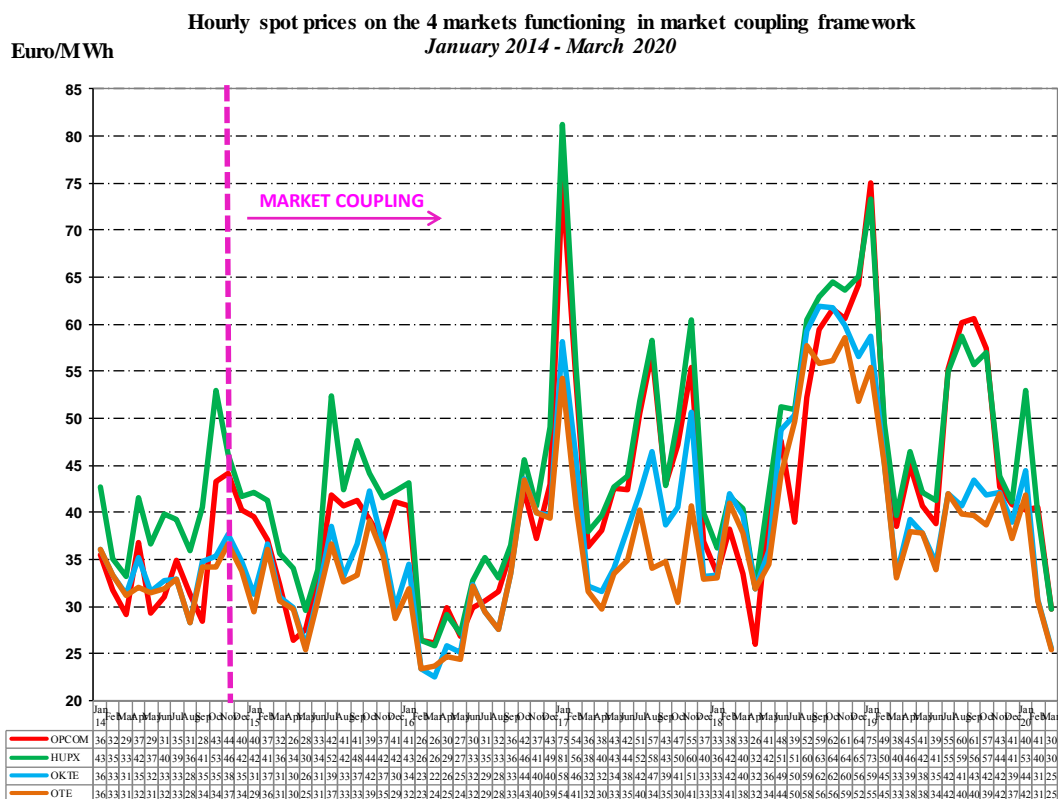
According to EU legislation, coordinated cross-border capacity allocation is under the governance of the TSOs from the 4 countries and the allocation model used is that of implicit allocation on DAM of the available interconnection capacity.

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

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

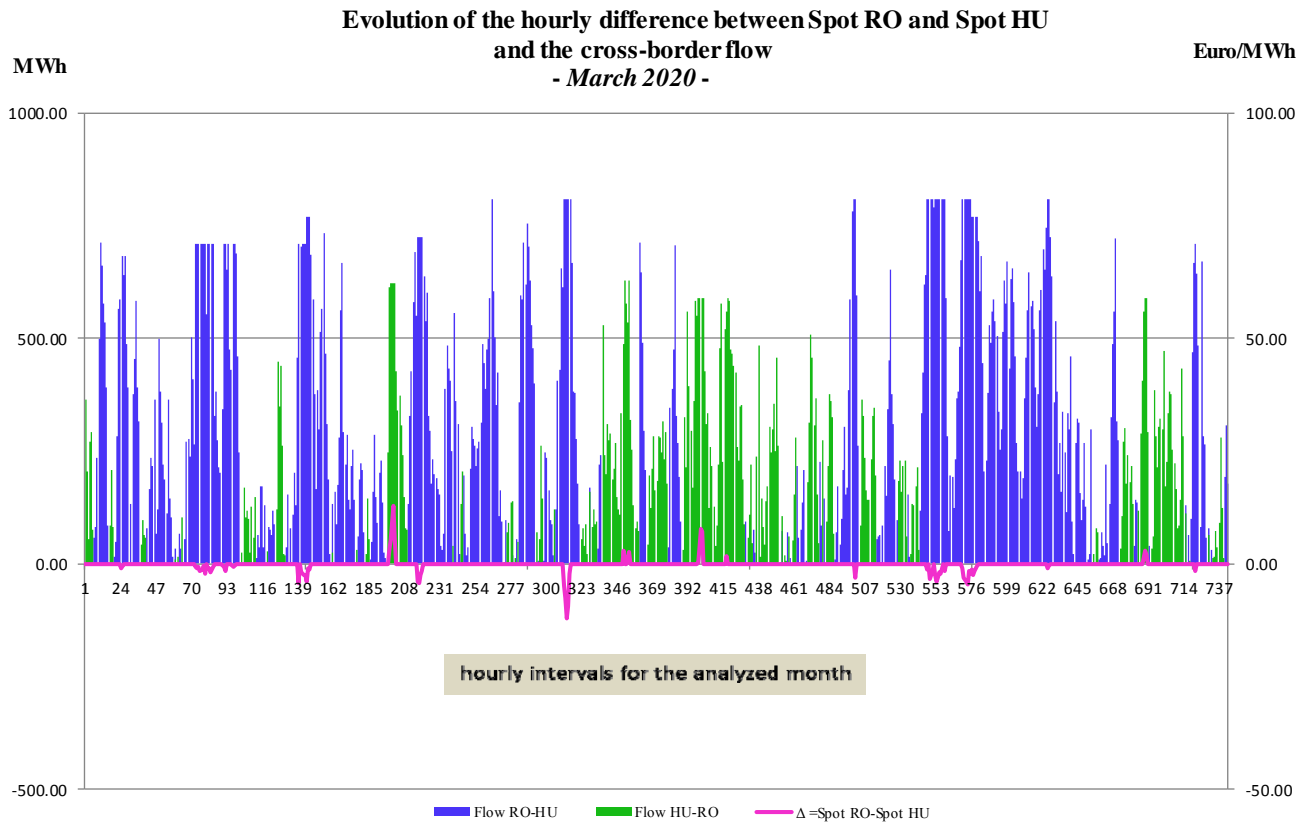
Particularly, for the Hungarian border, if 80% of the lowest value of the ATC calculated monthly for sub-periods is lower than 80 MW, interconnection capacity for monthly allocation will be 80% from the ATC calculated for each sub-period, to which is added the allocated capacity at the yearly auction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

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



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

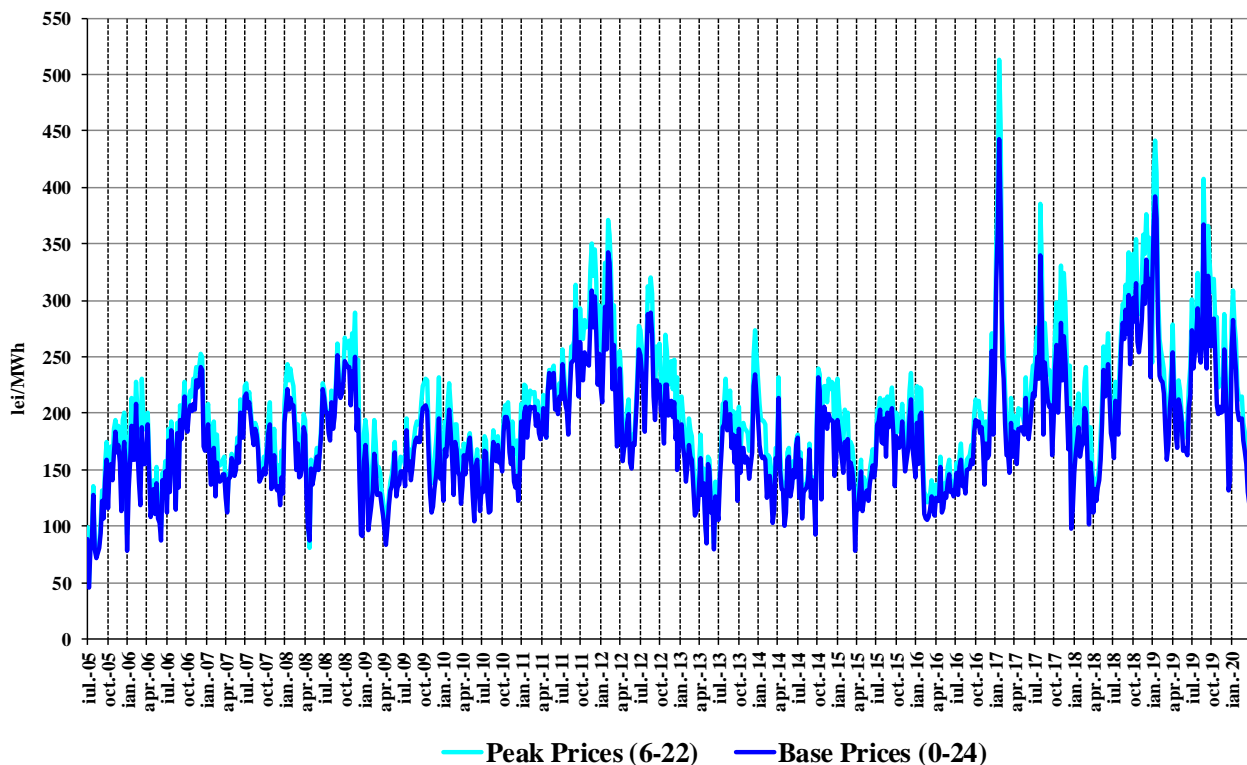
Next, the following graph presents the hourly evolution of the difference between the closing prices of the coupled DAM on the Romanian and Hungarian area, correlated with the cross-border flows on the Romanian – Hungarian border, on both directions, for March 2020.



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:

Weekly average spot prices July 2005 - March 2020



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

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

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

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

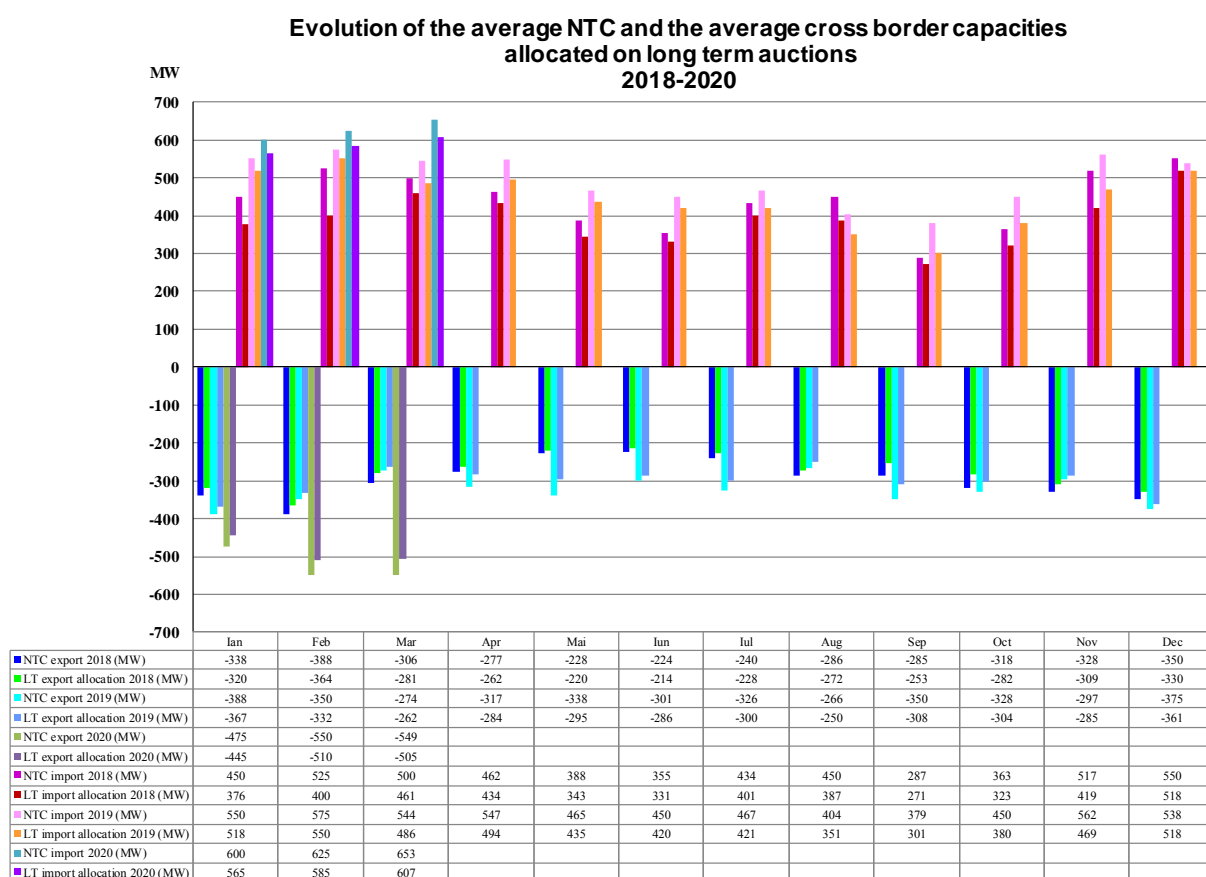
Therefore, on the Romanian borders with Hungary and Bulgaria, the intraday auctions are performed based on the SIDC coupled mechanism by implicit allocations, with continuous trading matching algorithm, using common IT system, capacity management module, cross-border transfer module and order book.

On the Romanian borders with Hungary and Bulgaria, the auctions for the annual and monthly allocation are made by the Joint Allocation Office (JAO), which has become, starting with 1 October

2018, the Single Allocation Platform (SAP) that organizes auctions for cross-border capacity allocation for all European TSOs.

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

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



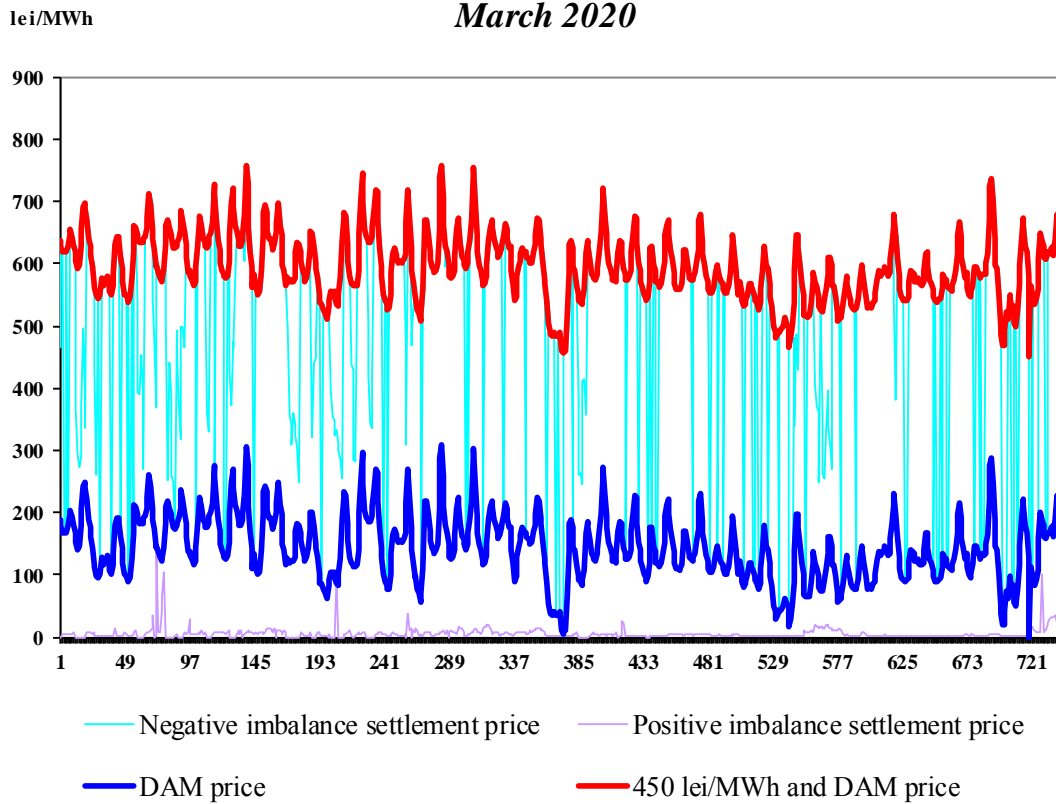
Source: Monthly reports of CNTEE Transelectrica SA – Electricity Market Monitoring Unit assessment

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 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

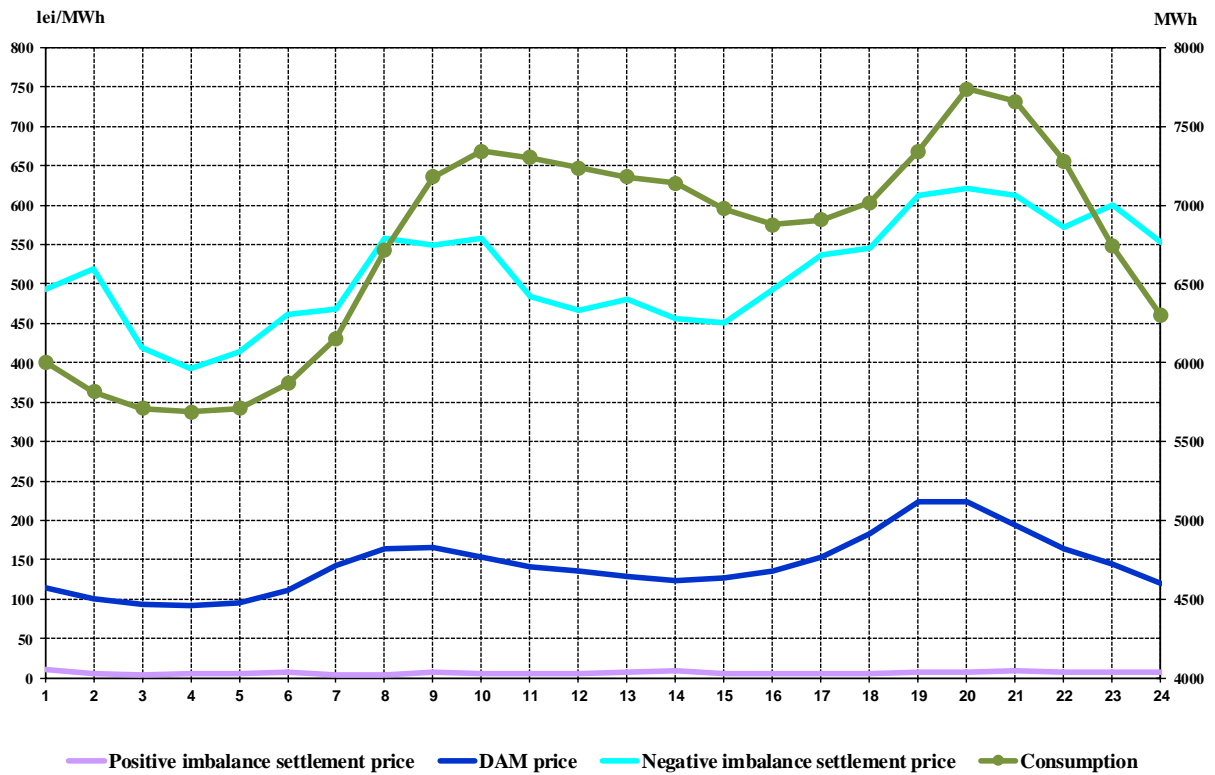
graph the settlement prices are expressed in hourly values, in the second graph in hourly average values compared to internal consumption, and in the last graph in average monthly values.

Hourly settlement prices March 2020



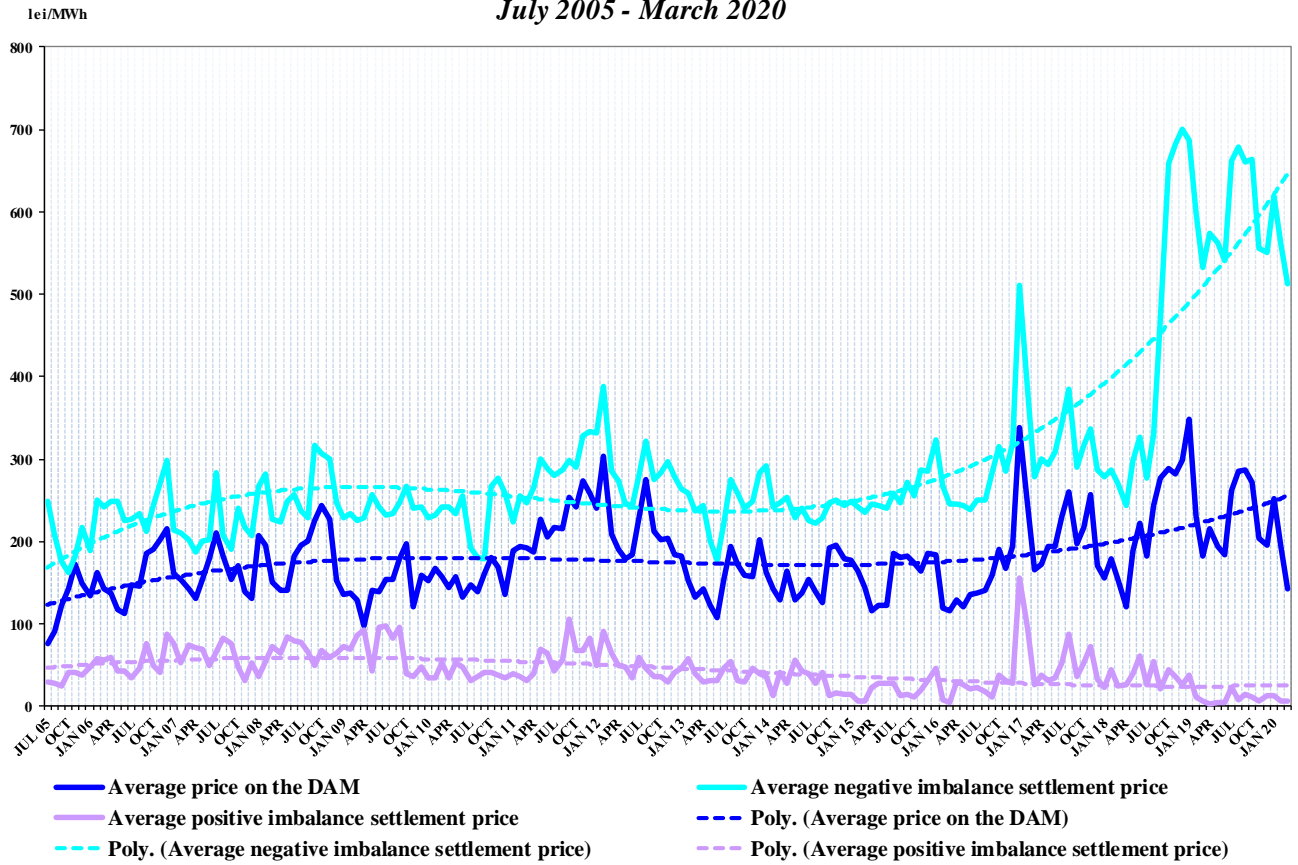
Source: Daily/monthly reports of Opcom SA – Electricity Market Monitoring Unit assessment

Hourly average settlement prices and internal consumption
March 2020



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

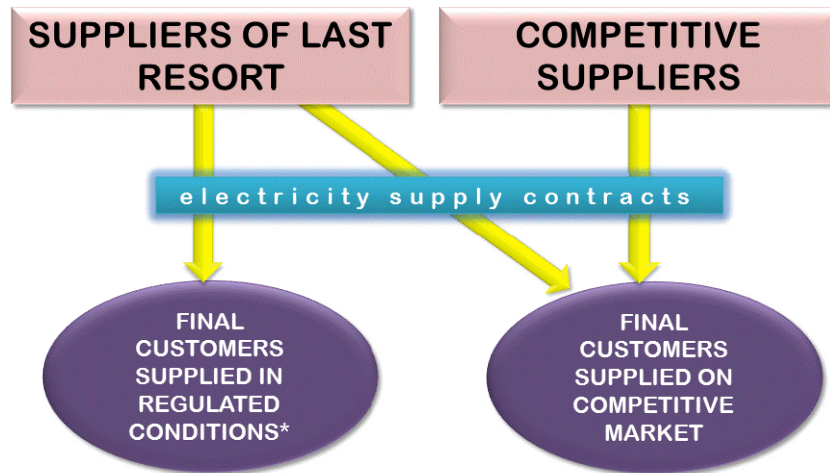
Monthly average prices on DAM and BM
July 2005 - March 2020



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

III. RETAIL ELECTRICITY MARKET

1. Structure of the retail electricity market

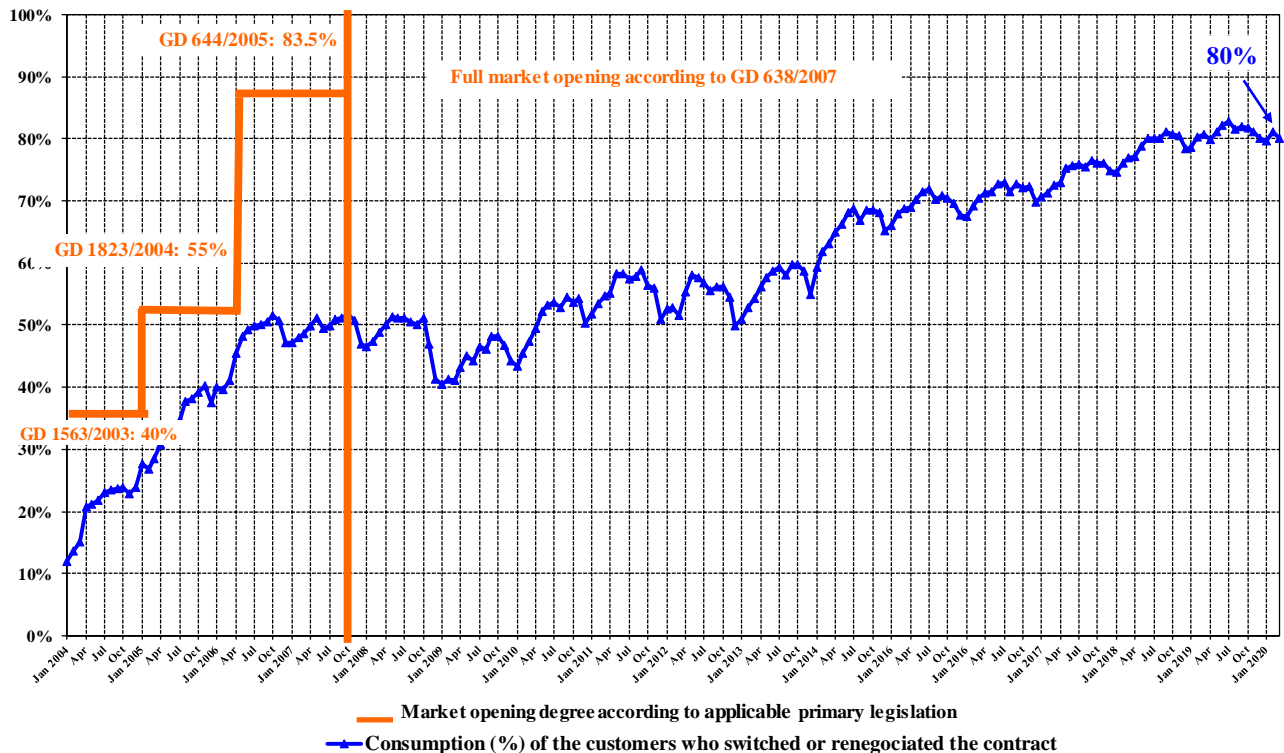


* according to art. 53 (2) and art. 56 (1) from Electricity and Gas Law no. 123/2012

2. Electricity market opening degree

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

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



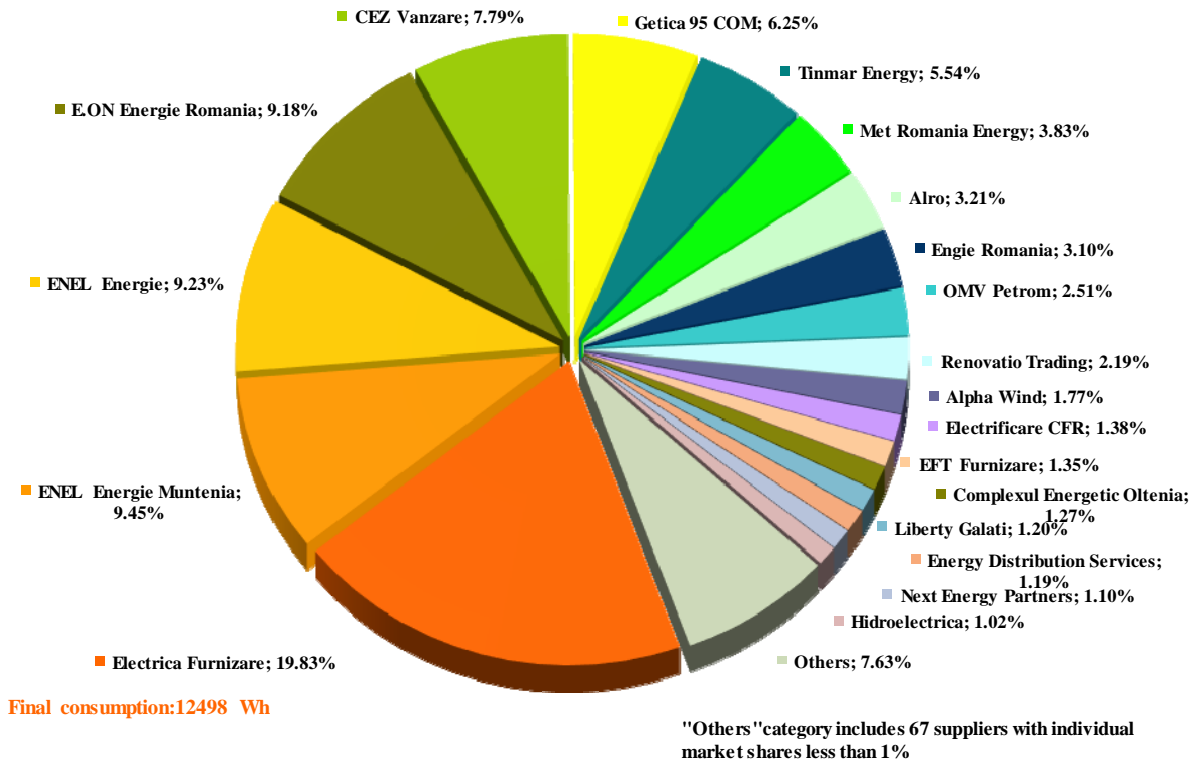
Source: Monthly reports of suppliers of final customers– Electricity Market Monitoring Unit assessment

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;

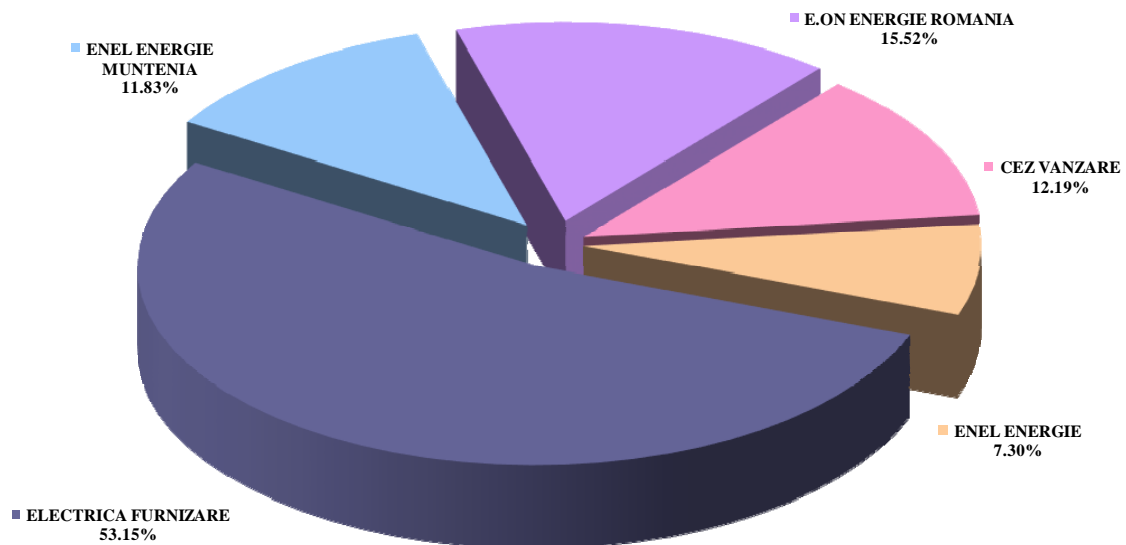
**Market shares of suppliers for final customers
JANUARY - MARCH 2020**



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
JANUARY - MARCH 2020

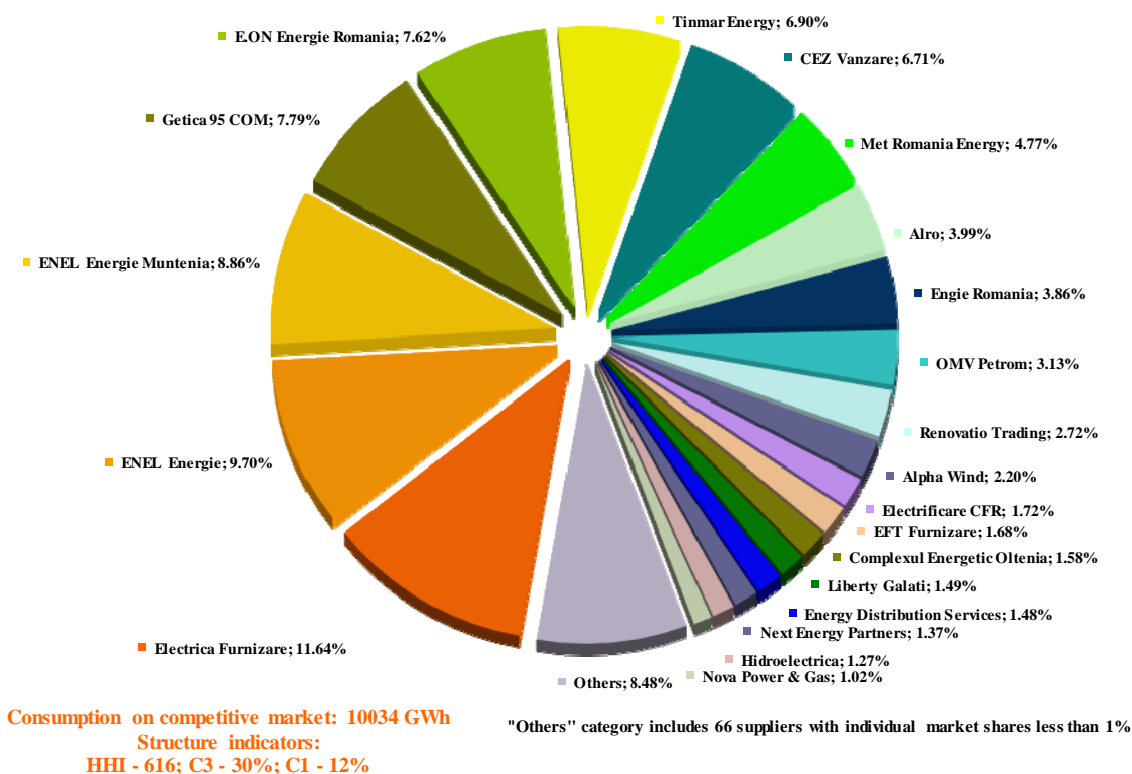


Consumption of regulated, Universal service and last resort regime clients and of inactive clients: 2464 GWh

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.

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



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

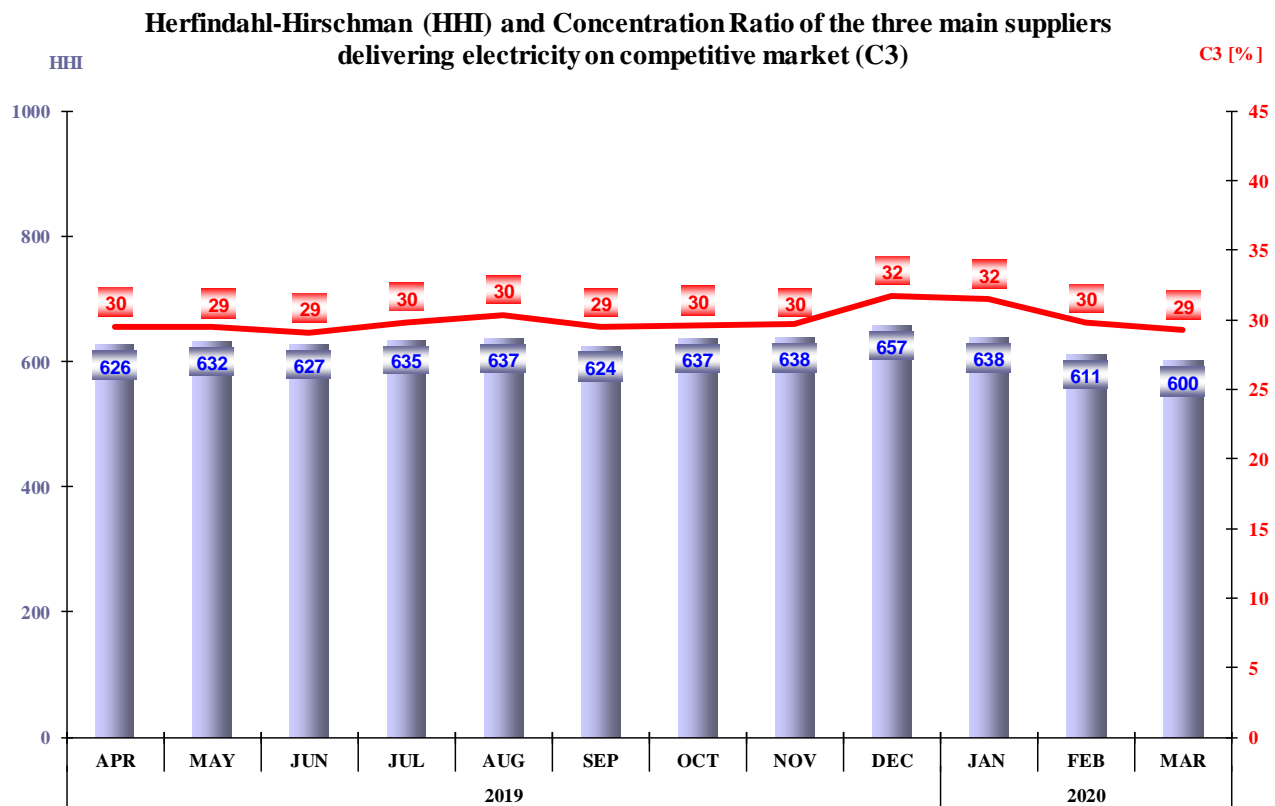
It is noted that in the calculation of the market indicator values the principle of dominance was not taken into account and the electricity supplied on the basis of which was established each supplier's market share includes the self-consumption of the large industrial consumers who also hold a supply 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 March 2020.

Number of suppliers	Share of sales to final customers from total sales trades			
	100%	75% - 100%	50% - 75%	<50%
Competitive	14	15	10	20
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 2020 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 March 2020, calculated for each consumption band defined by the Regulation (EU) 2016/1952, for non-household and household customers:

Indicators - March 2020	Consumption bands - Non-household customers							
	IA	IB	IC	ID	IE	IF	IG	Total
C1 - % -	38	24	16	14	17	16	18	12
C3 - % -	73	52	36	36	42	36	39	29
HHI	2266	1285	803	714	921	767	877	564
Consumption - GWh -	111	363	283	661	416	272	733	2838
No. of SUPPLIERS	64	70	60	57	24	19	17	85
No. of suppliers of last resort	5	5	5	5	5	4	2	5
No. of competitive suppliers	43	48	40	41	13	12	8	58
No. of producers	16	17	15	11	6	3	7	22

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

Indicators - March 2020	Consumption bands - Household customers					
	DA	DB	DC	DD	DE	Total
C1 - % -	49	33	29	32	37	36
C3 - % -	92	77	75	74	68	81
HHI	3881	2227	2075	2181	2142	2563
Consumption - GWh -	147	138	81	56	19	440
No. of SUPPLIERS	34	33	35	37	35	46
No. of suppliers of last resort	5	5	5	5	5	5
No. of competitive suppliers	25	25	26	28	26	34
No. of producers	4	3	4	4	4	7

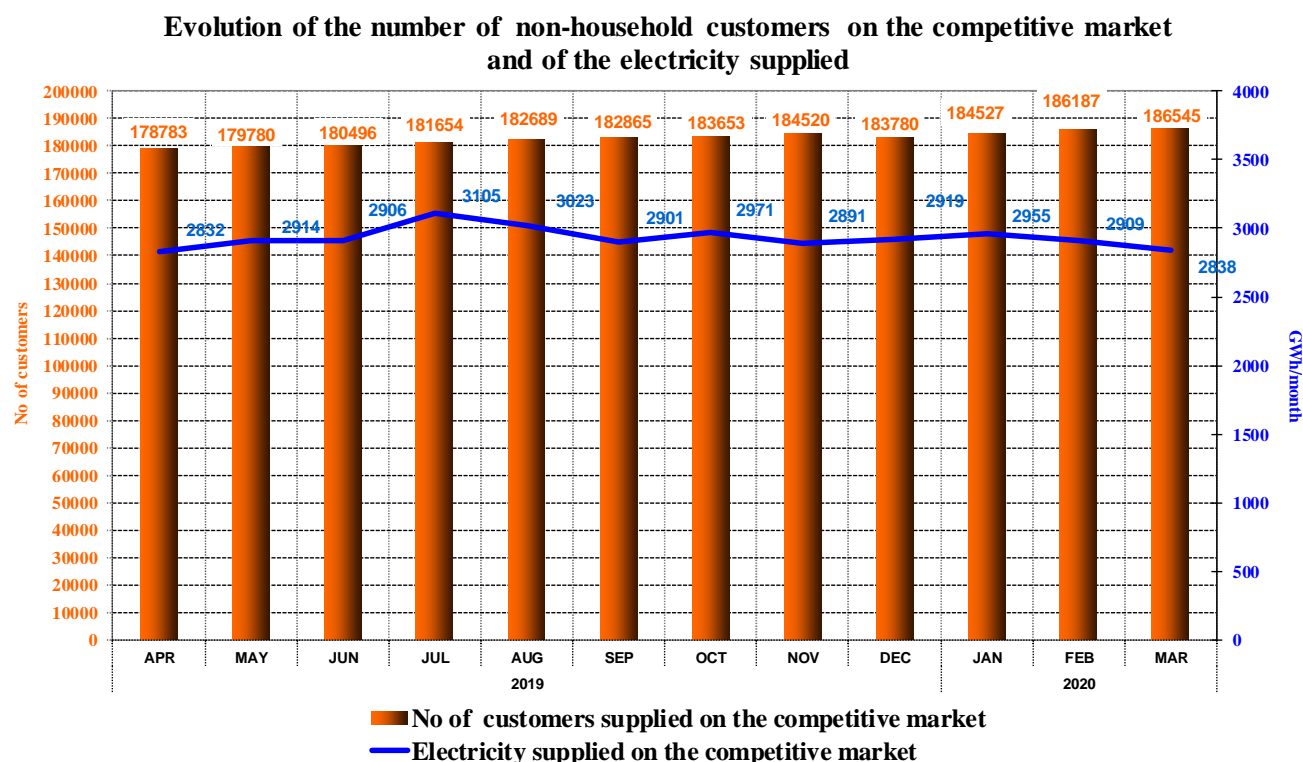
Source: Monthly reports of the suppliers – Electricity Market Monitoring Unit assessment

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 March 2020, according to the provisions of Regulation (EU) no. 2016/1952 of the European Parliament and of the Council. The tables below present in detail the consumption ranges corresponding to each consumption band:

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

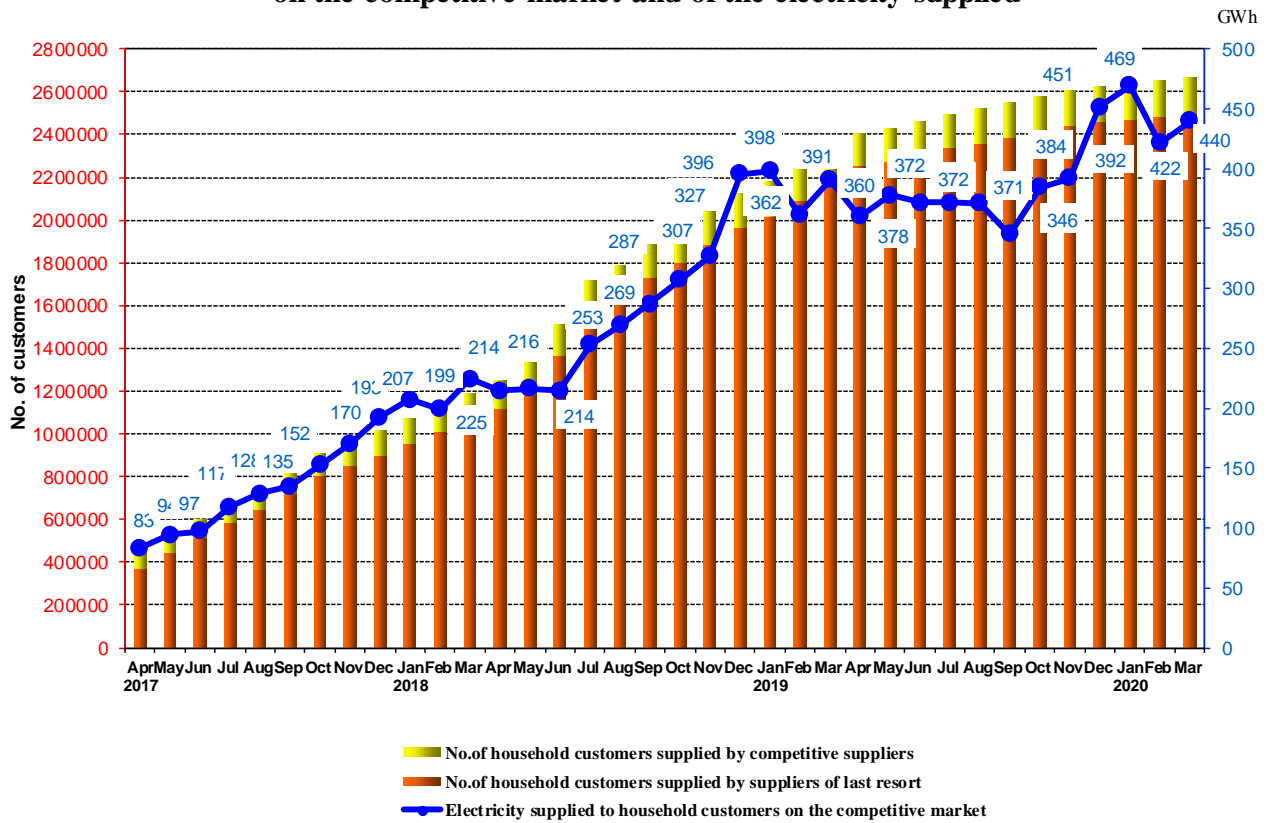
Household customers	Annual electricity consumption (kWh):	
DA		<1000
DB	>=1000	<2500
DC	>=2500	<5000
DD	>=5000	<15000
DE	>=15000	



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

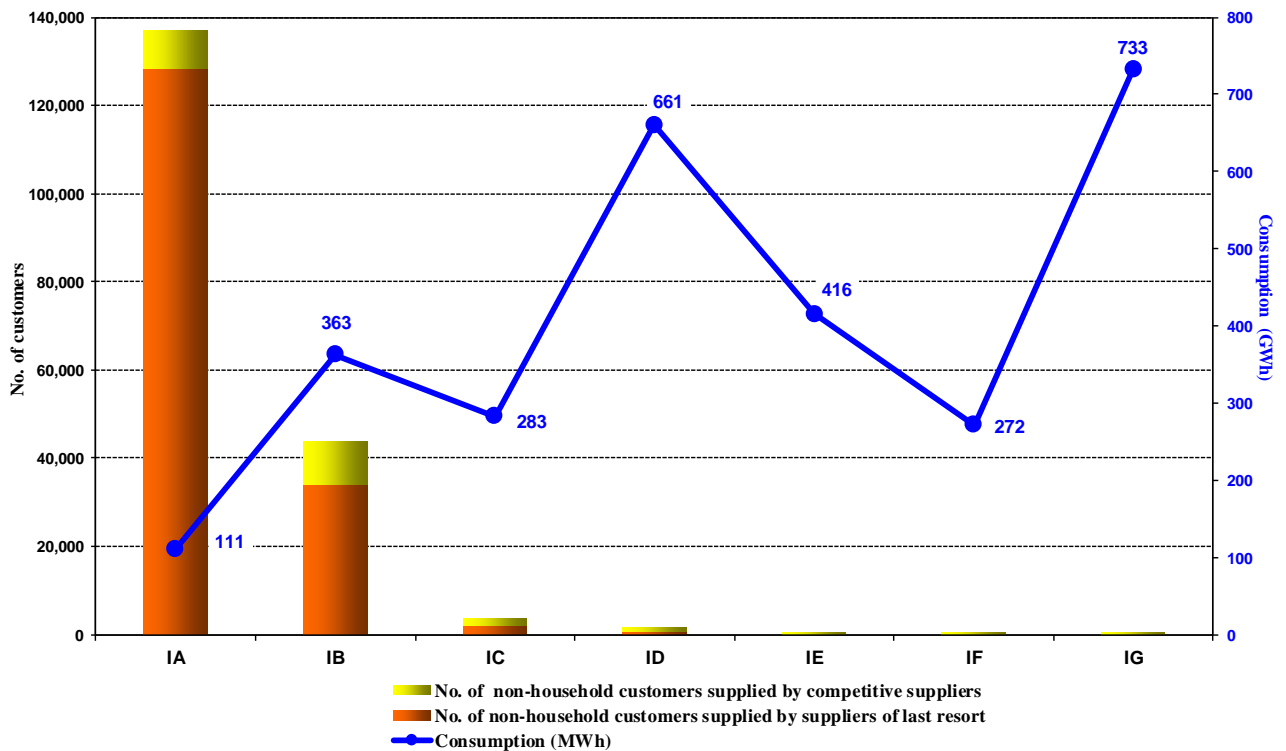
Electricity sales under competitive conditions to households April 2017 – March 2020 are shown in the following graph:

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



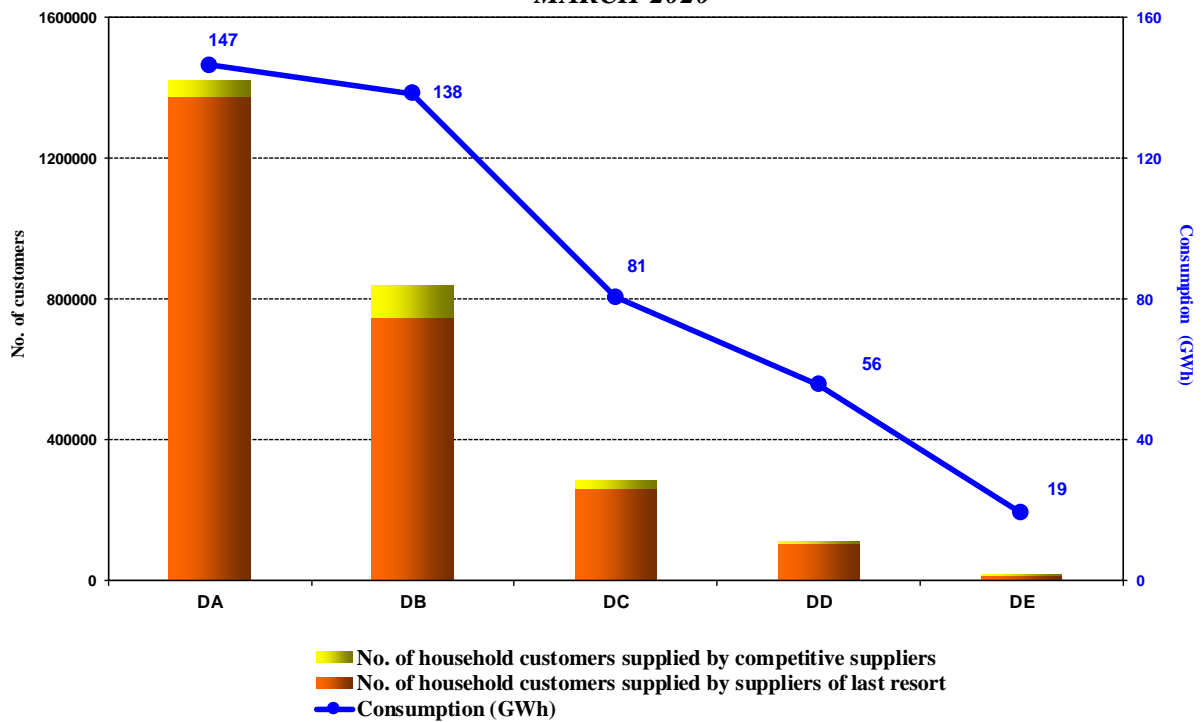
Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

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



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
- MARCH 2020 -

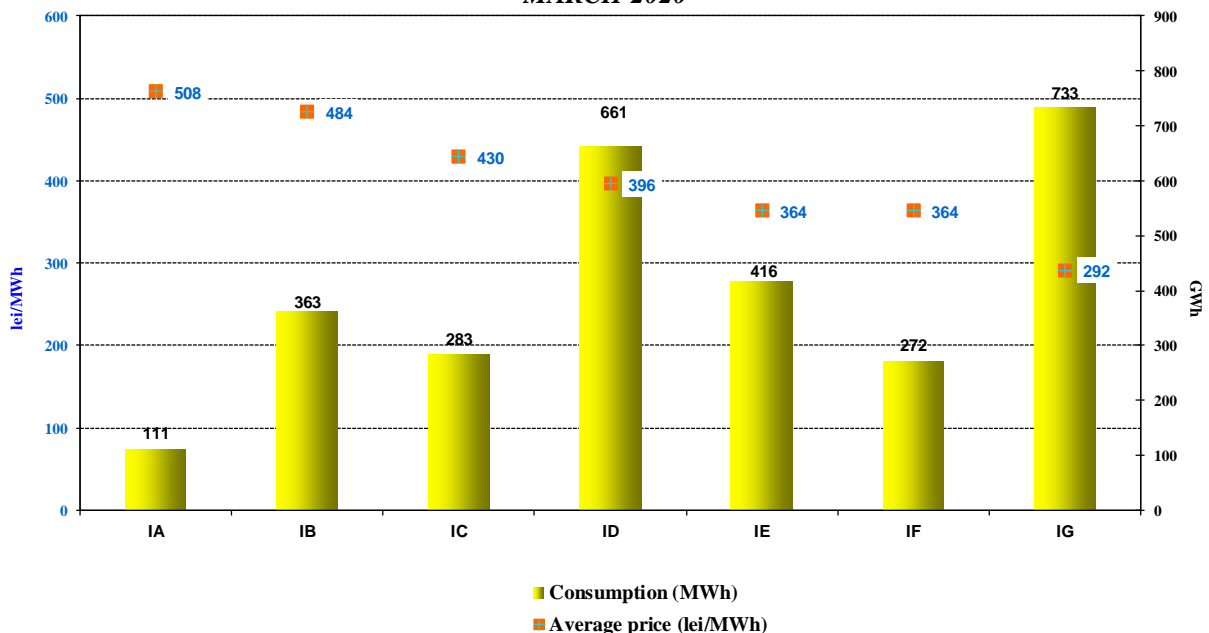


Source: Monthly reports of suppliers – Electricity Market Monitoring Unit assessment

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

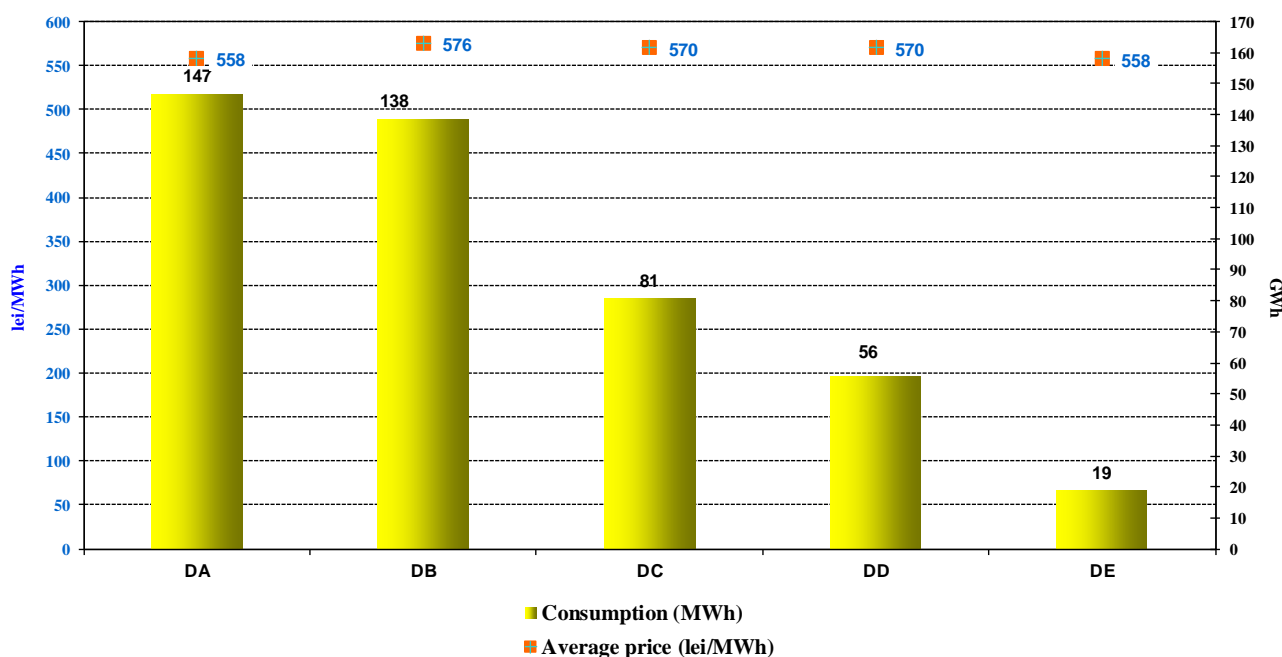
The following graphs present the average selling prices for March 2020 to households and non-household final clients supplied on the competitive market, based on the structure defined according to the Regulation (EU) no. 2016/1952.

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



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
- MARCH 2020 -**



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

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

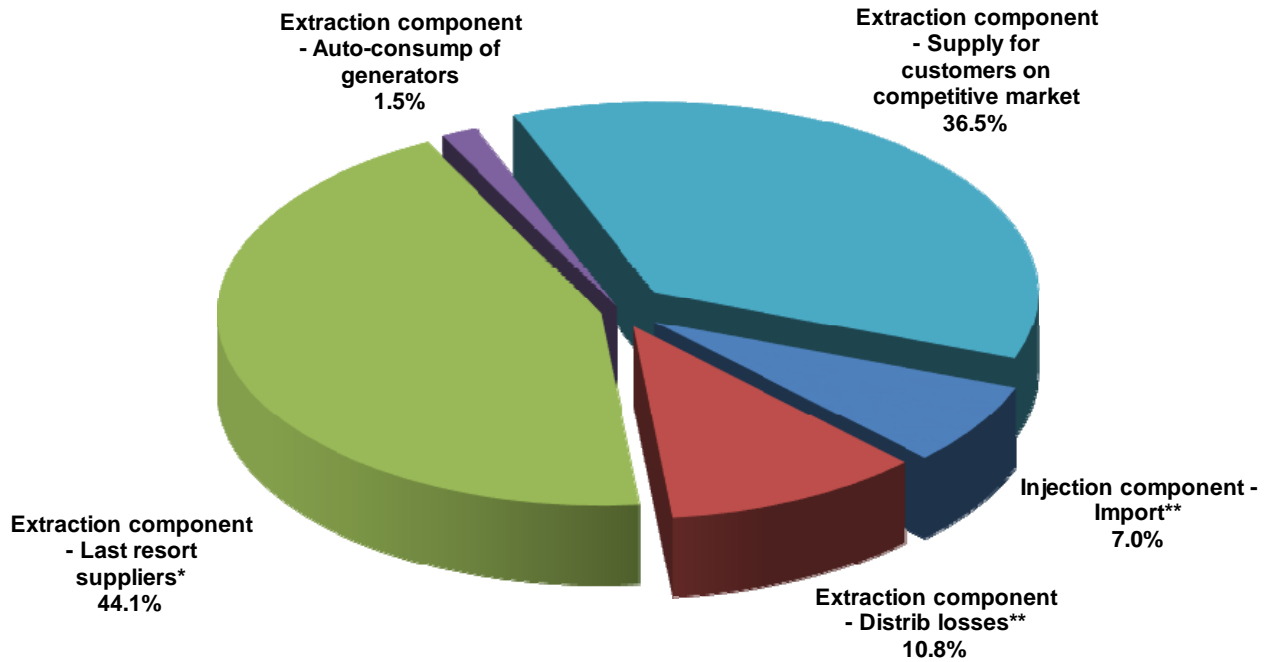
Starting with August 2017, the methodological principles setting the tariffs for the transmission service were modified, eliminating the zonal tariffs for the introduction or extraction of electricity in/out of the network, establishing a single NPS value for each of these tariffs.

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

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

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

**CNTEE Tranelectrica SA structure of revenues from transmission services
- March 2020-**



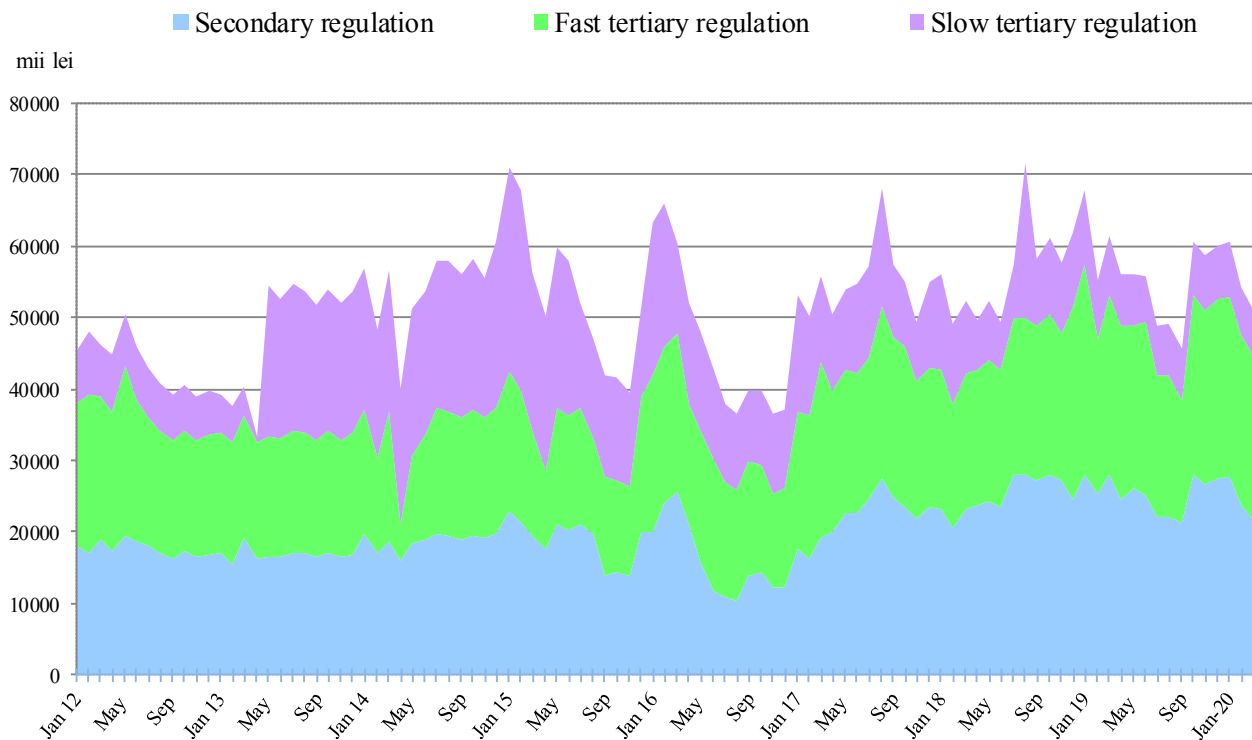
* for electricity extracted from their own licence areas as well as from other areas

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

Source: Monthly reports of CNTEE 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 MARCH 2020

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

- ANRE President Order no. 61/31 March 2020 approving the Regulation on the scheduling of dispatchable production units, dispatchable consumers and dispatchable storage facilities, the Regulation on the operation and settlement of the balancing market and the Regulation on the calculation and settlement of imbalances of the balancing responsible parties;
- ANRE President Order no. 62/31 March 2020 for the approval of the Commercial Rules on the collection, processing and transmission of measured electricity values;
- ANRE President Order no. 63/31 March 2020 on the approval of the program for the implementation of the necessary measures in order to ensure the settlement conditions at a 15 minutes interval;
- ANRE President Order no. 64/31 March 2020 approving the Regulation on concluding the bilateral electricity contracts by extended auction and the use of products to ensure trading flexibility;
- ANRE President Order no. 65/31 March 2020 on amending and supplementing some ANRE President Orders.
- ANRE President Decision no. 428/18 March 2020 on the approval of quantities produced in high-efficiency cogeneration units benefiting from the bonus scheme for February 2020.

VI. EXPLANATIONS AND ABBREVIATIONS

1. Explanations

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

2. Abbreviations

- ATC – Available Transmission Capacity
- BM – Balancing Market
- BRP – Balancing Responsible Party
- CMBC – Centralised Market of Bilateral Contracts
- CMC – Competitive Market Component
- DAM – Day Ahead Market
- DO – Distribution operator
- ID – Intraday Market
- LT – Long Term
- MCP – Market Clearing Price
- 4M MC – Price coupling mechanism for spot markets from Romania, Hungary, Slovakia and Czech Republic
- MU – Monitoring Unit
- NPS – National Power System
- OU-NPD – Operational Unit-National Power Dispatch
- CME-RES-GC – Centralized market for electricity from renewable energy sources supported by green certificates
- CMUS – Centralised Market of Universal Service (Romanian abbreviation)
- REM – Retail Electricity Market
- SLR – Supplier of last resort
- TG/TL – injection / extraction component of the transmission tariff
- US – Universal Service
- WEM – Wholesale Electricity Market
- ACER – The Agency for the Cooperation of Energy Regulators
- NTC - Net Transfer Capacity