

**REPORT ON RESULTS OF MONITORING THE  
ROMANIAN ELECTRICITY MARKET  
AUGUST 2012**

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

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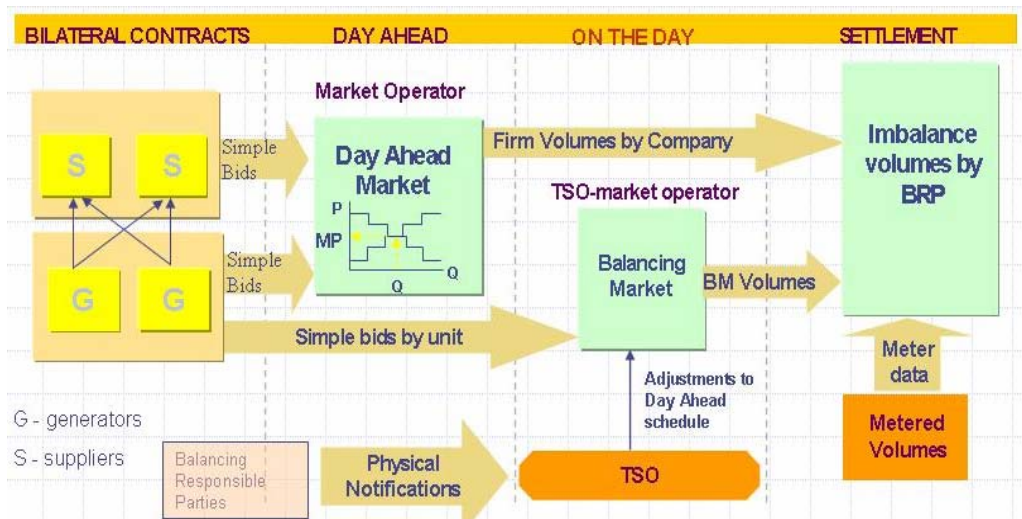
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## **I. MAIN EVENTS IN THE DEVELOPMENT OF THE ROMANIAN ELECTRICITY MARKET**

- 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 dissolved;
- September 2000 – launch of the compulsory electricity spot market in Romania, administrated by OPCOM and organized based on pool model;
- GD 1342/2001 – SC Electrica SA splits in 8 subsidiaries for electricity distribution and supply;
- GD 1524/2002 – SC Termoelectrica SA reorganizes in several separate legal entities for generation;
- July 2005 – launch of the new market model, based on:
  - voluntary spot market, with both sides offers and bilateral settlement;
  - 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 negotiation;
- GD 638/2007 – fully opening of electricity and gas markets;
- July 2007 – rules for capacity market have been established.
- July 2008 – launch of the mechanism of direct debit and guarantee for electricity transactions on the day-ahead market (OPCOM as central counterparty).
- August 2008 – process of legal unbundling of distribution and supply companies has been concluded;
- August/October 2010 – launch of bilateral coordinated auctions for capacity allocation on interconnections with Hungary and Bulgaria;
- July 2011 - launch of the intraday market;
  - GD 930/2010 – SC Electrica Furnizare SA had been established through merger of the former incumbent suppliers Electrica Furnizare Muntenia Nord, Electrica Furnizare Transilvania Nord and Electrica Furnizare Transilvania Sud;
- June 2012 - GD 1024/2011, Complexul Energetic Oltenia SA had been established in a dual system through merger of the former SNLO Tg. Jiu SA , SC Complexul Energetic Turceni SA, SC Complexul Energetic Rovinari SA and SC Complexul Energetic Craiova SA;
- July 2012 – the Law of electricity and natural gas no. 123 has come into force.

## II. WHOLESALE ELECTRICITY MARKET

### 1. Structure of the wholesale electricity market



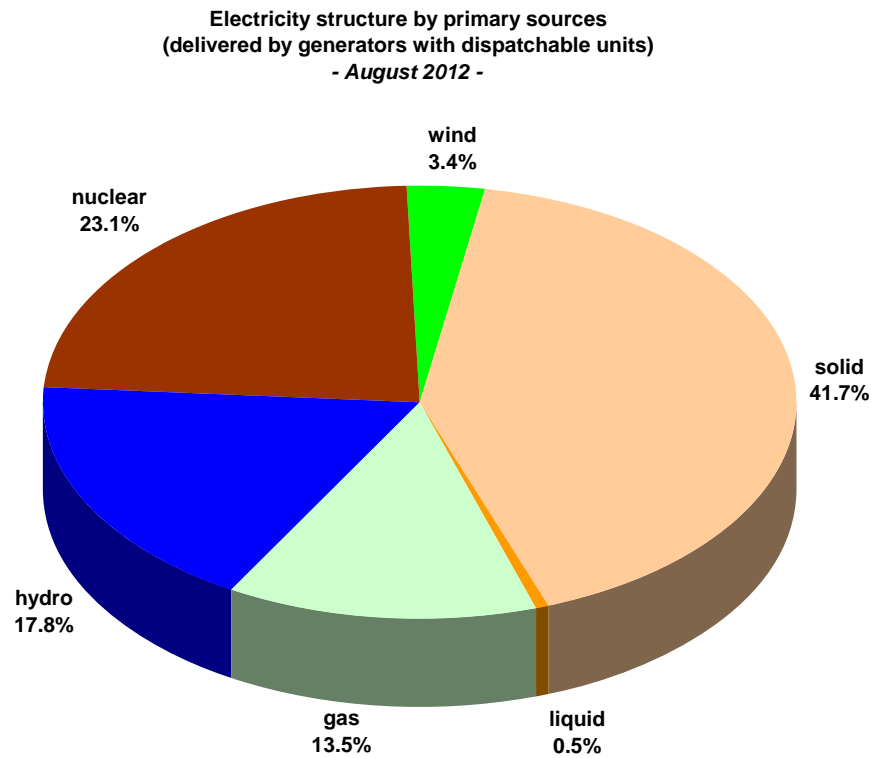
### 2. Participants on the wholesale electricity market

The market participants\* acting on the electricity market in August 2012 are presented below split into categories:

No.	Name	No.	Name	No.	Name
<b>A</b>	<b>Electricity generators operating dispatching units</b>	<b>F</b>	<b>Electricity Suppliers acting exclusively on the wholesale market</b>	<b>G</b>	<b>Electricity Suppliers</b>
1	SC CET Bacău SA	1	SC Adedero G.P. Energy SRL	1	SC Alpiq RomEnergie SRL
2	SC CET Govora SA	2	Alpiq Energy SE	2	SC Alpiq RomIndustries SRL
3	SC CET Oradea SA	3	CEZ as	3	SC Alro SA
4	SC Cernavoda Power SRL	4	SC CEZ Trade Romania SRL	4	SC Arcelormittal Galati SA
5	SC Dalkia Termo Prahova SRL	5	SC Dalkia Romania SRL	5	SC Arelco Power SRL
6	SC EDP Renewables România SRL	6	Danske Commodities/s Aarhus	6	SC Biol Energy SRL
7	SC Electrocentrale București SA	7	E&T ENERGIE Handelsgesellschaft	7	SC EFE Energy SRL
8	SC Electrocentrale Galați SA	8	SC Edison Trading SpA	8	SC EGL Gas & Power Romania SA
9	SC Electrocentrale Pârșeni SA	9	SC Electrica SA	9	SC Electricom SA
10	SC Enel Green SA	10	SC Enel Trade Romania SRL	10	SC Electromagnetica SA
11	SC Romconstruct Top SRL	11	Energy Financing Team Switzerland	11	SC Energotrans SRL
12	SC Termica SA Suceava	12	SC Energy Market Consulting SRL	12	SC Energy Distribution Services SRL
13	SC Termoelectrica SA	13	SC Energon Power&Gaz SRL	13	SC Energy Financing Team Romania SRL
14	SC Tomis Team SRL	14	SC Entrex Services SRL	14	SC Energy Holding SRL
<b>AI</b>	<b>Electricity generators operating dispatching units and acting also as suppliers on the competitive</b>	15	E.ON Energy Trading SE	15	SC Energy Network SRL
15	RAAN	16	SC Ezpada SRL	16	SC Enex SRL
16	SN Nuclearelectrica SA	17	Ezpada SRO	17	SC Ennet Grup SRL
17	SC OMV Petrom SA	18	Freepoint Commodities Europe Ltd	18	SC Enol Grup SA
18	SC CE Oltenia SA	19	Gazprom Marketing & Trading	19	SC Fidelis Energy SRL
19	SC CET Arad SA	20	GEN-I trgovanje in prodaja elektricne energije	20	SC Gaz Sud Furnizare SRL
20	SC Electrocentrale Deva SA	21	GEN-I Bukarest Electricity Trading and Sales	21	SC GDF SUEZ Energy Romania SA
21	SC Hidroelectrica SA	22	SC Getica 98 COM SRL	22	SC General Com Invest SRL
22	SC Lukoil Energy & Gaz Romania SRL	23	SC Grivco SA	23	SC ICCO Energ SRL
23	SC OMV Petrom Power Park SRL	24	SC Iberdola Romania SRL	24	ILIOTOMI Impex GRPA
<b>B</b>	<b>Transmission System Operator</b>	25	Jas Budapest zrt	25	SC ICPE Electrocond Technologies SA
1	CN TRANSELECTRICA SA	26	SC KBS Threenergyes SRL	26	SC Luxten LC SA
<b>C</b>	<b>DAM, Bilateral Contracts Market, Green Certificates Market Operator</b>	27	SC Lord Energy SRL	27	Magyar Aramszolgaltato KFT
1	SC OPCOM SA	28	SC Midest Energy SRL	28	SC Monsson Energy Trading SRL
<b>D</b>	<b>Distribution network operators</b>	29	SC MVM Partner Bucharest SRL	29	OET Obedineni Energini Targovtsi
1	SC CEZ Distributie SA	30	OMV Trading GmbH	30	SC Renovation Trading SRL
2	SC ENEL Distributie Banat SA	31	RWE Supply Trading GmbH	31	SC Repower Furnizare Romania SRL
3	SC ENEL Distributie Dobrogea SA	32	Repower Trading Ceska Republica	32	SC Romenergy Industry SRL
4	SC E.ON Moldova Distributie SA	33	SC Romelectro SA	33	SC Romenergo SA
5	SC ENEL Distributie Muntenia SA	34	SC Rudnap SRL	34	SC TEN Transilvania Energie SRL
6	SC FDEE Electrica Distributie Muntenia Nord SA	35	Statkraft Markets GmbH	35	SC Tinmar Ind SA
7	SC FDEE Electrica Distributie Transilvania Sud SA	36	SC Statkraft Romania SRL	36	SC Transformer Supply SRL
8	SC FDEE Electrica Distributie Transilvania Nord SA	37	SC Verbund Trading România SRL	37	SC Transenergo Com SA
<b>E</b>	<b>Incumbent suppliers</b>				
1	SC CEZ Vanzare SA				
2	SC ENEL Energie SA				
3	SC E.ON Energie Romania SA				
4	SC ENEL Energie Muntenia SA				
5	SC FFEE Electrica Furnizare SA				

\*) The electricity market participants report to ANRE technical/commercial data according to the *Methodology of wholesale electricity market monitoring for assessing the competition level on market and preventing the abuse of dominant position*, approved by ANRE Order no. 35/2006. The table does not include the Balancing Responsible Parties (BRP). The BRP updated list is published on the Balancing Market Operator website - [www.ope.ro](http://www.ope.ro).

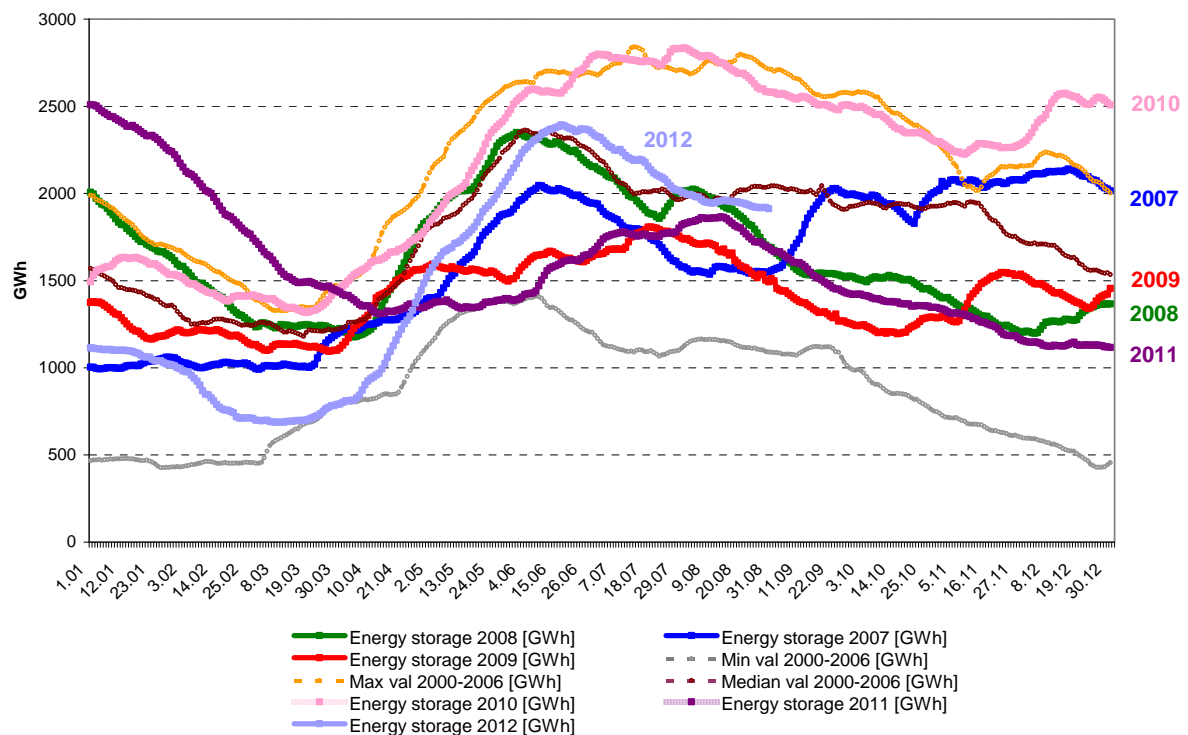
3. Generation structure of National Energy System on resources types



Source: Monthly reports of generators – processed by MG

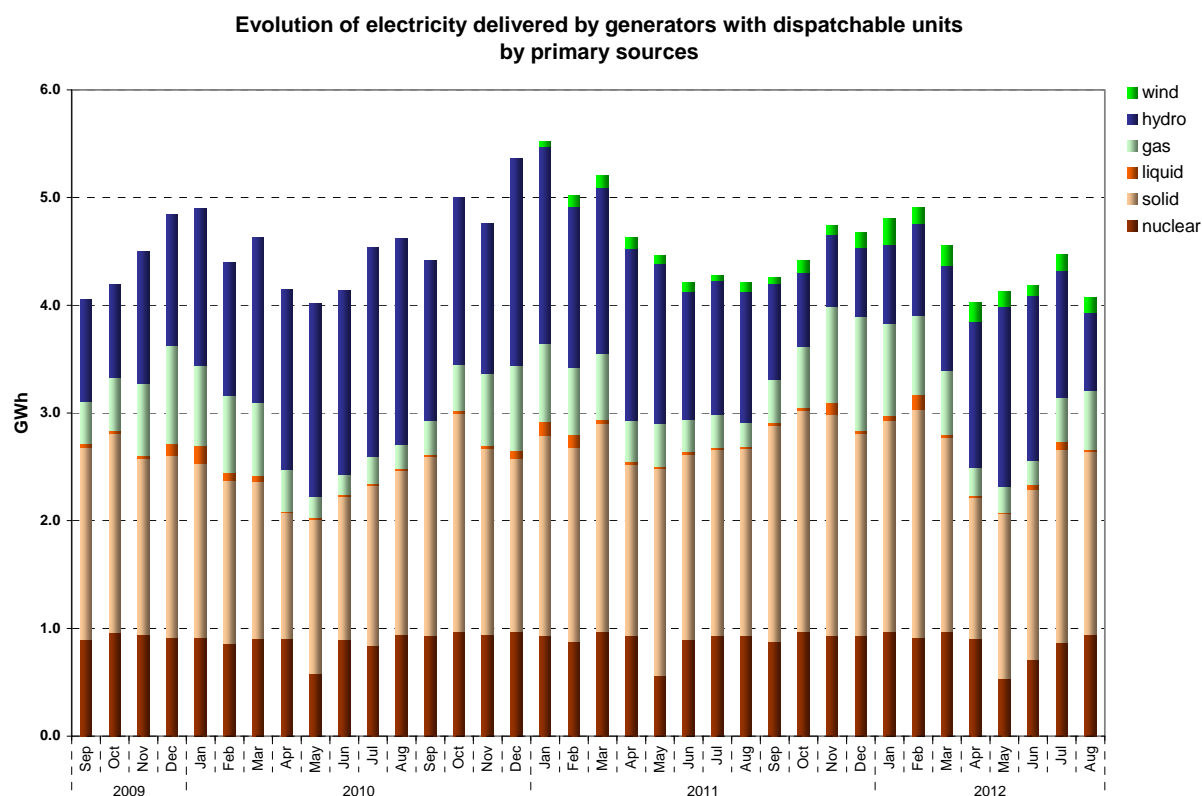
The electricity generated from hydro resources and the energy stored in the main water reservoirs are directly correlated. The following graph presents the evolution of daily amounts of energy storage during the last 4 years and compared to minimum, maximum and median values from 2000-2006.

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



Source: Monthly reports of S.C. Hidroelectrica S.A. – processed by MG

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



Source: Monthly reports of generators – processed by MG

The following table presents the main data regarding the physical balance of electricity for August 2012 compared to data for similar period of 2011:

No.	INDICATOR	MU	August 2011	August 2012	%	Jan-Aug 2011	Jan-Aug 2011	%
0	1	2	3	4	5=4/3*100	3	4	5=4/3*100
1	Generated electricity	TWh	4.55	4.43	97.36	40.55	38.17	94.13
2	Delivered electricity	TWh	4.22	4.08	96.68	37.54	35.17	93.69
3	Import	TWh	0.10	0.14	140.00	0.52	0.97	186.54
4	Export	TWh	0.09	0.06	66.67	2.44	0.88	36.07
5	Internal consumption	TWh	4.23	4.15	98.11	35.61	35.25	98.99
6	Consumption of household consumers on the regulated market	TWh	0.91	0.97	106.59	7.72	7.94	102.85
7	Consumption of non-households consumption	TWh	2.90	2.89	99.66	22.75	22.76	100.04
7.1	on the regulated market	TWh	0.70	0.74	105.71	5.75	5.93	103.13
7.2	on the competitive market	TWh	2.20	2.15	97.73	17.00	16.83	99.00
8	Transmission–Injection component	TWh	4.17	4.26	102.16	36.84	35.78	97.12
9	Transmission–Extraction component	TWh	4.26	4.29	100.70	37.63	36.20	96.20
10	Actual transmission grid losses	TWh	0.081	0.075	92.59	0.693	0.675	97.40
11	Heat generated for delivery	Tcal	621.53	551.10	88.67	11423.66	10333.95	90.46
12	Heat in co-generation	Tcal	556.59	468.11	84.10	9640.78	8898.20	92.30

Note: 1. Data shown in the table neither include the energy produced by the generators who do not own dispatchable units (positions 1 & 2) nor the energy delivered to the consumers directly connected to the power plants (positions 6 & 7).  
 2. The imported/exported quantities do not comprise transits and cross border exchange of CN Tranelectrica SA with neighbor countries in order to ensuring the balance of the national energy system.  
 3. The electricity considered for transmission tariff – injection component do not comprise the electricity sold by generators for covering the transmission losses.  
 4. The transmission tariff – extraction component and the system service tariff are applied for the same quantity of electricity

#### **4. Transactions' structure on the wholesale electricity market**

The size of wholesale market depends on the sum of all transactions performed by the market players, exceeding the quantities physically transmitted from generation to consumption; the total transactions include also resale transactions made in order to match the contractual obligations and to obtain financial benefit.

Therefore, the wholesale electricity market includes: regulated contracts and bilateral negotiated contracts between generators and suppliers, regulated contracts for covering the network losses, bilateral negotiated contracts generator-generator and supplier-supplier, as well as contracts concluded on centralized markets: CMBC (centralized market of bilateral contracts), CMBC-CN (centralized market of partially standardised bilateral contracts, with continuous negotiation) and on the Power floor of RCE (Romanian Commodities Exchange), transactions on DAM (day-ahead market), on BM (Balancing Market) and Intraday Market (recently introduced).

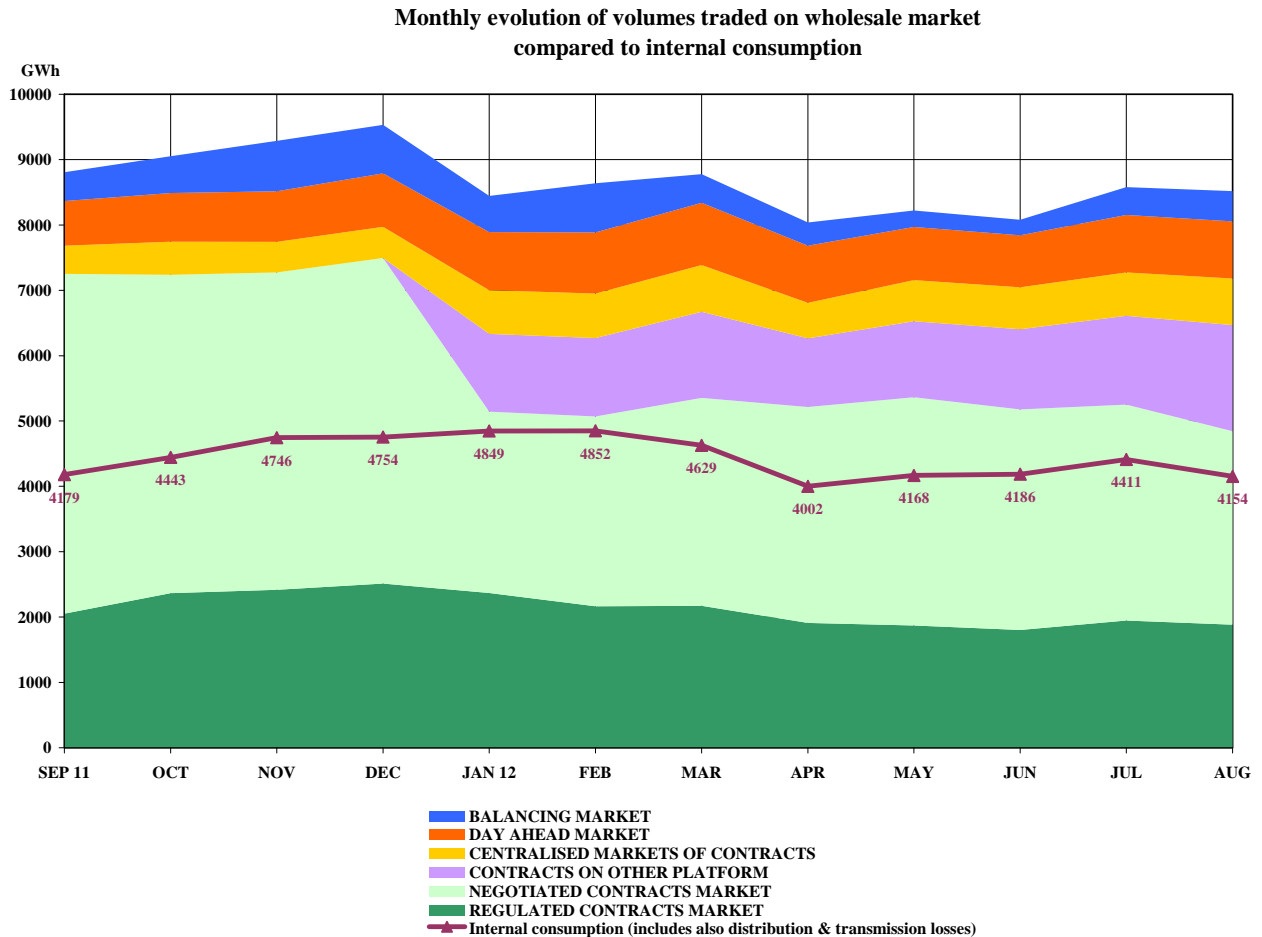
The volumes traded and the average prices on each type of contracts and on the main components of the wholesale market are presented in the following tables for August 2012 compared to the month before and August 2011:

<b>TRANSACTIONS ON THE WHOLESALE MARKET</b>	<b>July 2012</b>	<b>August 2012</b>	<b>August 2011</b>
<b>1. BILATERAL CONTRACTS' MARKET</b>			
traded volume (GWh)	<b>6610</b>	<b>6469</b>	<b>7084</b>
% from internal consumption (%)	182.98	201.19	176.63
average price (lei/MWh)	149.9	155.8	167.5
<b>1.1. Sales on regulated contracts</b>			
traded volume (GWh)	<b>1950</b>	<b>1883</b>	<b>2080</b>
% from internal consumption (%)	146.74	153.35	158.47
average price (lei/MWh)	44.2	45.3	49.2
<b>1.2. Sales on contracts concluded on other platforms *</b>			
traded volume (GWh)	<b>1358</b>	<b>1626</b>	
% from internal consumption (%)	208.79	213.35	-
average price (lei/MWh)	30.8	39.1	
<b>1.3. Sales on negotiated contracts**</b>			
traded volume (GWh)	<b>3302</b>	<b>2961</b>	<b>5004</b>
% from internal consumption (%)	193.77	224.94	184.18
average price (lei/MWh)	74.9	71.3	118.3
<b>2. EXPORT***</b>			
traded volume (GWh)	<b>151</b>	<b>61</b>	<b>85</b>
% from internal consumption (%)	203.77	273.23	159.49
average price (lei/MWh)	3.4	1.5	2.0
<b>3. CENTRALISED MARKETS OF CONTRACTS</b>			
delivered volume (GWh)	<b>665</b>	<b>712</b>	<b>415</b>
% from internal consumption (%)	202.73	210.51	167.39
average price (lei/MWh)	15.1	17.1	9.8
<b>4. DAY AHEAD MARKET</b>			
traded volume (GWh)	<b>879</b>	<b>874</b>	<b>708</b>
% from internal consumption (%)	228.81	274.59	215.50
average price (lei/MWh)	19.9	21.0	16.7
<b>5. INTRADAY MARKET****</b>			
traded volume (GWh)	<b>0.300</b>	<b>0.704</b>	
% from internal consumption (%)	301.55	335.90	-
average price (lei/MWh)	0.007	0.017	
<b>6. BALANCING MARKET</b>			
traded volume (GWh)	<b>426</b>	<b>464</b>	<b>266</b>
% from internal consumption (%)	9.7	11.2	6.3
upward volume (GWh)	<b>306</b>	<b>332</b>	<b>184</b>
average negative imbalance price(lei/MWh)	280.69	321.61	286.16
downward volume (GWh)	<b>120</b>	<b>132</b>	<b>82</b>
average positive imbalance price (lei/MWh )	59.66	45.66	55.92
<b>INTERNAL CONSUMPTION (includes distribution and transmission losses) (GWh)</b>	<b>4411</b>	<b>4154</b>	<b>4230</b>

Note:	*	After a large consultation process with market participants, starting with January 2012, the contracts concluded on other platforms (such as ICAP, TFS) have been separately identified; before this, these volumes had been comprised within negotiated contracts
	**	Supply contracts to consumers and export contracts are not included; volumes traded on negotiated contracts do not include the quantities resulted from the processing contracts concluded between the fuel suppliers and the generators, as this activity is not subject of ANRE regulations and not comprised within the market participants' reports
	***	Export volumes correspond to the quantities for which CN Transelectrica SA applied extraction component of transmission tariff for export. which in some cases are different to those reported as traded by participants
	****	The average monthly price has been calculated based on monthly traded volume and transaction value published by SC Opcom SA

The percentage of electricity quantities from the internal consumption (see table from above) offers a dimensional reference for each of the specified markets. Prices 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.

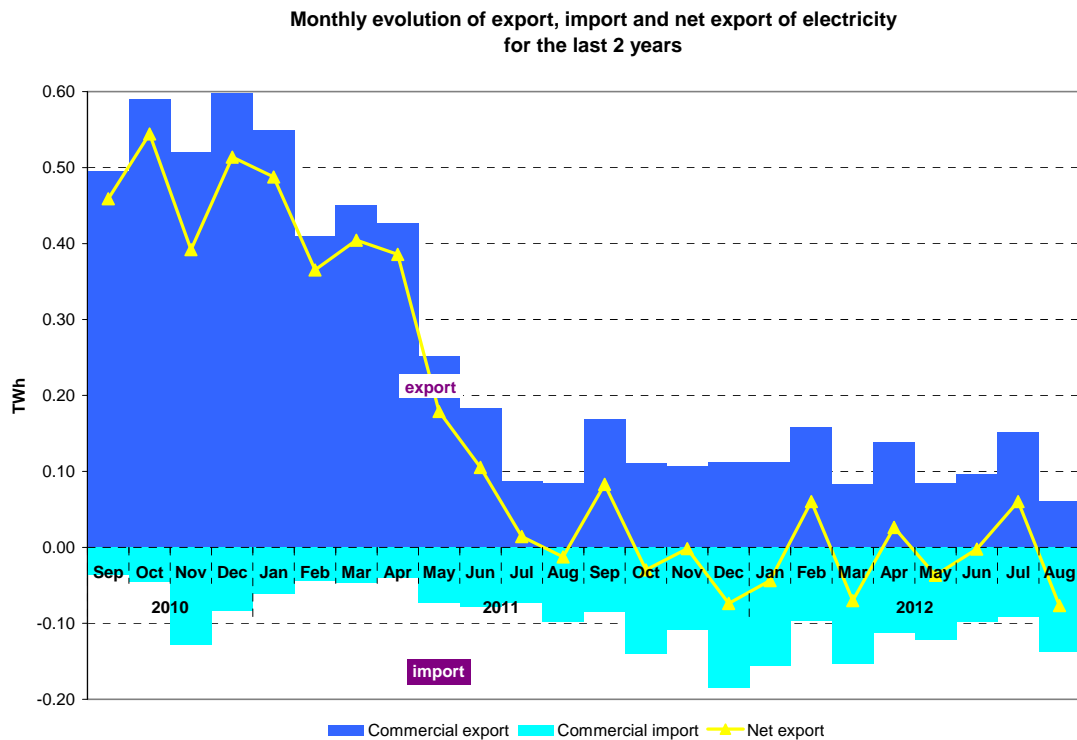
The following graph presents the evolution of the relation between the volumes sold on each market and the estimated internal consumption between September 2011 – August 2012.



*Source: Monthly reports of wholesale market participants. SC Opcom SA and CN Transelectrica SA – processed by MG*

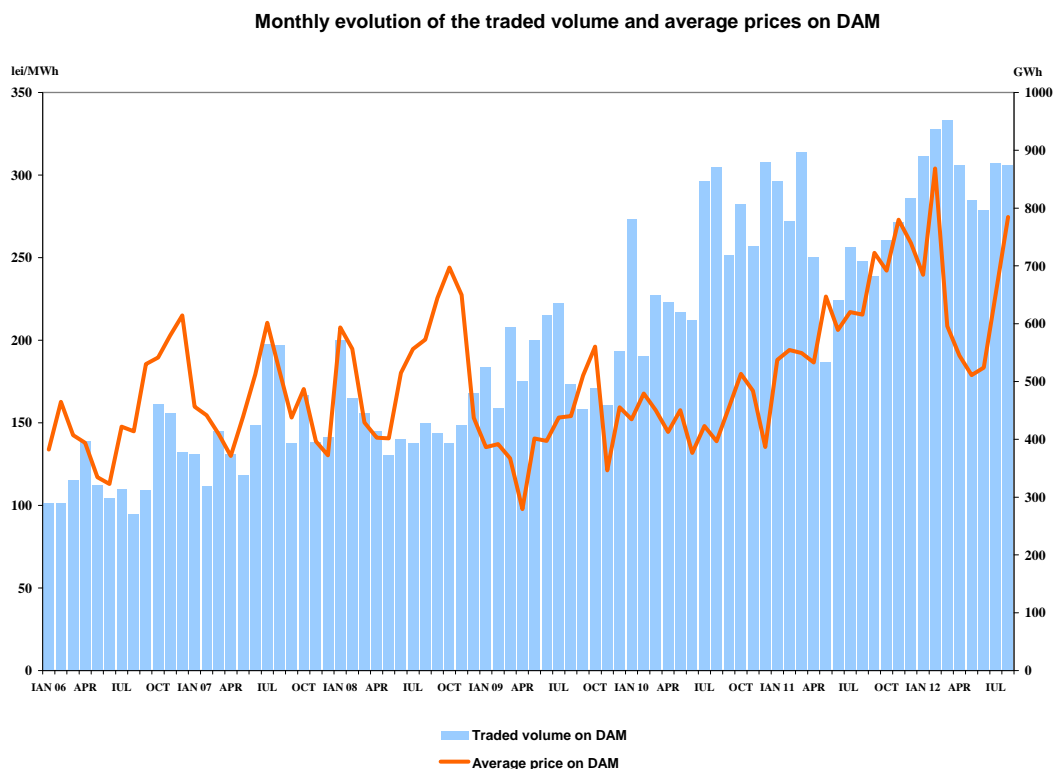
*Note: In the above graph, the volumes traded on negotiated contracts' market do not include the export trades*

The following graph presents the monthly values of commercial export (quantities for which the extraction component of transmission tariff was applied), commercial import (quantities for which the injection component of transmission tariff was applied) and the net export (export minus import) in the last 24 months:



Source: Monthly reports of CN Traselectrica SA – processed by MG

The following graph presents the volumes and the monthly average prices on DAM starting with January 2006.



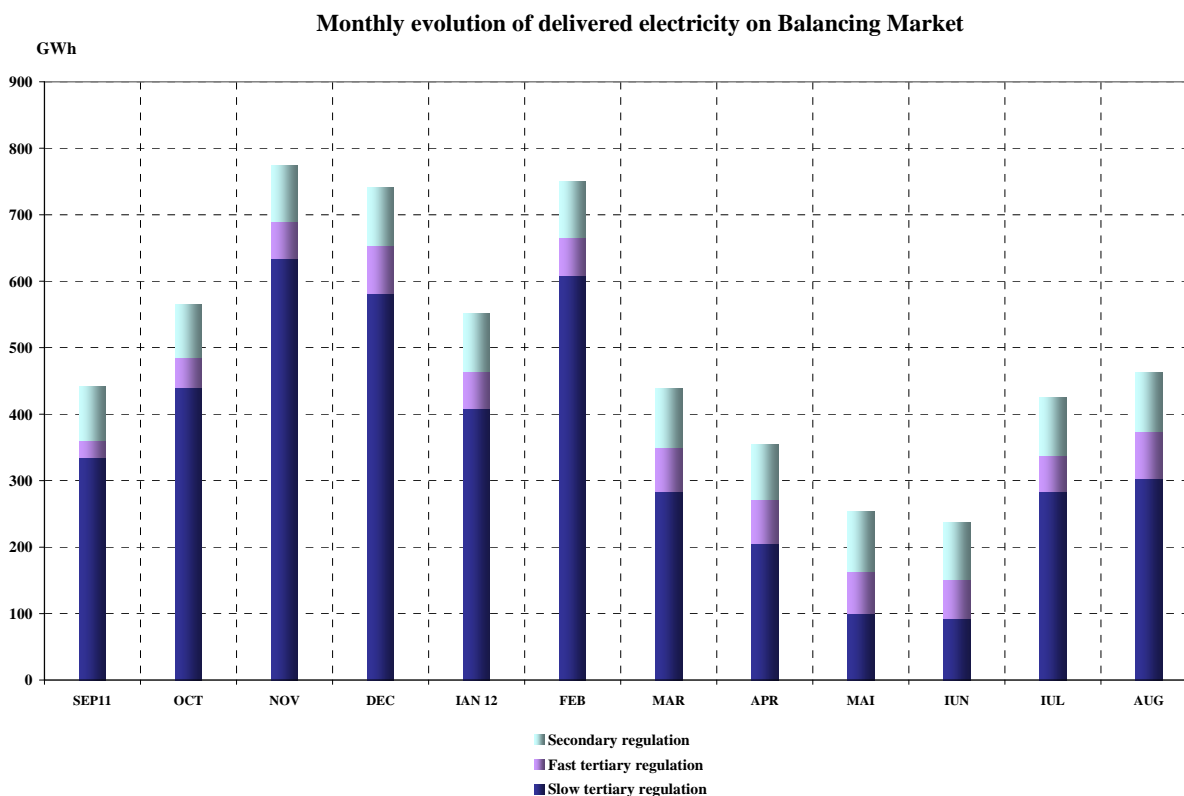
Source: Monthly reports of SC Opcom SA and CN Traselectrica SA – processed by MG

Balancing electricity is determined by the dispatch orders (accepted offers) received by generators. After settlement, the actual electricity delivered by generators on balancing market is determined based on the measured (approved) values; the relation between the accepted and delivered electricity in August 2012 is presented in the following table:

August 2012	Dispatch order (GWh)	Delivered electricity (GWh)	Deviation (%)
<b>Secondary regulation</b>	<b>89</b>	<b>89</b>	
<i>upward</i>	40	40	
<i>downward</i>	49	49	
<b>Fast tertiary regulation</b>	<b>77</b>	<b>71</b>	<b>8</b>
<i>upward</i>	44	42	3
<i>downward</i>	33	28	15
<b>Slow tertiary regulation</b>	<b>323</b>	<b>303</b>	<b>6</b>
<i>upward</i>	257	249	3
<i>downward</i>	65	54	17
<b>TOTAL</b>	<b>489</b>	<b>463</b>	
<i>upward</i>	342	332	
<i>downward</i>	147	132	
<b>INTERNAL CONSUMPTION</b>		<b>4154</b>	
<i>% share of traded volumes from internal consumption</i>		<b>11.2%</b>	

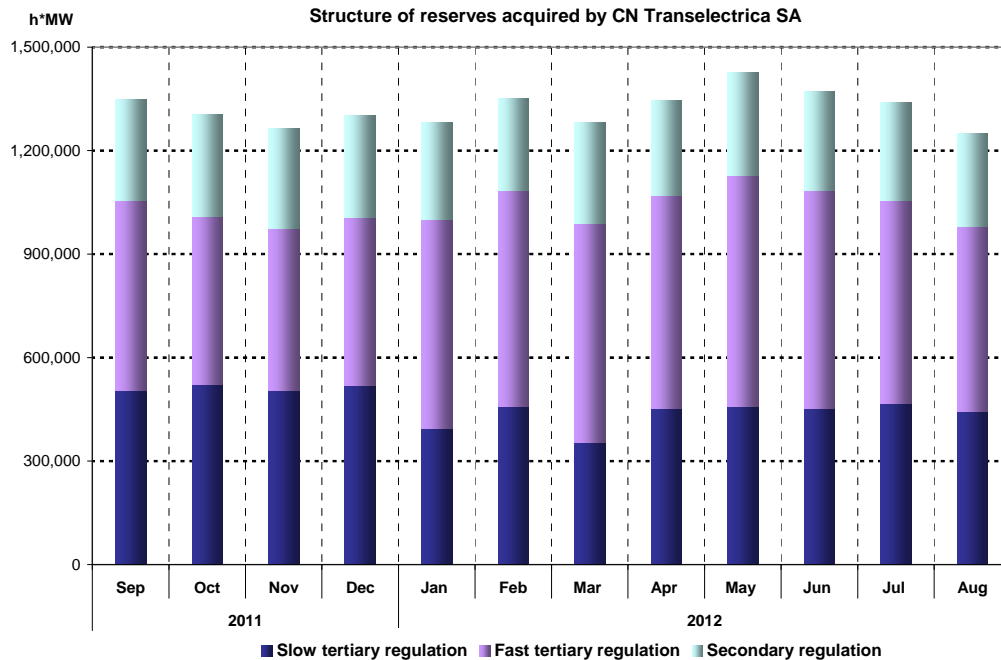
Source: Monthly reports of CN Traselectrica SA – processed by MG

The structure of balancing electricity delivered in the system on each type of regulation starting from September 2011 is presented in the graph below:



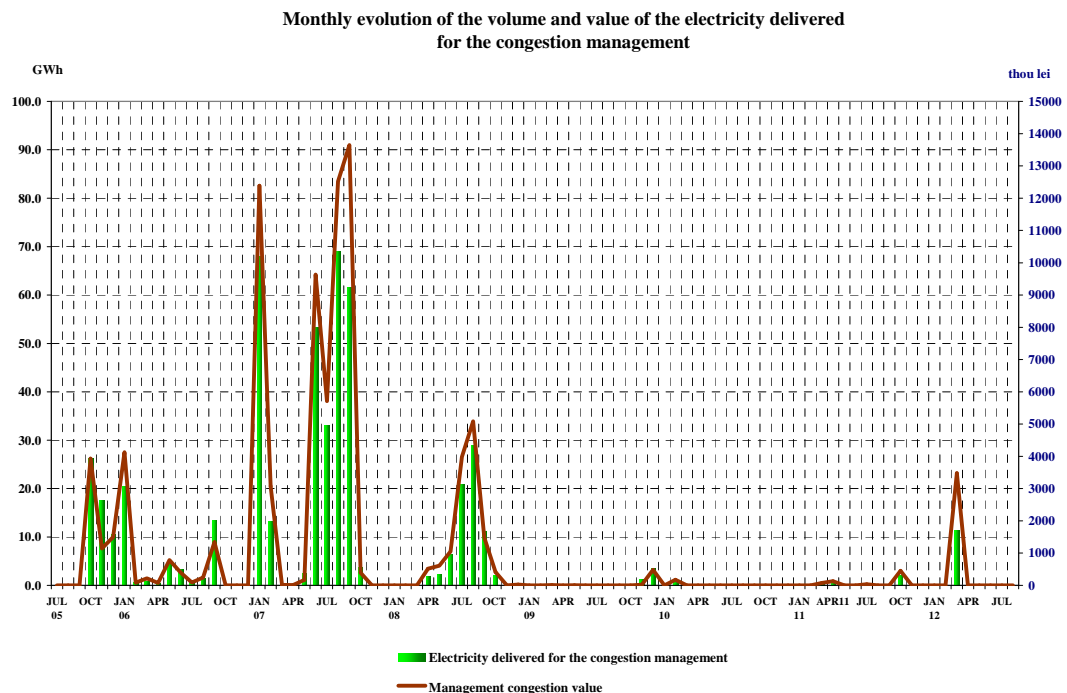
Source: Monthly reports of CN Traselectrica SA – processed by MG

For comparison, the following graph presents the evolution of reserves (ancillary services, i.e. obligations of generators to maintain their contracted capacities available for dispatching/offering on BM) acquired/paid by CN Transelectrica SA starting from September 2011:



Source: Monthly reports of CN Transelectrica SA – processed by MG

The following graph presents the evolution of electricity traded by CN Transelectrica SA on the Balancing Market for covering the electricity used for congestion management (in order to solve the congestions occurred within the transmission grid) and the evolution of the values of these transactions starting from July 2005.



Source: Monthly reports of CN Transelectrica SA – processed by MG

## 5. Trading structure on the wholesale electricity market of different participant categories

### Generators

The structure of electricity sales obligations contracted before delivery day by the electricity generators with dispatchable units in August 2012 compared to previous month and August 2011 was the following:

Transaction type	- GWh -		
	July 2012	August 2012	August 2011
0	1	2	3
Regulated to incumbents, thermal generators	673.67	721.06	721.04
Regulated to incumbents, hydro generator	357.32	221.76	295.82
Regulated to incumbents, nuclear generator	515.98	524.20	463.89
Regulated for distribution losses, thermal generators	185.12	208.03	182.81
Regulated for distribution losses, hydro generator	55.79	43.91	23.28
Regulated for distribution losses, nuclear generator	161.63	163.79	106.60
Regulated for transmission losses, thermal generator	0.00	0.00	76.40
Regulated, to other generators (with return of obligation within a year)	0.00	0.00	210.04
Negotiated, to other generators	188.53	0.00	113.64
Negotiated, to suppliers	921.45	780.51	1116.57
Contracts concluded on centralized markets (CMBC, CMBC-NC, RCE)	590.37	688.27	415.11
Supply to consumers (regulated and competitive)	296.67	319.82	301.82
Export	65.00	0.00	65.00
DAM	549.51	432.73	478.87
<b>Total</b>	<b>4561.03</b>	<b>4104.09</b>	<b>4570.88</b>

Source: Monthly reports of generators – processed by MG

### Suppliers

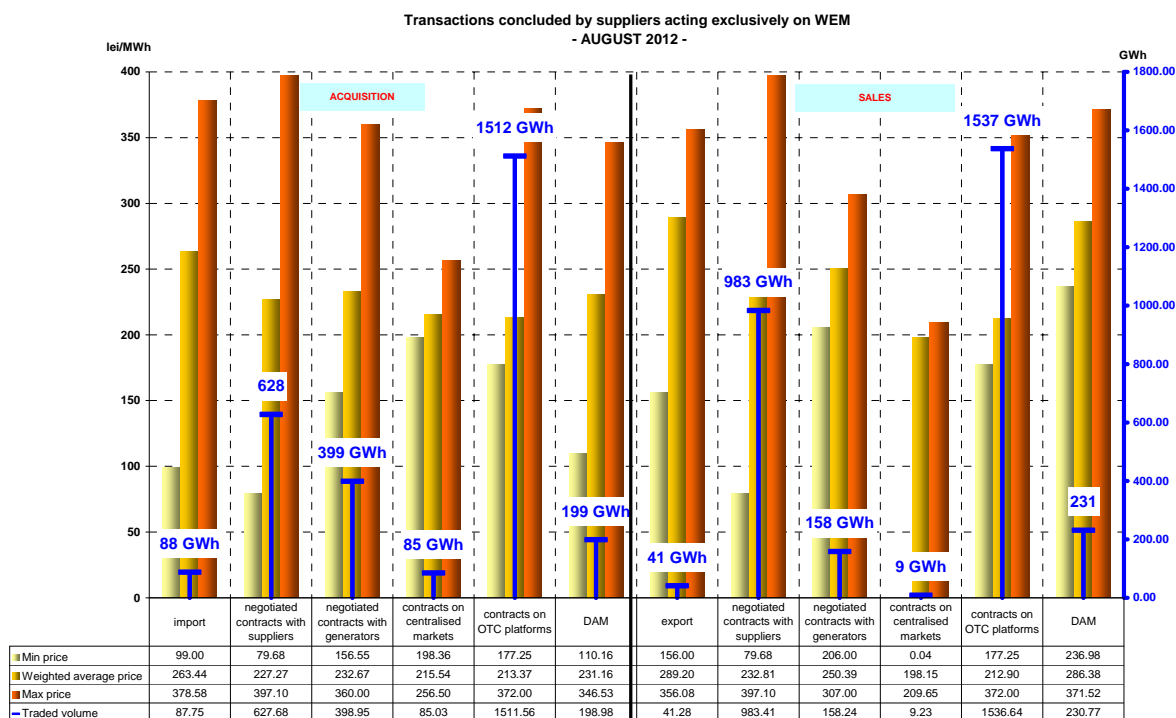
In August 2012, 79 companies having as main activity the supply of electricity concluded transactions on the electricity market; from these, 37 suppliers traded electricity exclusively on the wholesale market and 42 suppliers on both retail and wholesale markets (in this category are also included the 5 incumbent suppliers).

#### Suppliers acting exclusively on WEM

The following table shows the activity for August 2012 compared to August 2011 of the suppliers acting exclusively on WEM, acquisitions and sales being split by categories of markets/participants:

Transactions' structure of suppliers acting exclusively on WEM	- GWh -	
	August 2011	August 2012
<b>Acquisitions</b>		
Import	43.43	87.75
Negotiated contracts with suppliers	1995.04	627.68
Negotiated contracts with generators	53.37	398.95
Contracts concluded on centralized markets	5.80	85.03
Contracts on OTC platforms	0.00	1511.56
DAM	106.21	198.98
<b>Sales</b>		
Export	16.91	41.28
Negotiated contracts with suppliers	2082.52	983.41
Negotiated contracts with generators	44.64	158.24
Contracts concluded on centralized markets	0.00	9.23
Contracts on OTC platforms	0.00	1536.64
DAM	129.35	230.77

In addition to the data from the table above, the following graph presents the minimum, average and maximum actual prices by categories of transactions completed by the suppliers acting exclusively on WEM (traders) in August 2012:



Source: Monthly reports of the competitive suppliers– processed by MG

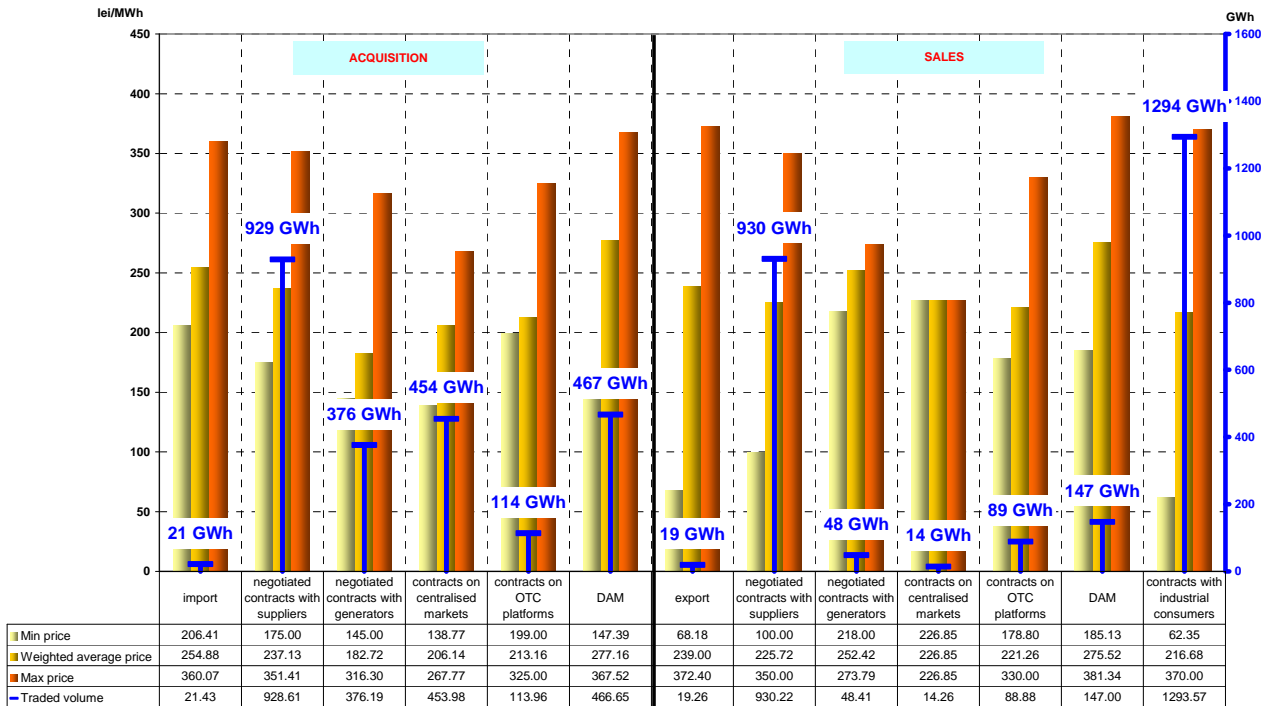
### Active suppliers on REM (the incumbent suppliers are not included)

The following table presents aggregated information on transactions volume and structure for suppliers providing electricity to final consumers, on the competitive market, for August 2012 and August 2011.

	- GWh -	
<b>Transactions' structure of suppliers providing electricity to final consumers (the incumbent suppliers are not included)</b>	<b>August 2011</b>	<b>August 2012</b>
<b>Acquisitions</b>		
Import	24.55	21.43
Negotiated contracts with suppliers	1201.89	928.61
Negotiated contracts with generators	1063.20	376.19
Contracts concluded on centralized markets	349.79	453.98
Contracts on OTC platforms	-	113.96
DAM	334.90	466.65
<b>Sales</b>		
Export	3.35	19.26
Negotiated contracts with suppliers	1417.96	930.22
Negotiated contracts with generators	130.33	48.41
Contracts concluded on centralized markets	0.00	14.26
Contracts on OTC platforms	0.00	88.88
DAM	88.76	147.00
Contracts with industrial consumers	1445.15	1293.57

In addition to the data from the table above, the following graph presents the sales structure and the minimum, average and maximum actual prices by categories of transactions completed by suppliers providing electricity to final consumers in August 2012:

Transactions concluded by suppliers providing electricity to final consumers  
(incumbent suppliers not included)  
- AUGUST 2012 -



Source: Monthly reports of the competitive suppliers– processed by MG

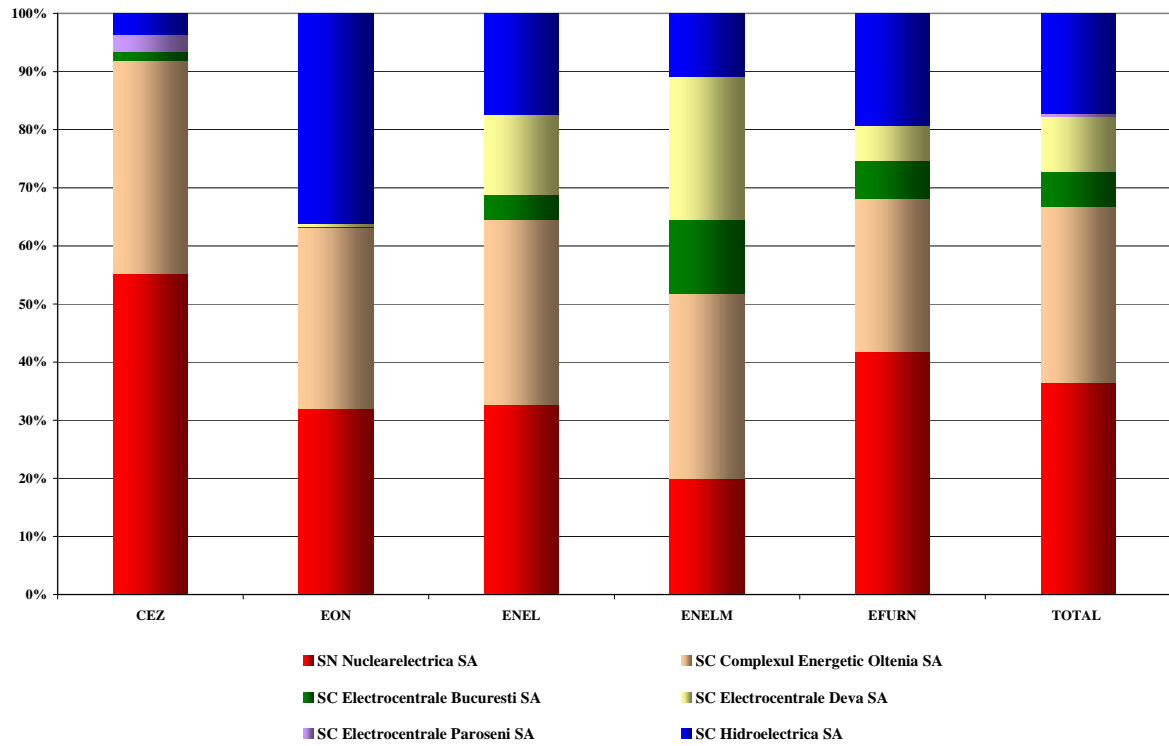
### Incumbent suppliers

Electricity acquisition structure of incumbent suppliers (before the delivery day), for supplying the regulated market consumers, is presented in the table below, for August 2012 compared to the situation of August 2011:

Acquisition structure of incumbent suppliers for regulated REM component	- GWh -	
	August 2011	August 2012
Regulated contracts with generators	1521.56	1503.16
Negotiated contracts	4.86	5.40
Contracts concluded on centralized markets	0.00	21.05
Intraday	0.00	0.56
DAM	66.61	135.94

The structure of the electricity purchased by the incumbent suppliers from the main generators on regulated contracts is presented in the following graph for August 2012:

Electricity acquisition from main generators, on regulated contracts, of incumbent suppliers for delivering electricity to final consumers on regulated market  
AUGUST 2012



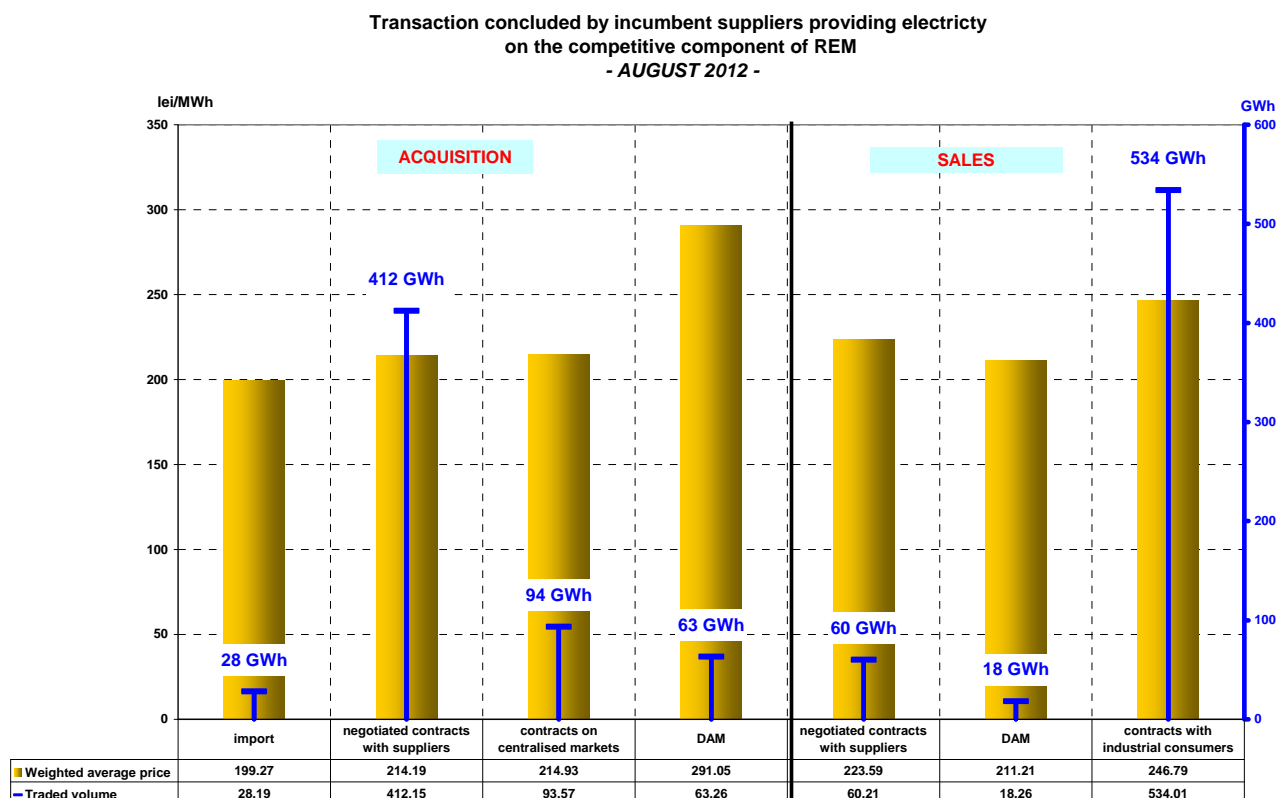
Source: Monthly reports of the incumbent suppliers – processed by MG

Similar to the situation presented for the regulated REM, the table below presents the structure of incumbent suppliers' transactions (before the delivery day), corresponding to the competitive REM (energy supplied at negotiated prices to the consumers who renounced to regulated tariffs) for August 2012 compared to August 2011:

- GWh -

Transactions' structure of incumbent suppliers for competitive REM component	August 2011	August 2012
<b>Acquisitions</b>		
Import	29.92	28.19
Negotiated contracts with suppliers	394.04	412.15
Contracts concluded on centralized markets	0.00	93.57
DAM	92.86	63.26
<b>Sales</b>		
Negotiated contracts with suppliers	95.43	60.21
Negotiated contracts with distributors	2.82	0.00
Contracts concluded on centralized markets	0.00	0.00
DAM	1.89	18.26
Final consumers	456.73	534.01

The structure by types of sources/destinations of the traded volumes combined with the actual average prices of the incumbent suppliers corresponding to the competitive segment of REM is presented in the following graph for August 2012:



Source: Monthly reports of the incumbent suppliers – processed by MG

**Main distribution operators**

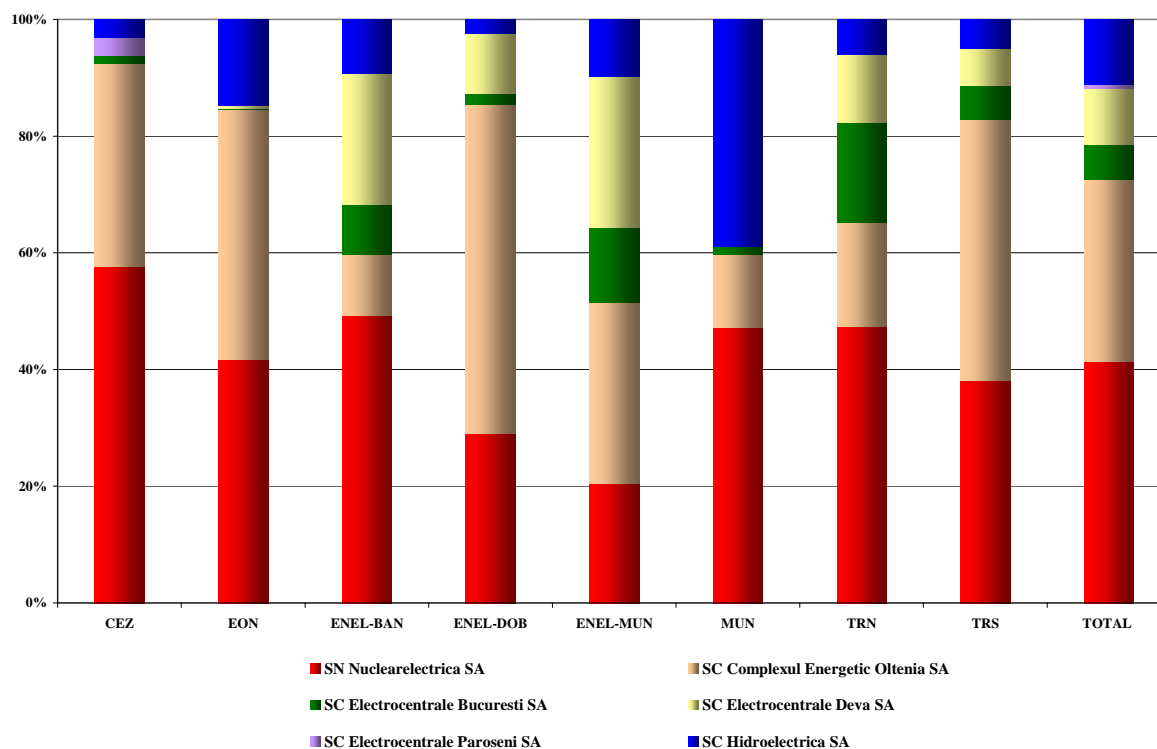
The following table shows the electricity acquisition structure of main distribution operators (before the delivery day), for covering the distribution network losses, for August 2012 compared to August 2011:

- GWh -

Acquisition structure	August 2011	August 2012
Regulated contracts with generators	315.45	416.30
Negotiated contracts with suppliers	2.82	0.00
DAM	76.15	9.29

The electricity purchased by the 8 distribution operators from the main generators on regulated contracts, for covering their network losses is presented in detail in the following graph, for August 2012:

Electricity acquisition of distribution operators from main generators, on regulated contracts, for covering the distribution losses  
AUGUST 2012



Source: Monthly reports of the distribution operators – processed by MG

## 6. Concentration indicators on the wholesale electricity market and its components

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

- HHI. Herfindahl-Hirschman Index = sum of square market shares (%) of participants:  
The indicator values signify:
 

HHI < 1000	non-concentrated market;
1000 < HHI < 1800	moderately concentrated market;
HHI > 1800	highly concentrated market.
- C3 = sum of market shares of the main three participants in the market:  
The indicator values signify:
 

40% < C3 < 70%	moderately concentrated market;
C3 > 70%	highly concentrated market.

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

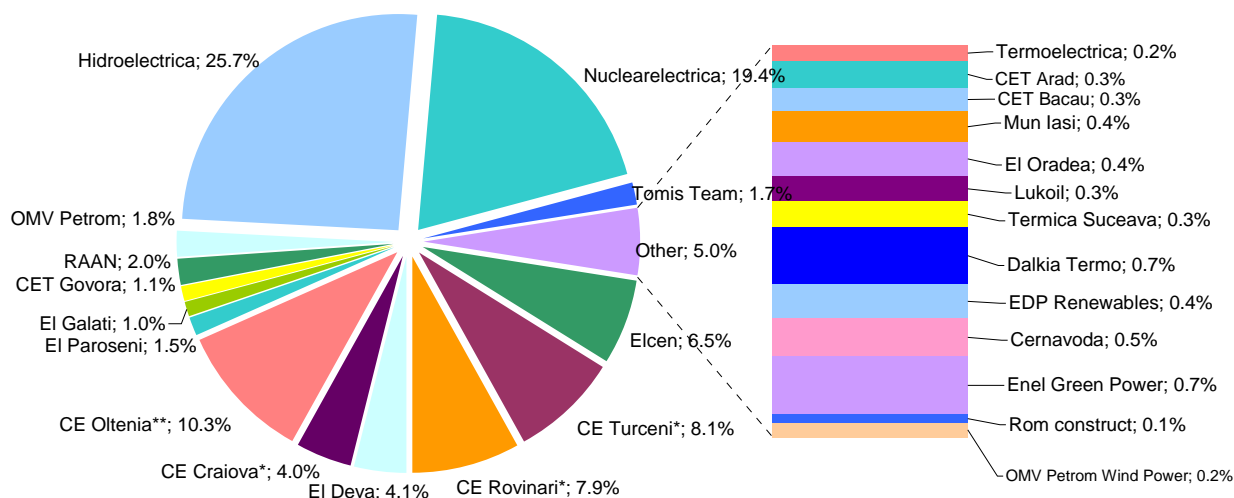
### Concentration indicators and market shares of the electricity generators

The market structure regarding the electricity generation offers an initial basis for analyzing the possible competitiveness level of the electricity market. The following table presents the concentration indicators of electricity generation for August 2012, calculated based on electricity delivered into the networks by the generators with dispatchable units.

Concentration indicators - August 2011 -	C1 (%)	C3 (%)	HHI
Value	33.4	74.4	2076

The market shares of the electricity generators, taking into account all components of the wholesale electricity market, are presented in the following graph, for the first 8 months from 2012. These market shares are calculated based on the electricity delivered into networks and separately for CE Rovinari, CE Turceni and CE Craiova until the moment CE Oltenia obtained its generation license.

**Market share of generators with dispatchable units by delivered electricity  
January-August 2012**



\* 01 January - 10 June 2012  
\*\* 11 June - 31 August 2012

**Structure indicators:**  
C1 - 25.7%  
C3 - 55.3%  
HHI - 1360

Source: Monthly reports of generators – processed by MG

A component of the WEM where direct competition between generators exists is the Balancing Market (BM). The values of concentration indicators on this market 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 for August 2012:

Structure/concentration indicators of BM - August 2012 -	Regulation					
	Secondary		Fast tertiary		Slow tertiary	
	upward	downward	upward	downward	upward	downward
<b>C1 - % -</b>	<b>55</b>	<b>54</b>	<b>83</b>	<b>49</b>	<b>37</b>	<b>52</b>
<b>C3 - % -</b>	<b>98</b>	<b>99</b>	<b>93</b>	<b>100</b>	<b>85</b>	<b>100</b>
<b>HHI</b>	<b>4608</b>	<b>4655</b>	<b>6919</b>	<b>4569</b>	<b>2695</b>	<b>4162</b>

The competition between generators is also present when speaking about the ensuring the reserves necessary for security of supply in the NES. Due to the fact that generators have different levels of capabilities for ensuring this type of service, this market has an important regulated component. The relationship between regulated and competitive components on the Ancillary Services Market (ASM) as well as the main concentration indicators on each type of reserve (secondary, fast tertiary and slow tertiary) are presented in the following table for August 2012:

Concentration indicators on ASM - August 2012 -		Secondary reserve	Fast tertiary reserve	Slow tertiary reserve
regulated component	contracted quantity (h*MW)	268380	535680	260400
	C1 (%)	53.8	83.3	50.0
	C3 (%)	100	94.4	85.7
competitive component	contracted quantity (h*MW)	0	0	184450
	C1 (%)	-	-	71.8
	C3 (%)	-	-	100
	HHI	-	-	5567

### Concentration Indexes for the Day Ahead Market

Day Ahead Market (DAM) is a voluntary market, opened both for buying and selling for all types of market participants: generators, suppliers, grid operators, under applicable regulations.

The concentration indicators on DAM reflects 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 buying and for selling side of DAM in August 2012, based on quantities traded by participants on this market.

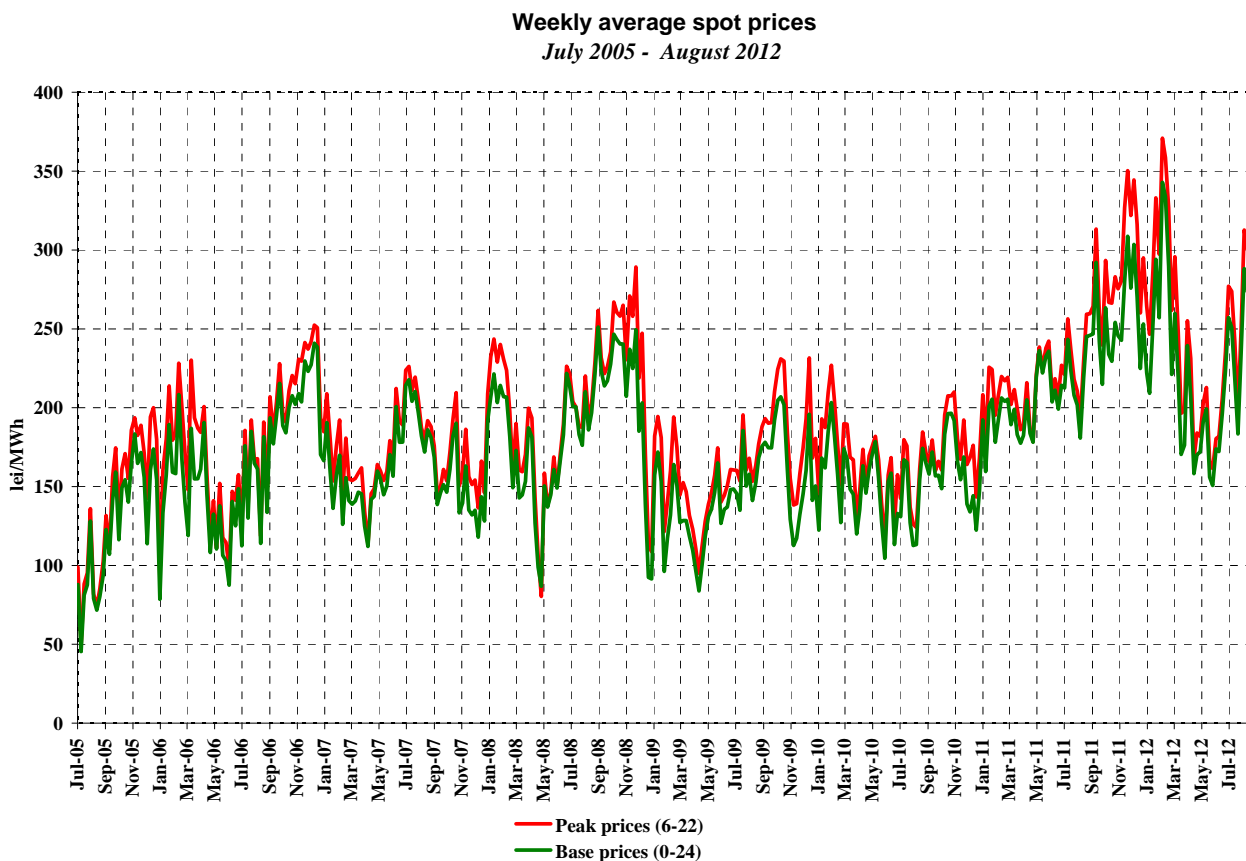
Concentration indicators on DAM - August 2012 -	C1 (%)	C3 (%)	HHI
Buying transactions	25.53	43.85	1068
Selling transactions	31.39	45.71	1225

### **7. Price evolution on wholesale electricity market**

SC Opcom SA is the administrator of DAM. The MCP on DAM represents a reference value for the prices on the bilateral contracts. The evolutions of hourly and daily average prices on DAM in August 2012 are presented in the following graphs, along with the prices on EXXA.

For comparison with prices on the European power exchanges, the spot price on SC Opcom SA is denominated in EUR, taking into consideration the daily exchange rates Euro/leu communicated by the National Bank of Romania.



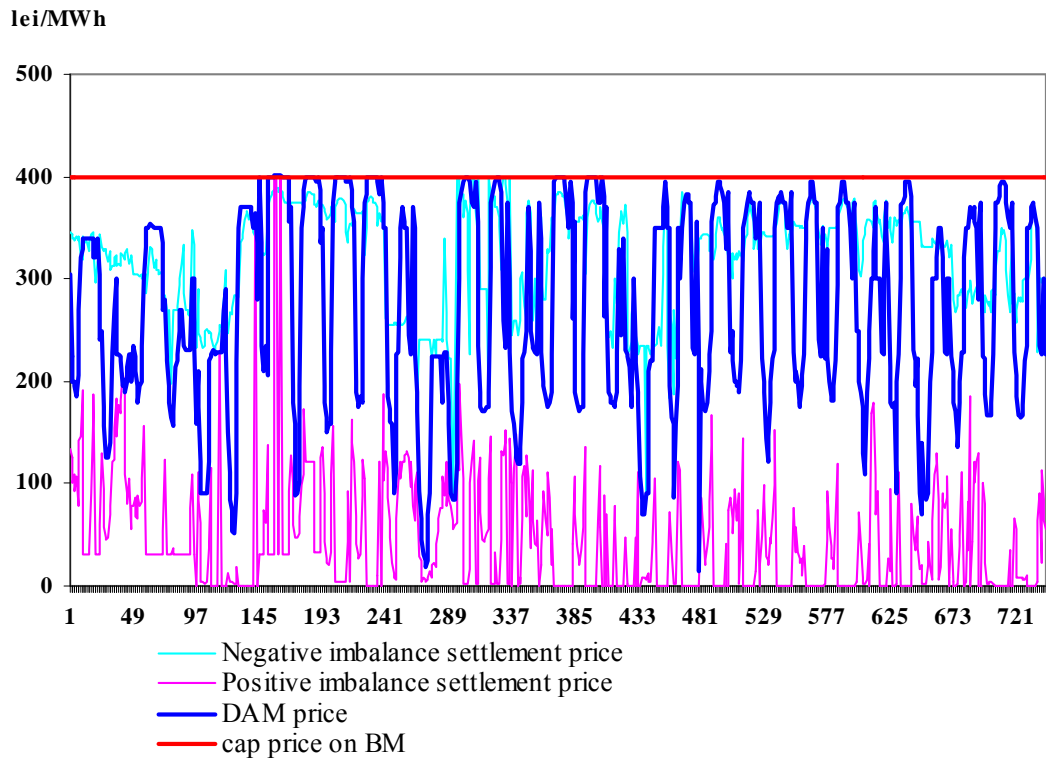


*Source: Daily reports of SC Opcom SA – processed by MG*

In order to cover the differences between planned/contracted amounts of consumption/generation and the real time consumption, the system operator (CN Transelectrica SA) operates the BM by buying or "selling" electricity at prices determined by the merit order of dispatchable generators' offers. The participants who generate the imbalances, grouped in BRPs, have to bear the imbalances costs. For the negative imbalances, they have to pay the settlement price resulting from the upward bids accepted on the BM, while for the positive imbalances they receive the settlement price resulting from the downward bids accepted on the BM.

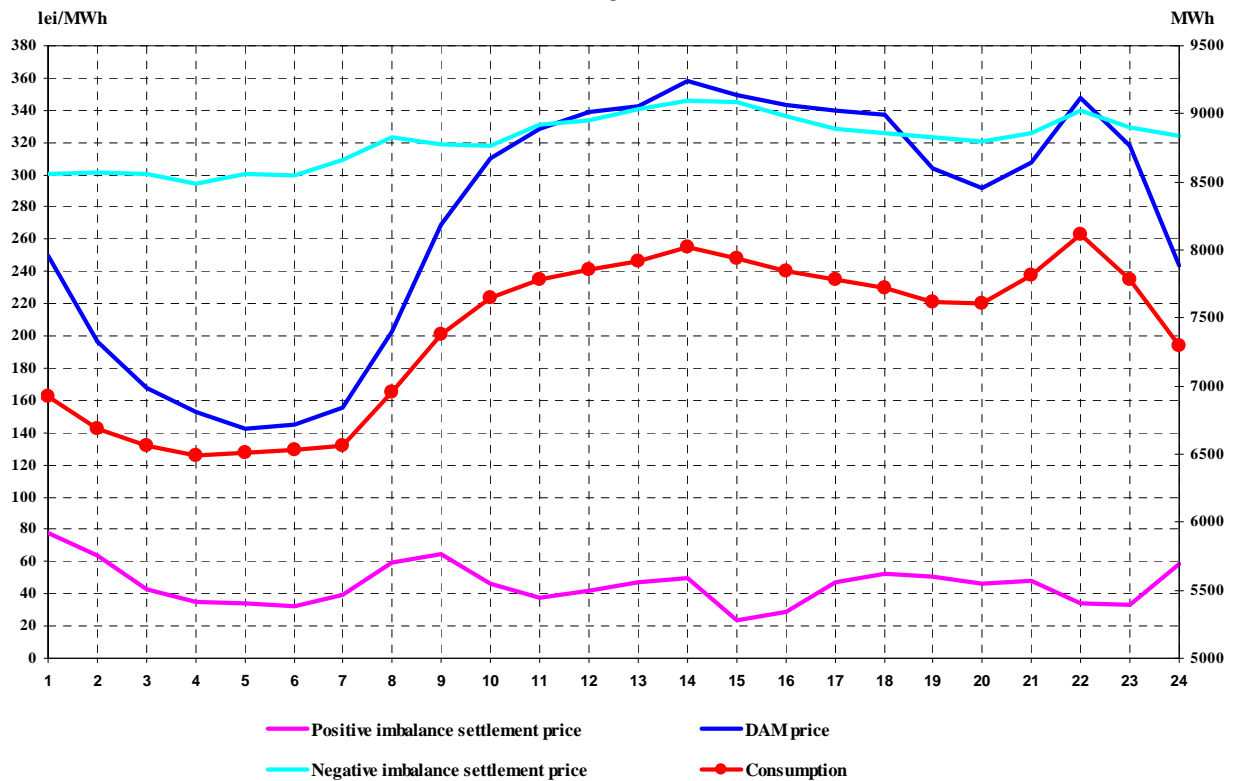
The settlement prices (MCP on DAM, negative imbalance settlement price and positive imbalance settlement price) are represented on the same graph, showing the two markets correlation degree. In the first graph the prices are expressed in hourly values, in the second graph in hourly average values compared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

### Hourly settlement prices August 2012



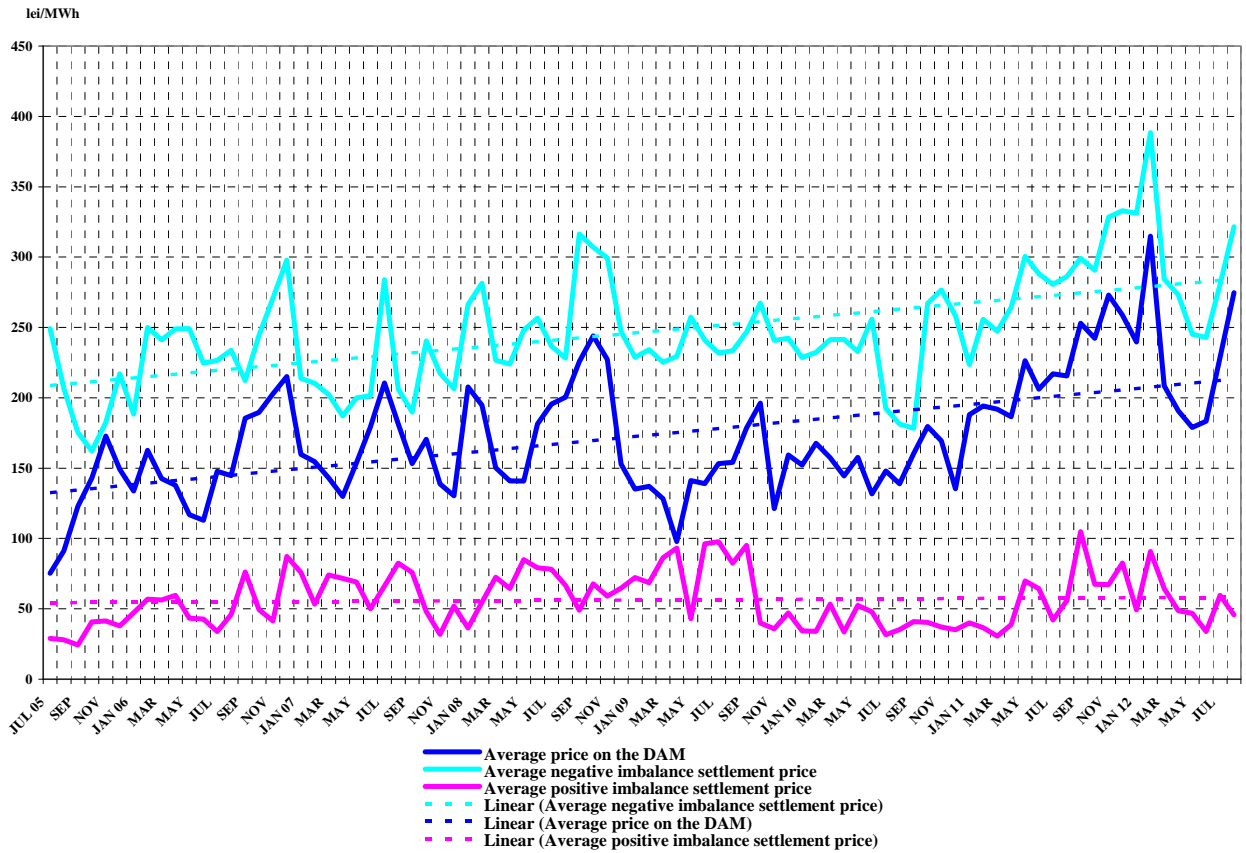
Source: Daily/monthly reports of SC Opcom SA – processed by MG

### Hourly average settlement prices and internal consumption August 2012



Source: Monthly reports of SC Opcom SA and CN Transelectrica SA – processed by MG

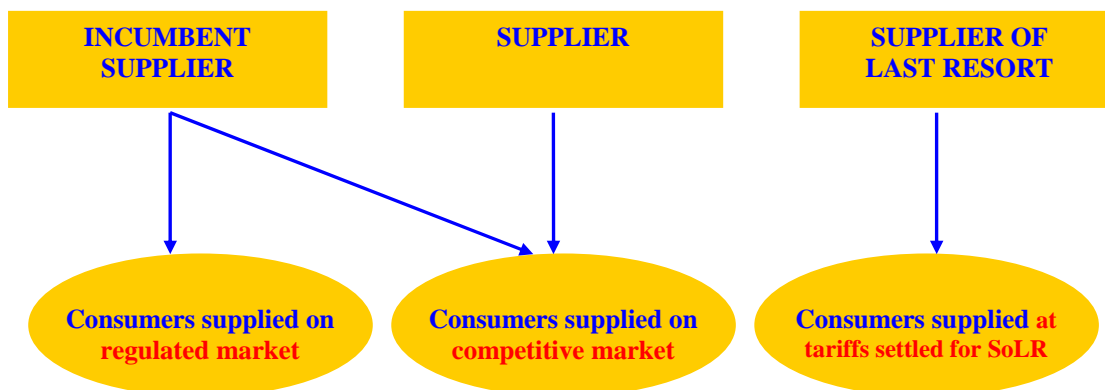
Monthly average prices on DAM and BM  
July 2005 - August 2012



Source: Monthly/daily reports of SC Opcom SA – processed by MG

### III. RETAIL ELECTRICITY MARKET

#### 1. Structure of the retail electricity market



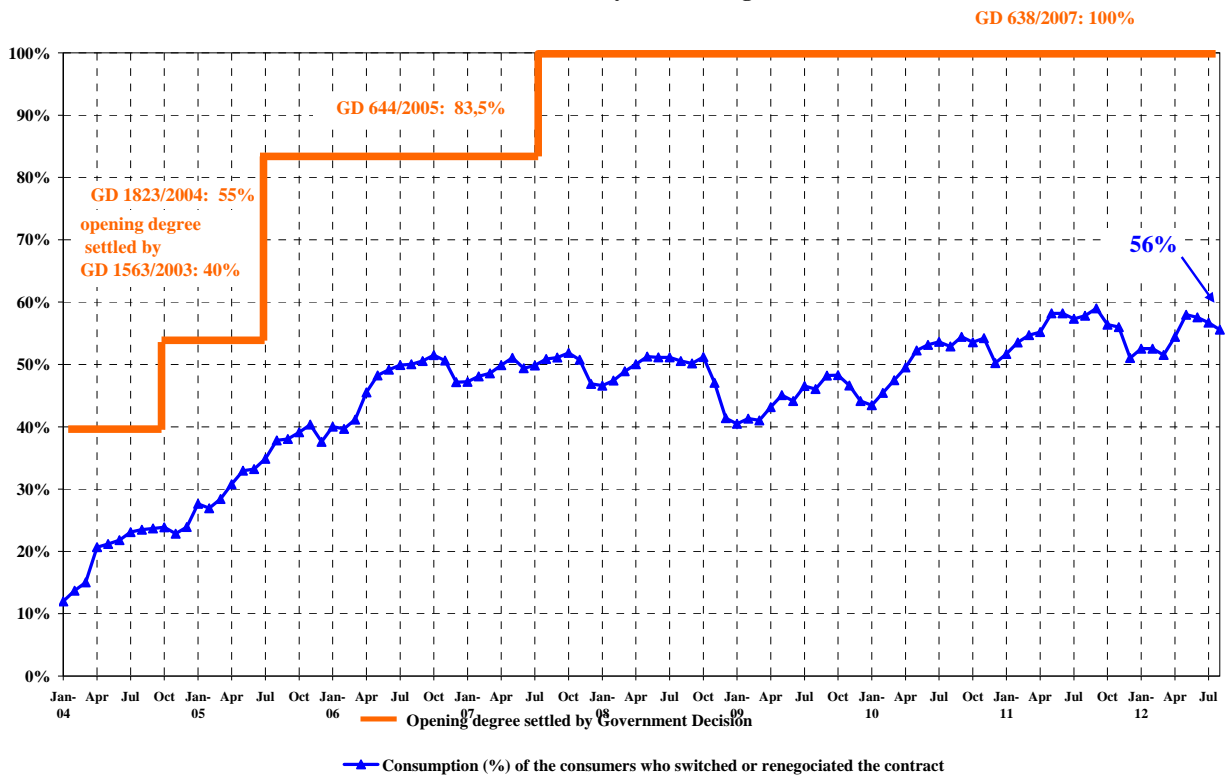
#### 2. Steps in the opening process of the electricity market

Government Decision	Opening degree %	Annual consumption threshold GWh/year
No. 122/2000, published in O.G. 77/21.02.2000	10	100
No. 982/2000, published in O.G. 529/27.10.2000	15	100
No. 1272/2001, published in O.G. 832/21.12.2001	25	40
No. 48/2002, published in O.G. 71/31.01.2002	33	40
No. 1563/2003, published in O.G. 22/12.01.2004	40	20
No. 1823/2004, published in O.G. 1062/16.11.2004	55	1
No. 644/2005, published in O.G. 684/29.07.2005	83.5	-
No. 638/2007, published in O.G. 427/27.06.2007	100	-

#### 3. Electricity market opening degree

The following graph contains the quota of the consumption from total consumption, of the consumers who switched their supplier or renegotiated their contracts with the suppliers operating on the regulated market, during January 2004 – August 2012. The values presented are cumulated from the beginning of the opening process and are presented monthly:

Opening degree evolution for electricity market  
January 2004 - August 2012



Source: Monthly reports of the final consumers' suppliers – processed by MG

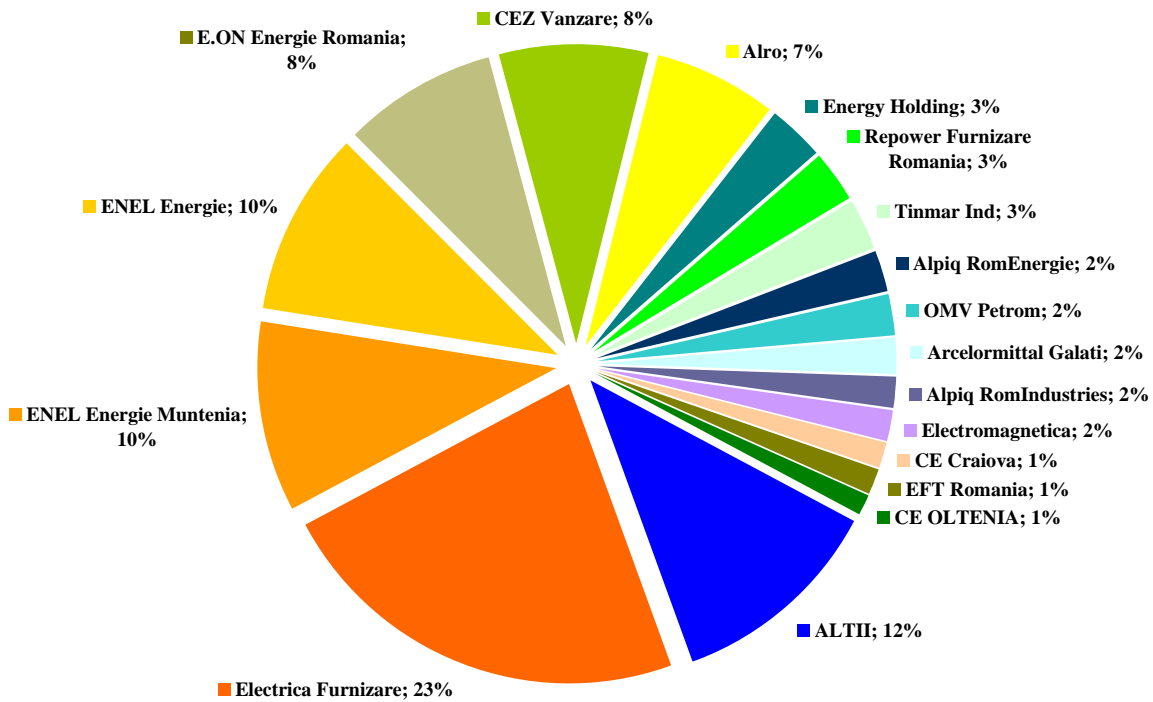
#### 4. Market shares of the electricity suppliers

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

- a) for all suppliers (including the incumbents) on REM – based on the electricity supplied to the consumers on regulated tariffs as well as to the consumers who switched their supplier or renegotiated their contract;

**Market shares of suppliers for final consumers**

- JANUARY - AUGUST 2012 -



Final consumption: 30707 GWh

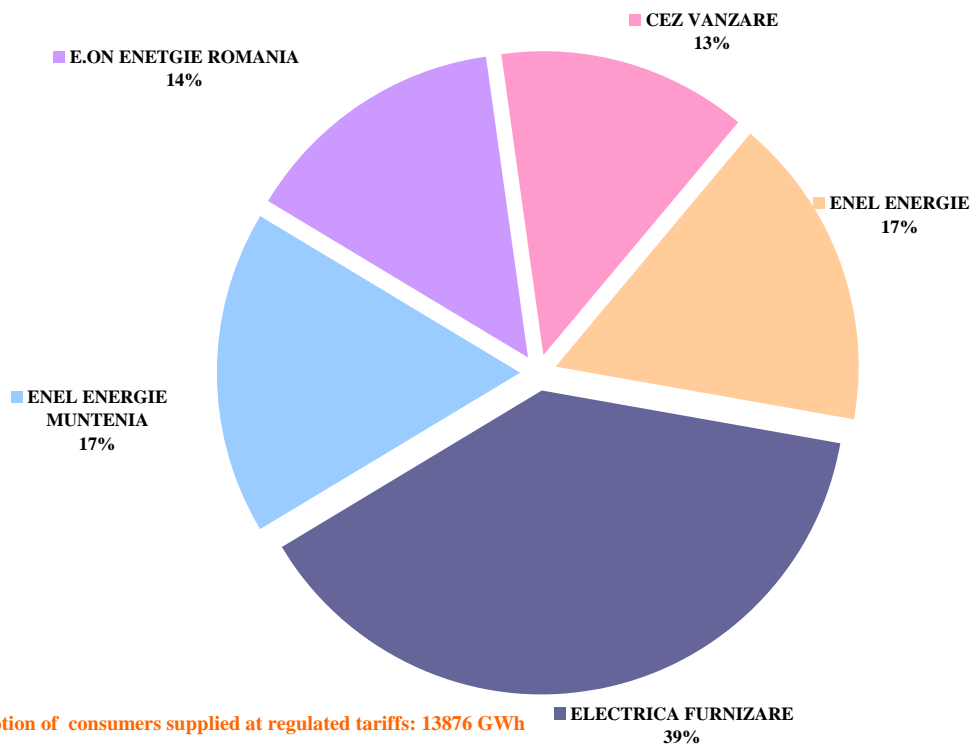
Category "Altii" includes 44 suppliers with individual market share less than 1%

Source: Monthly reports of the incumbent suppliers – processed by MG

- b) for incumbent suppliers - based on the electricity supplied to the consumers at regulated tariffs:

**Market shares of incumbent suppliers on regulated market**

- JANUARY - AUGUST 2012 -

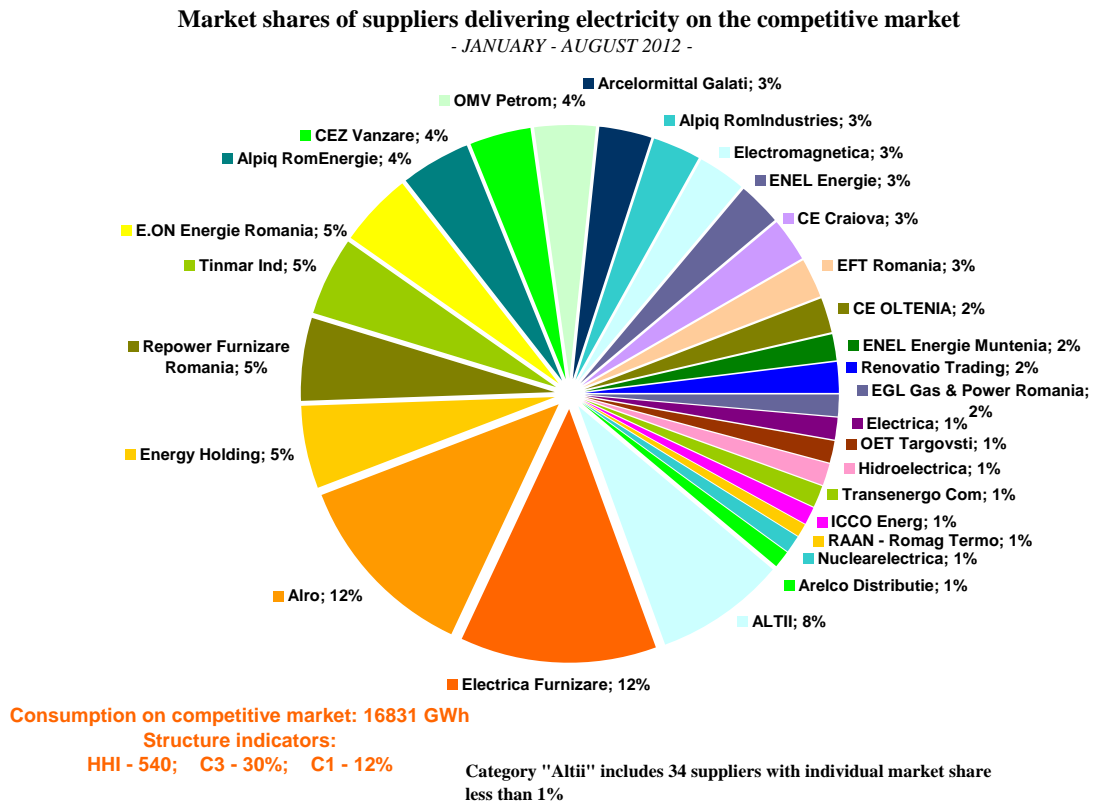


Consumption of consumers supplied at regulated tariffs: 13876 GWh

Source: Monthly reports of the incumbent suppliers – processed by MG

and

- c) for all suppliers (including the incumbents) based on the electricity supplied for the consumers at negotiated prices on competitive component of REM:



Source: Monthly reports of the competitive suppliers– processed by MG

The structure indicators were calculated without considering the principle of dominance. The delivered electricity (used for calculating the market shares) comprises the self-consumption of large industrial consumers who possess supply licenses and acquire electricity from the wholesale market as competitive suppliers.

The values of market indicators were calculated without taking into consideration the dominance principle. The delivered electricity used for determining the market share of each supplier comprises the self-consumption of the largest industrial consumer which owns a supply license and based on it acquired its electricity from the WEM as a competitive supplier.

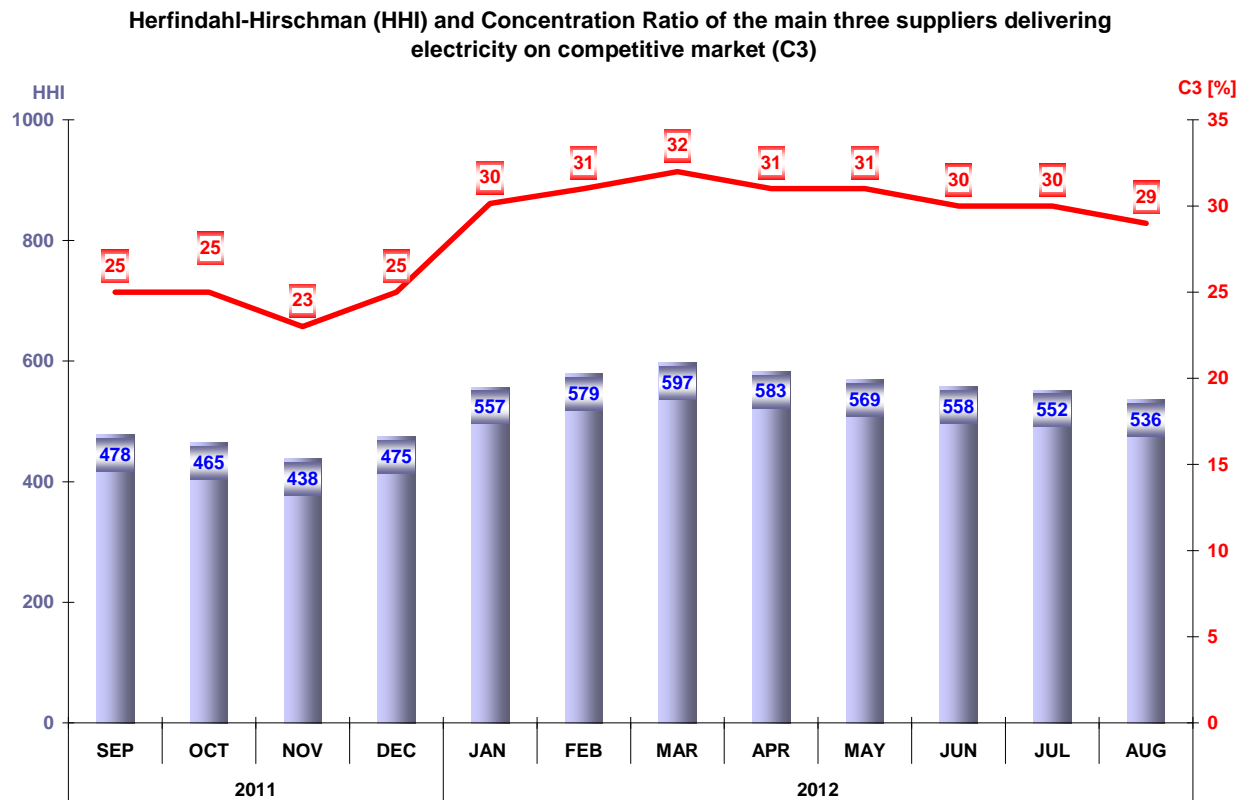
The electricity supplied to the final consumers used for calculating the market share of every supplier includes also the self-consumption of that particular supplier (e.g. consumers with supply license who buy electricity for themselves from WEM as competitive suppliers).

The analysis of the competitive suppliers’ activity on the competitive REM component compared to their activity on the WEM is developed based on the weight of the electricity sold to final consumers in total electricity sales. The table below presents the number of suppliers acting on the REM, grouped into categories of sales weight during August 2012:

Number of suppliers	Share of sales to final consumers from total sales transactions			
	100%	75% - 100%	50% - 75%	<50%
Competitive	5	13	5	14
Incumbent	1	3	1	0

### 5. Concentration indicators of the competitive retail electricity market

The monthly evolution of concentration indicators (C3, HHI) determined on the competitive component of the REM is presented for September 2011 – August 2012 in the following graph:



Source: Monthly reports of the suppliers – processed by MG

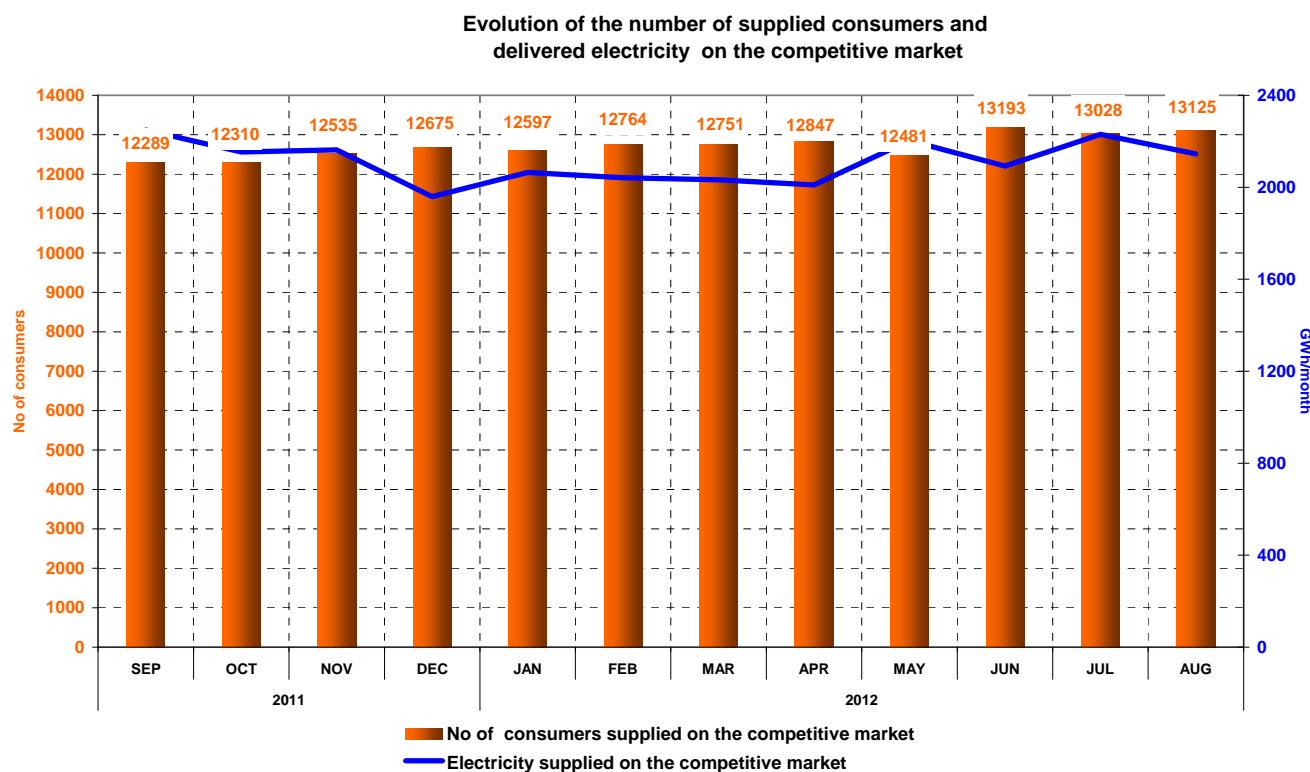
The table below shows the values of structure indicators of competitive component of REM for and the number of active suppliers in August 2012, calculated for each consumer category as defined by the European Council Directive no. 90/377/EEC, modified by the Commission Decision no. 2007/394/EC:

Indicators - August 2012	Consumer category							Total REM
	IA	IB	IC	ID	IE	IF	Other	
C1 - % -	47	25	24	14	15	18	25	12
C3 - % -	84	53	43	34	37	50	48	29
HHI	3086	1264	1025	680	841	1158	1182	536
Consumption - GWh -	6.0	112	177	479	230	209	933	2146
No. of SUPPLIERS	23	41	41	42	20	12	16	51
No. of incumbent suppliers	5	5	5	5	3	3	2	5
No. of competitive suppliers	14	31	30	32	15	9	7	37
No. of producers	4	5	6	5	2	0	7	9

## 6. Evolution of consumers' number and of electricity delivered

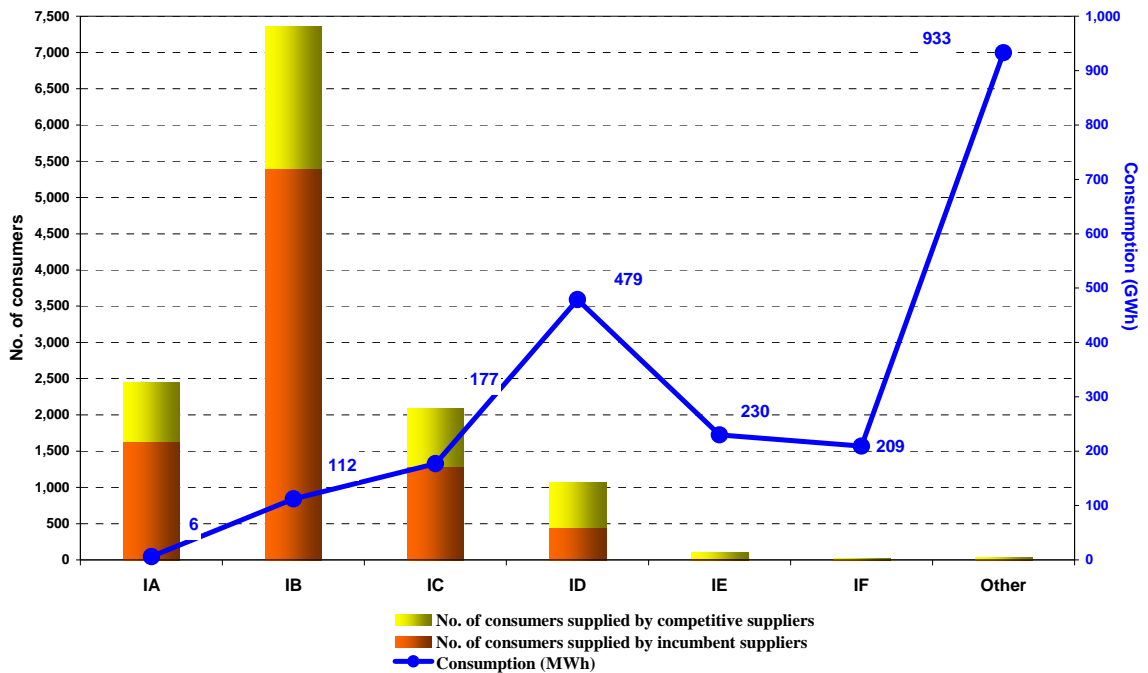
Number of consumers supplied on the competitive market is presented as total value from the beginning of the market opening process; for August 2012 this number is split into categories, according to the provisions of the European Council Directive no. 90/377/EC, with subsequent modifications. The table below presents the bands of consumption of each category of consumers:

Industrial end-user	Annual electricity consumption (MWh)	
	Lowest	Highest
IA		<20
IB	20	<500
IC	500	<2000
ID	2000	<20000
IE	20000	<70000
IF	70000	<=150000
Others	>150000	



Source: Monthly reports of the competitive suppliers – processed by MG

Number of consumers supplied on competitive market and the consumption of each category of consumers  
- AUGUST 2012 -

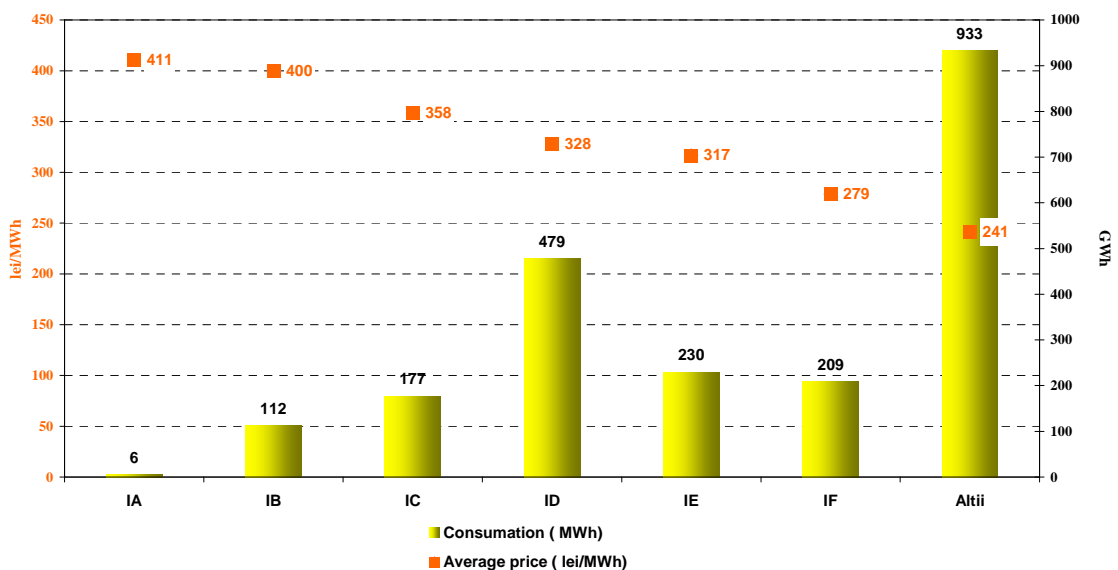


Source: Monthly reports of the suppliers – processed by MG

### 7. Average selling prices of consumers supplied on the competitive market

The following graph presents the average selling prices of consumers supplied on the competitive market, based on the structure defined according to the European Council Directive no. 90/377/EC, with the subsequent modifications.

Average price and energy consumption on types of consumers applied on competitive market  
- AUGUST 2012 -



Source: Monthly reports of the competitive suppliers – processed by MG

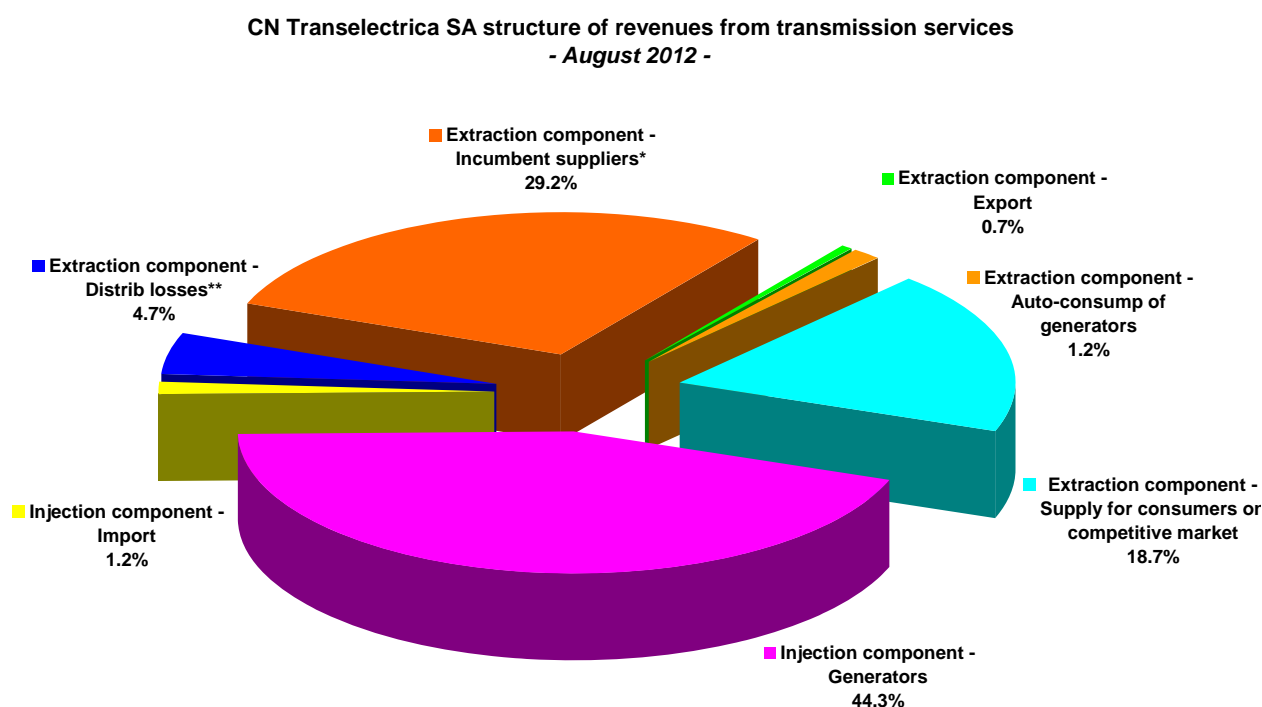
Note: The average selling price on each category was calculated as weighted average of prices applied by suppliers with quantities supplied according to the provisions of the European Directive. The average prices do not include VAT, excise or other taxes but include the supplied services (injection and extraction components of transmission, system services, distributi, market settlement, imbalance, BRP aggregated tax, metering). Splitting consumers into categories was based on their annual consumption forecast, according to the provisions of above mentioned Directive.

#### IV. TRANSMISSION AND SYSTEM OPERATOR C.N. TRANSELECTRICA S.A.

CN Transelectrica SA performs the electricity transmission service at regulated tariffs, which have two components:

- injection component (TG), aimed to determine an optimum geographic positioning of the new power units;
- extraction component (TL), as an incentive for an equilibrate positioning into the territory of the consumers.

The following graph presents the structure of CN Transelectrica SA revenues from performing the transmission services and reflects the structure of its clients benefiting from this type of service in August 2012.



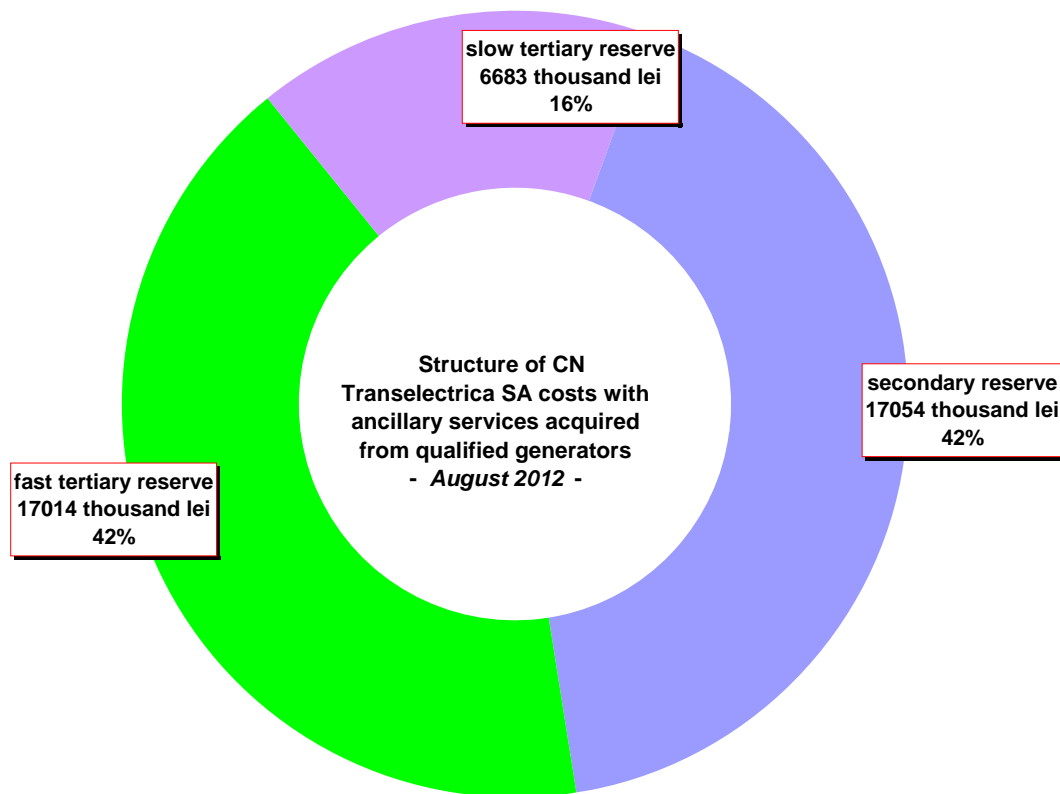
\* for electricity extracted from their own licence areas as well as from other areas

\*\*for electricity extracted by the 8 main distribution operators for covering distribution losses

*Source: Monthly reports of CN Transelectrica SA – processed by MG*

In order to perform the system operator tasks, CN Transelectrica SA assesses and contracts reserves (ancillary services) from qualified generators, which are integrated on BM. The ancillary services which may be used are reserves for secondary, fast tertiary, slow tertiary regulation and reactive energy. With the implementation of the support scheme for high efficiency cogeneration from July 2011, the slow tertiary reserve from cogeneration has been eliminated.

The following graph presents the costs of ancillary services CN Transelectrica SA had to pay in August 2012. In order to cover these costs and its own operating costs, TSO applies a regulated tariff for system services.



Source: Monthly reports of CN Transelectrica SA – processed by MG

#### IV. EVOLUTION OF MARKET RULES IN AUGUST 2012

In August 2012, ANRE issued the following regulations with impact on the wholesale and retail electricity markets:

- ✓ Order of ANRE president no. 30 for approving the Methodology of establishing the prices and tariffs applied to the final customer which haven't yet used the switching; as a novelty and correlated with the electricity price liberalization roadmap signed by the Romanian Government, starting from 1st September 2012, each supplier of last resort applies a new tariff (called „competitive market component”) to their final customers which haven't yet used the switching;
- ✓ Order of ANRE president no. 33 for establishing new rules on balancing market as far as concerns the generators benefitting of promoting schemes; the rules impose the participation of wind dispatchable generators on the balancing market, establish minimum prices for daily offers introduced on this market by those generators (depending on technology type they use) and also the power reduction algorithm in order to obtain the production-consumption balance;
- ✓ Decision of ANRE president no. 2154 for approving the quantities produced in high efficiency cogeneration which benefits of bonus scheme in July 2012;
- ✓ Decision of ANRE president no. 2190 for modifying the regulated quantities for SC Electrocentrale București SA;
- ✓ Decision of ANRE president no. 2200 for modifying the regulated quantities for SC Hidroelectrica SA;
- ✓ Decision of ANRE president no. 2201 for modifying the regulated quantities for SN Nuclearelectrica SA;

- ✓ Decision of ANRE president no. 2202 for modifying the regulated quantities for SC Complexul Energetic Oltenia SA.

All four decisions mentioned above have operated reductions in regulated quantities of the electricity sold by the four main generators to non-household customers, according to the first phase of electricity price-liberalization roadmap.

## V. EXPLANATIONS AND ABBREVIATION

### 1. Explanations

- *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.
- *Internal consumption* represents the electricity covered by the wholesale market participants and calculated as *Delivered electricity + Import – Export*.
- *Consumption of consumers on regulated market* represents the consumption of consumers supplied at regulated tariffs by the incumbent suppliers.
- *Consumption of consumers on competitive market* represents the consumption of consumers supplied at negotiated prices.
- *Fuel consumption* represents the fuel consumed for generating electricity and heat.
- *Electricity delivered into the grid* includes also the own consumption of auto-generators such as RAAN and OMV Petrom together with the electricity sold by the generators through direct lines or consumed by themselves at other consumption sites.
- *Competitive supplier* represents, within the present document, the supplier which is active on the competitive retail market.

### 2. Abbreviation

- MG – Monitoring Group
- EEX – European Energy Exchange – Leipzig, Germany. [www.eex.de](http://www.eex.de)
- EXAA – Energy Exchange Austria. [www.exaa.at](http://www.exaa.at)
- DAM – Day Ahead Market
- BM – Balancing Market
- ASM – Ancillary Services Market
- MCP – Market Clearing Price
- BRP – Balancing Responsible Party
- TG/TL – injection / extraction component of the transmission tariff
- CMBC – centralised market of bilateral contracts
- CMBC-CN – centralised market for partially standardised bilateral contracts with continuous negotiation
- NES – National Energy System
- WEM – wholesale electricity market
- REM – retail electricity market
- RCE – Romanian Commodities Exchange