



ROMANIAN ENERGY REGULATORY AUTHORITY



# NATIONAL REPORT 2019

**July 31, 2020**

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## 1. FOREWORD



The institutional and legal framework based on which the Authority must make decisions and the quality of the decisions it makes represent defining dimensions for the elaboration of an efficient set of regulations, able to support a good performance of the energy sector. The implementation of a consumer-oriented regulatory system, aimed to meet the requirements of a truly operational electricity market, represents one of the objectives that ANRE pursues in a constant manner.

In the activity of regulation, alongside with the attention given to the consolidation of the market mechanisms, the Authority took into account the cost affordability as well as the establishment of some fair prices for the consumers. In the elaboration of the regulatory framework, in view of fulfilling the general objectives established by the law in charge of the Romanian Energy Regulatory Authority, it was pursued the removal of the obstacles to the investments in new capacities, meant to contribute to the diversification of the Romanian sources of power, to the benefit of the economy and the final consumers.

Thus, the amendment or the completion of the regulatory framework applicable in 2019 in the field of electricity, was in line with the dynamics of the amendment of the national legislation, respectively with the amendments of the European framework corresponding to the electricity sector. One of the most important updates is the amendment of the *Regulation for the supply of electricity to final customer*. The added issues refer to:

- the right of the customer to terminate the contract unilaterally,
- the right of the household customer to solicit the rescheduling of the payment,
- the revision of the provisions related to vulnerable customers, as well as
- the monthly invoicing period for the customers supplied in a regime of universal service.

As regards the new regulations adopted in 2019, it has been finalized the regulatory framework which ensures the placing on the electricity market of a new entity – *the prosumer* – the small consumer who produces electricity and trades it on the electricity market.

From the evolution of the regulatory framework in the natural gas sector regarding the monitoring of the technical state of the natural gas systems of public interest, during 2019, we recall *the Procedure regarding the foundation and the criteria for the approval of the investment plans of*

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*natural gas transmission, system, distribution and storage operators, ruling the foundation principles and the analysis criteria of the investment plans elaborated by natural gas system operators.* The provisions of the Procedure have had a positive impact on the investment activity of the operators, by adding some transparent and non-discriminatory criteria with regard to their approval, taking into account the legal obligations of the operators to maintain, extend, upgrade and develop the systems that they operate under conditions of safety, efficiency and environment protection. Also, the operators have the legal obligation to ensure the increase of the capacity of the systems, for the connection of all users from the concession area, with a positive impact on the end customers.

In 2019, the Romanian Energy Regulatory Authority continued the digitalisation process, the first beneficiaries of which have been the consumers, being provided with real-time access to detailed information. There have been made efforts as well to improve the online integrated system, in the light of the liberalization of the electricity and natural gas markets foreseen to take place in year 2020, so that the activity of the institution can be carried out under the best conditions and to adapt to any market conditions.

Last but not least, in year 2019, the Romanian Energy Regulatory Authority focused on the activities of monitoring, investigation and control, in order to identify and manage anti-competitive practices that are likely to affect the safety of the national power system, in view of ensuring the good operation of the power market under conditions of efficiency and transparency, with notable benefits on the end customers by ensuring a safe supply of power at fair prices. In this respect, it is necessary an increase in the accountability of the market participants, irrespective of the size or their market power, with regard to the reporting process of the data and information that characterize their activity on the electricity market, from fundamental and trading data, to the information that might influence the trading process.

In view of fulfilling the activity object under optimal conditions in year 2019, it has been registered at level of the Romanian Energy Regulatory Authority a significant development of the activity of issuance of the secondary legislation, both as regards the situations newly occurred in the energy sector, and the permanent update of the existing regulations, in view of adapting them to the current conditions.

In order to create a modern energy sector, compliant with the principles of the European Union for the liberalization of the natural gas and electricity markets, able to satisfy consumers' demand in 2019, the Romanian Energy Regulatory Authority has elaborated and issued 251 orders, 2230 decisions and 126 notices in accordance with the obligations deriving from the primary legislation and the European legislation.

**Dumitru Chiriță**

**President**

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## ABBREVIATIONS

CBA – Cost-Benefit Analysis

ACER – European Union Agency for the Cooperation of Energy Regulators

ARRF - Frequency restoration control error

ATC – Available Transmission Capacity

RCE - Romanian Commodities Exchange

CCM SEE - Capacity Calculation Methodology applied to South-Eastern Europe

CMC –Competitive Market Component

OPC – Own Technological Consumption

CCR – Capacity Calculation Region

DCC - Regulation (EU) 2016/1388 establishing a network code on demand connection

ENTSO - E – The European Network of Transmission System Operators for Electricity

ENTSO-G – The European Network of Transmission System Operators for GasER- Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration

SLR – supplier of last resort

GLDPM- Generation and Load Data Provisions Methodology

GD – Government Decision

HHI – Herfindahl-Hirschman Index

HVDC- Commission Regulation (EU) 2016/1447 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules

HV – High Voltage

LV – Low Voltage

KORR - key organizational requirements, roles and responsibilities in relation to data exchange related to operational security in accordance with Article 40(6); of the Network Code regarding the system operation (Proposal of all transmission and system operators regarding the key organization requirements, roles and responsibilities)

MGCCC - power plants formed of new generating modules, connected to the electricity networks of public interest by means of high voltage direct current systems

MV – Medium Voltage

DO – Distribution Operator

NO – Network Operator

TSO – Transmission System Operator

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GEO – Government Emergency Ordinance  
BRP – Balance Responsible Party  
CMBC-CDN – Centralized Market of Bilateral Contract with Continuous Double Negotiation  
CMBC – Centralized Market of Bilateral Contracts  
CMBC-CN – Centralized Market of Bilateral Contracts by public auction with Continuous Negotiation  
PCR – Price Coupling of Regions  
BM - Balancing Market  
IDM – Intra-Day Market  
DAM - Day Ahead Market  
PFC - Power-Frequency Control  
FRR - Frequency Restoration Reserve  
RR – Replacement Reserve  
RfG – Commission Regulation (EU) 2016/631 establishing a network code on requirements for grid connection of producers  
CCR SEE – Capacity Calculation Region of South-Eastern Europe  
FSR - frequency stabilization reserve  
LCER- Limited Capacity Energy Reservoirs  
NPS – National Power System  
NTS - National Gas Transmission System  
SO GL - Regulation (EU) 2017/1485 establishing the guidelines on the electricity transmission system operation  
DU – Dispatchable Unit  
SNU - Significant Network Users

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## 2. SYNTHESIS

The report refers to the period between 01 January and 31 December 2019 and it meets the requirements of information required by CEER for national reports.

### Electricity and natural gas

The publishing at the end of year 2018 of the Emergency Ordinance no. 114/28.12.2018 on the establishment of some measures in the field of public investments and some tax-budgetary measures, the amendment and the completion of some legal acts and the postponement of some terms, has determined in year 2019, the need to implement its provisions in the secondary legislation.

In this respect, the main amendments of Law no. 123/2012, as further amended and completed, have been:

- For the period between 1 March 2019 and 28 February 2022, the supply of electricity for household customers is carried out under conditions regulated by the Romanian Energy Regulatory Authority (ANRE),
- The ANRE approved and publishes the tariffs applied by the suppliers of last resort to household customers for the period comprised between 1 March 2019 and 28 February 2022,
- The producers have the obligation to deliver to suppliers of last resort, in the period comprised between 1 March 2019 and 28 February 2022, the electricity necessary to ensure the consumption of household customers to whom they apply the regulated tariffs, in accordance with the regulations elaborated by the ANRE,
- The producers bid in a public and non-discriminatory manner, on the competitive market, the entire electricity remained available for the fulfilment of the obligation towards the suppliers of last resort,
- The suppliers of last resort have the obligation to ensure the supply of electricity, under conditions of quality and at reasonable, transparent, easily comparable and non-discriminatory prices according to the regulations of the ANRE, to the following categories of customers:
  - a) end customers who have not exercised their eligibility right on the date of entry into force of the law:
  - b) household and non-household customers with an average number of employees under 50 and a yearly turnover or a total value of the assets from the yearly balance sheet that does not exceed 10 million EUR.

The producers' prices of sale for household customers are established on the basis of the methodologies approved by the ANRE at the beginning of each year. The differences in the

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acquisition costs from years 2018 and 2019 of the suppliers, not recovered from the applicable prices, will be recovered until the date of 30.06.2022, according to the ANRE regulations.

The main amendments for **natural gas** have been:

After the awarding of the concession, in view of performing the activity, the concessionaire solicits the specific authorizations/ licenses provided for by the legislation in force. The concessionaire has the obligation to ensure and supply the natural gas in a regulated regime to household customers who have not exercised their eligibility right until the removal date of the regulated prices, purpose for which it the concessionaire has the obligation to hold as well the license for the activity of supply of natural gas for the economic operator who has the obligation, according to the legal provisions, to perform the legal unbundling of the distribution and supply activities.

For the period comprised between 1 May 2019 and 28 February 2022, the producers, including their affiliates and/ or the affiliates belonging to the same group of economic interest who perform both activities of extraction and sale of natural gas extracted from the Romanian territory, have the obligation to sell for the price of RON 68/MWh the quantities of natural gas resulted from the activity of current internal production to the suppliers of household customers and producers of thermal power, only for the quantity of natural gas used in the production of thermal power in cogenerating plants and thermal plants intended for the consumption of the population. In this period, the producer has the obligation to sell in the first place to the suppliers or customers, as the case may be, under conditions regulated by the ANRE, to ensure the entire necessary consumption of household customers and producers of thermal power, only for the quantity of natural gas used in the production of thermal power in cogenerating plants and thermal plants intended for the consumption of the population, from the current production and/ or underground gas storages.

The producers, including their affiliates and/ or the affiliates belonging to the same group of economic interest who perform both activities of extraction and sale of natural gas extracted from the Romanian territory will no longer conclude contracts for sale and delivery on the Romanian territory, at prices above RON 68/ MWh for the quantities of natural gas intended to cover the consumption of household customers and producers thermal power, only for the quantity of natural gas used in the production of thermal energy in cogenerating plants and thermal plants intended for the consumption of the population. The differences in the costs of acquisition from years 2018 and 2019 of the suppliers, not recovered through the applied prices, will be recovered until the date of 30 June 2022, according the ANRE regulations.

The acquisition price paid for the gas from the current internal production, which is necessary to cover the consumption of household customers and producers of thermal power, only for the quantity of natural gas used in the production of thermal power in cogenerating plants and thermal plants intended for the consumption of the population, cannot exceed the value of RON 68/ MWh, irrespective of the seller.

Household customers who have exercised their eligibility right are entitled to return to the regulated supply.

In this context, during 2019, the regulatory framework of the wholesale electricity market has been adapted to the legislative amendments brought to the GEO 114/2018, on the retail market it has been amended the regulatory framework applicable to the suppliers of last resort for the



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introduction of regulated tariffs for the electricity sold to household customers starting from the month of March 2019. The suppliers of last resort have concluded regulated contracts with the producers of electricity for the acquisition of electricity aimed to cover the consumption of household customers, the volume of delivered electricity under these contracts recording a percentage of approx. 7.8% of the internal consumption.

For a more efficient control of the costs, the methodologies of calculation of electricity distribution and transmission tariffs have been amended. Also, the regulations solicited by the European network codes have been approved, and the regulations on the connection to the electricity network have been reviewed.

As regards natural gas, there have been approved *the Methodology establishing the quantities of natural gas that the producers have the obligation to sell with priority to the suppliers, to ensure the entire necessary consumption of household customers from the internal production and/ or from the underground gas storages*, *the Methodology establishing the specific structure of import/ intern mix for the quantity of natural gas aimed to ensure the consumption of non-household end customers and for the amendment of the network code for the national system of natural gas transmission*, approved by the ANRE order no. 16/2013, as well as the *Framework-contract for the sale-purchase of natural gas, concluded between the producers of natural gas and the suppliers of natural gas or the eligible end customers*.

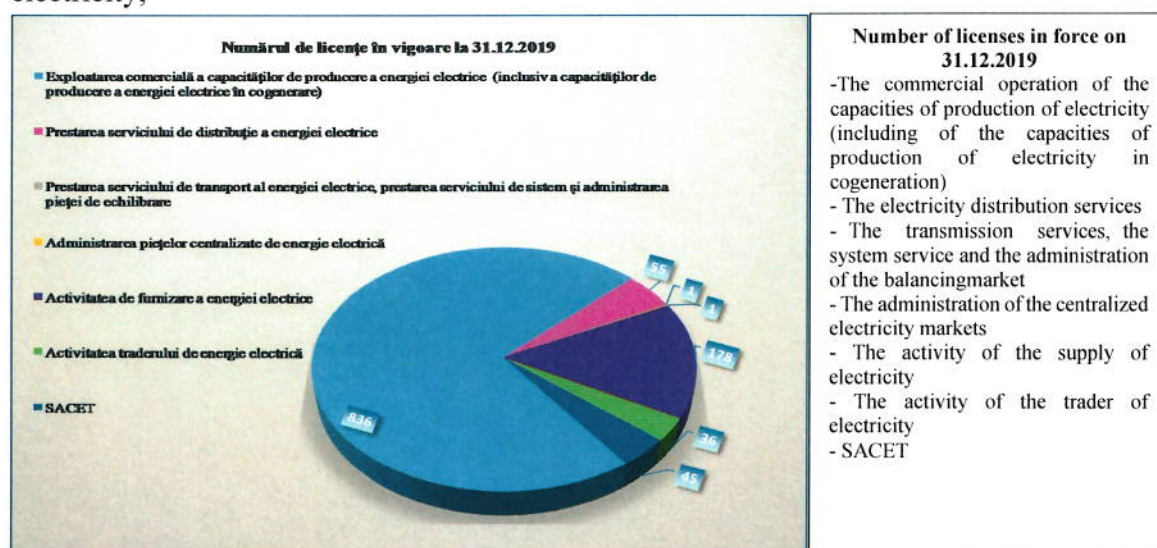
Independent from the GEO 114/2018, still in the field of natural gas, it has been approved a new *Methodology establishing the regulated tariffs for the services of transmission of natural gas*, comprising a set of tariffs of the type "entry/ exit" established for the groups of points of entry in the transmission system, in which it is booked the capacity, for the group of points of exit from the transmission system in which it is reserved the capacity, as well as a tariff per volume for the use of the system determined as a tariff of the type of postal stamp. At the same time it has been approved the *Methodology establishing the regulated tariffs for the activities related to the operation of the natural gas transmission system*, it has been added a *new methodology establishing the regulated tariffs for the services of underground storage of natural gas*, having as main orientation the cost plus method, for the purpose of adjusting the regulatory framework to the current operation method of the operators of underground natural gas storage systems, that use mainly rented tangible assets for the performance of the licensed activity and the majority costs of which is constituted from operational costs, it has been amended the *Regulation on the connection to the natural gas distribution system*, it has been amended the *Regulation on the connection to the natural gas transmission system*, they have been approved the relevant points of the national system of natural gas transmission, it has been amended and completed the calculation methodology for the process consumption from the natural gas distribution systems.

Also, it has been amended the *Methodology establishing the unitary income corresponding to the regulated activity of supply, carried out in a regulatory year, and approving the regulated prices in the natural gas sector, starting from 2019*, it has been approved the amendment of the Methodology for the booking of the capacity of transmission and establishing the tariffs for the supply of natural gas transmission services through the transmission pipes of Isaccea- Negru Vodă, approved by the ANRE Order no. 34/2016 and for the approval of the *Methodology for the booking of the capacity of transmission for the supply of natural gas transmission services through the*

points located on the natural gas transmission pipe of Isaccea – Negru Vodă 1 allocated to the transmission of natural gas on the Russian Federation – Bulgaria corridor and the supply of natural gas to some localities from the Romanian territory. The order has been elaborated because at the end of 2018 S.N.T.G.N. “TRANSGAZ” S.A. Mediaș has completed the works of physical connection of the natural gas transmission pipe of Isaccea 1 – Negru Vodă 1 to the national system of natural gas transmission, the point Negru Vodă 1 becoming the point of interconnection with a transmission system from a member state of the EU. The amendments provided for by the Order have as objectives the exclusion of the transmission pipe of Isaccea 1 – Negru Vodă 1 from the objective of the ANRE Order no. 34/2016 and the elaboration of the methodology allocating the capacity in the points corresponding to the pipe of Isaccea 1 – Negru Vodă 1.

#### Evolutions on the electricity market:

- In 2019 it has been recorded a double number of requests for the awarding of licenses compared to the previous year and a number of requests for the amendment of licenses with 12.5% higher than the similar requests registered in 2018,
- On the date of 31.12.2019 there were in force a number of 1152 of licenses in the field of electricity,



- At the end of year 2019 there were installed in the electricity system 20697MW,
- In 2019, the dispatchable units have produced a quantity of 57.02TWh of electricity, less than the quantity produced in 2018, of 61.97TWh. At the same time, the electricity delivered by the producers in the networks was equal to approx. 53.63TWh, down by approx. 8% compared to the one delivered in the previous year by the same dispatchable producers;
- Even though it did not register excessive monthly values compared to the previous years, the annual value being even lower than the one registered in 2018, the internal consumption has exceeded the possibilities of coverage with power of the internal capacities of production at competitive costs, concomitant with the decrease in the real availability of capacities of production and the degree of hydraulicity, so that, amid a decreasing production, necessary consumption has been covered more and more by importing electricity. The monthly values of the import-export net balance show that, starting from

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the month of July 2019, Romania has become a net importer, situation that continued, even at smaller values, until the end of the year;

- The comparative analysis of the yearly average prices of delivery resulted from the transactions concluded for the components of the wholesale market in year 2019, compared to the previous years, reveals an increase in the yearly average prices for all of the components of the wholesale market;
- The volume of electricity traded on the DAM in 2019 decreased with approx. 1.7% compared to the previous year. The average closing price of DAM (calculated as the arithmetic mean of the daily closing prices of the market) has increased with approx. 10.5% compared to the mean of year 2018;
- Some changes occurred also in the structure of the electricity market, starting from 3:00 p.m. CET of the trading day 19.11.2019, the Intra-Day Market from Romania has started to operate coupled with the markets from the other 20 countries of the EU taking part in the SIDC European project – Single Intra-Day Coupling, formerly known as XBID;
- The volume of electricity traded in year 2019 on the Intra-Day Market was equal to 375GWh, up by 135.9% compared to the volume of the previous year;
- On the date of 21 December 2018, the ANRE regulatory authorities, BnetzA, E-Control, ERU, HEA, URSO and URE have solicited through a joint letter addressed to the assigned transmission operators and the electricity market operators from the concerned states, the initiation of an interim project for the coupling of the markets based on the NTC, between DE; AT, PL and 4MMC (the DE-AT-PL-4MMC project), to develop further the regional integration of the day-ahead markets. The DE-AT-PL-4MMC project will have as purpose the fusion of the 4MMC project with the MRC project (Multi-Regional Coupling) and it will represent an important step for the extension of the unique coupling of the day-ahead markets, provided for by the European legislation. During 2019 they have been taken numerous measures by the regulatory authorities involved for the implementation of the project;
- The imbalances at NPS level registered in the months of 2019 have been in general smaller than those from the similar periods of years 2018 and 2017. One of the explanations might be the increase in the deficit prices on the Balancing Market, in the context of the changes in the regulatory framework. These prices, with a strong penalising character, have been one of the reasons for which the participants have tried to balance themselves as much as possible on the markets prior to the Balancing Market, even by increasing the quantity of electricity purchased from the import. The said behaviour generated a decrease in the volume of the selections at decrease and increase on the Slow Tertiary Reserve, as well as a decrease in the number of start-ups of thermopower groups, and implicitly of the costs generated by them;
- The income registered in year 2019 by CNTEE TRANSELECTRICA SA from the allocation of the capacities on the interconnection lines of the NPS with the neighbouring power systems, on all of the time horizons, have exceeded the value of 84 million RON, up by 3% than those of the previous year. As regards borders, the highest yearly values of

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the income obtained from the tenders on all of the time horizons have been those obtained from the export to Hungary and Serbia and the import from Bulgaria;

- At level of the entire year, the consumption of electricity of end customers has registered 49.5TWh, down by 1% then the consumption of 2018, the decrease being determined by the reduction in the non-household (industrial) consumption supplied in a competitive regime with approx. 730GWh, given that the ratio between the household consumption and the non-household final consumption is close to the ratios registered in the previous years (26%/ 74%);
- While year 2018 has been characterized by a sharp increase in the size of the segment of supply in competitive regime for the supply of household customers, having as consequence the doubling of the quantity of electricity supplied to the household customers in a competitive regime compared to the one of 2017, following the completion of the deregulation process, 2019 has been characterized by a slowdown in the increase of the competitive segment;
- Even if once with the reintroduction of the regulated tariffs, the increase rate of the monthly average number of demand facilities corresponding to household customers who have moved from the regulated market to the competitive market registered in 2019, has slowed down compared to the preceding year, a significant number of household customers have chosen further to conclude contract of supply at competitive prices, following the specific offers dedicated to this market segment, promoted by the suppliers. The process of change has been completed both by negotiating a competitive contract with the FUI, who ensures to household customers the service of supply in a regulated regime, as well as by opting for a different competitive supplier. The slowdown in this increase has been determined as well by the number of those who have opted for the return to regulated conditions of supply, return allowed through the adopted regulatory framework;
- Thus, for a household consumption of 12.98 TWh, of sizes close to the one registered in year 2018, the electricity intended for the competitive segment increased from 3.12 TWh in 2018 to 4.58 TWh in year 2019, mostly by moving from the regulated segment, being with almost 50% higher compared to 2018 and more than 3.3 times higher compared to year 2017;
- In case of non-household end customers, the yearly total consumption diminished compared to the previous year, while the total number of customers supplied competitively increased compared with the same period of analysis, following the increase in the number of end customers from the categories with a smaller specific consumption (IA and IB). The yearly average prices registered in 2019 have increased compared to 2018, for all of the consumption bands, with values comprised between RON 39-65/MWh, the highest increase being for the bands IB and IF. The supplied electricity includes as well the self-supply of the dispatchable producers to other demand facilities for which the annual consumption exceeds 200GWh;
- The number of household customers who were provided at the end of year 2019 with electricity under competitive conditions was up by more than 23% compared to year 2018,

while the consumption compared to the same period increased by 46.8%. The increases in the number of household customers supplied in a competitive regime have been registered mainly for the categories DA (70% of the total customers who have moved to the competitive regime) and DB (24% of the total).

- With regard to obliged suppliers of last resort:
  - the average price of net acquisition increased in year 2019 by approx. 1.73% (RON 4.11/MWh) compared to year 2018;
  - even though, compared to year 2018, in 2019 there have been some significant increases in the average price of acquisition for all of the components of the wholesale market (RON 20.20/ MWh – in case of PCC, RON 36.53/MWh – in case of DAM+IM), they have been compensated by the significantly smaller average price of acquisition under regulated contracts, by means of which it was purchased a rate of 45.89% of the total quantity of electricity intended for the end customers from the regulated market;
  - the introduction of the regulated contracts starting from 1 March 2019 resulted in a reduction of the activity on the DAM+IM of the bound SLR, in the meaning of the reduction in the quantities of electricity bought on these markets in year 2019 compared to 2018, with approx. 40.9% in the context in which the average price of acquisition increased by RON 36.53/MWh (14.41%);
  - in year 2019 it was registered a decrease by 11.68% of the total quantity of electricity purchased for the coverage of the consumption of the end customers from the regulated market, compared to year 2018;
  - the implementation of the provisions of the GEO no. 114/2018, has led to a decreased interest of the bound SLR to participate in the tenders organized by the OPCOM on PCSU throughout the entire year of 2019, being registered the participation of a single FUI within the tender carried out in January 2019, only for a single traded instrument.
- The average price of sale of the power to the end customers, without the VAT and other charges, increased in 2019 compared to the previous year by 14.17% (RON 48.39/MWh). In case of non-household customers, the increase has been equal to 18.65%, and in case of household customers, of 4.8%;
- In the transmission network the degree of value achievement of the investment plan has been equal to 64%;
- From the data submitted by the distribution operators, it is found that in year 2019 the degree of country-wide achievement of the investment plans has been equal to 101%, significantly better than the degree of the previous years – 97.8% in 2018, respectively 94.2% in 2017. According to the provisions of the Procedure applicable for year 2019, approved through the ANRE Order no. 8/2016, the DO had the obligation to achieve at

least 95% of the total value of the yearly investment programme, including the investments in equipment.

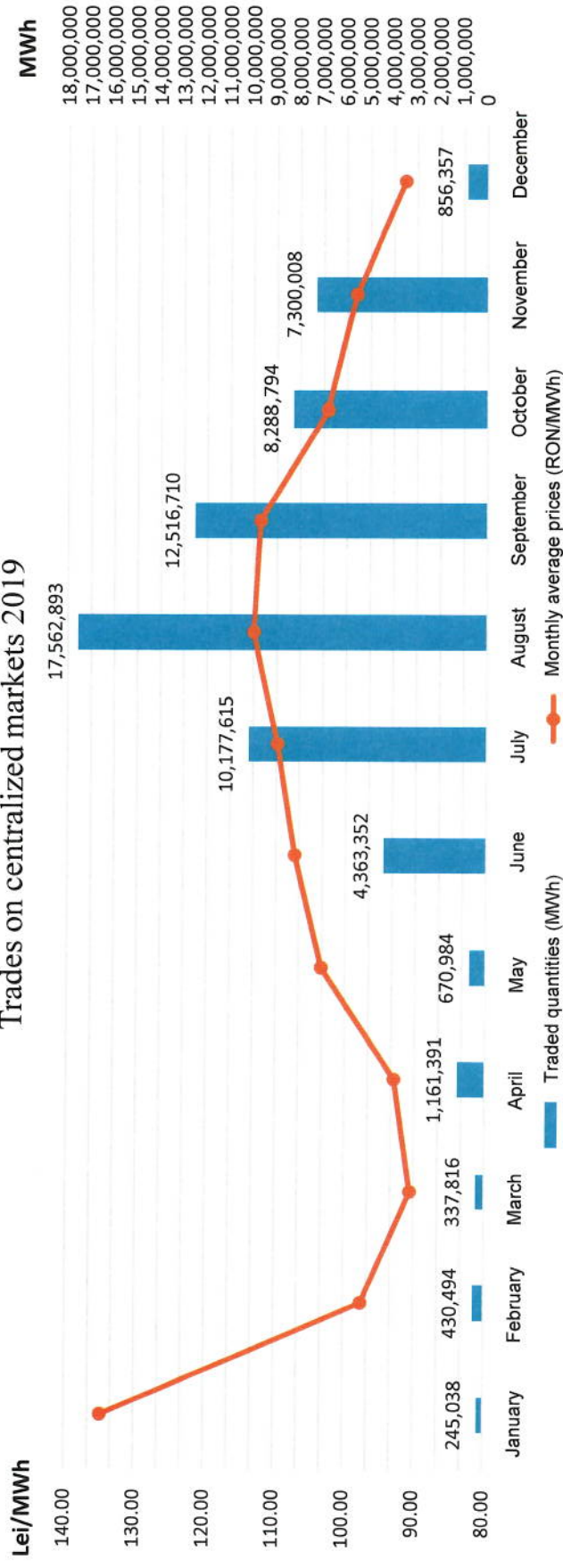
- The degree of achievement of the maintenance plan by categories of works in the distribution networks has been equal to 96%.

### **Evolutions on the natural gas market**

- The annual consumption of natural gas has registered a slight decrease compared to year 2018, reaching the level of approximately 121.06TWh, down by 6.54% in 2019 compared to 2018;
- The number of participants on the natural gas market from Romania has changed constantly as the market has been liberalized, especially in the natural gas supply sector, comprising in year 2019:
  - an operator of the National Transmission System – Transgaz;
  - 9 producers: Romgaz, OMV Petrom, Amromco Energy, Foraj Sonde, Hunt Oil Company of Romania, Mazarine Energy Romania, Raffles Energy, Serinus Energy Romania, Stratum Energy Romania;
  - external suppliers who bring natural gas from external sources in Romania: AIK Energy Ltd, Axpo Solutions AG, Energiko EOOD, Engie Energy Management S.A. France, Engie SA France, Gazprom Schweiz AG, Imex Oil Limited, MET Austria Energy Trade GmbH, MET Energy Trading Bulgaria EAD, MET Magyarorszag Zrt, MET International AG, Mytilenous, OMV Marketing&Trading GmbH, Trafigura Nat Gas Ltd, Udinex SPLLC, Vitol Gas and Power B.V., Wierc Bulgaria EOOD and Wierc Hungary Kft, Nitrofer GmbH, Elmu Emasz;
  - 2 warehouse operators: Romgaz – the subsidiary for the storage of natural gas, Depogaz Ploiești S.R.L. and Depomureș;
  - 32 distribution operators - the largest being Distrigaz Sud Rețele and Delgaz Grid;
  - 94 active suppliers on the natural gas market, of which 34 suppliers are present on the regulated natural gas market.
- The internal production of natural gas in year 2019, current production extracted from the warehouse, that has been consumed represented approximately 78.00% of the total sources. The rate of importation was 22%. The first two producers (Romgaz and OMV Petrom) have covered together approximately 94.30% of this source;
- In year 2019, the quantities traded on the centralized markets, on the platforms administered by the OPCOM and BRM operators totalled 63.91TWh;
- The table below contains the quantities traded in 2019, on each of the platforms for the trading of the BRM: simple and double competitive Gas Forward, Central Counterpart Gas Forward, Intra-Day Market and Day-Ahead Market of Natural Gas, respectively of the OPCOM: The centralized market of the bilateral contracts for natural gas – the trading method by Tender and Negotiation and the Day-Ahead Market of Natural Gas, together with the corresponding prices, determined as weighed mean of the prices with the quantities of the trades concluded on the said platforms, the traded quantities following to be delivered afterwards.

Month	Gas Forward simple and double competitive BRM (MWh)	Price of Gas Forward simple and double competitive BRM (lei/MWh)	Gas Forward Central counterpart BRM (MWh)	Price of Gas Forward Central counterpart BRM (lei/MWh)	Day ahead BRM (MWh)	Price of day ahead BRM (lei/MWh)	Within day BRM (MWh)	Price of Within BRM (lei/MWh)	DAM OPCOM (MWh)	Price of DAM OPCOM (lei/MWh)	PCGN-LN OPCOM (MWh)	Price of PCGN-LN OPCOM (lei/MWh)
Total year 2019	29,830,434.584	109.35	560.00	99.00	1,192,499.786	92.46	2,057,288.862	98.91	19,695.000	127.11	30,810,974.000	108.24

Trades on centralized markets 2019



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- In year 2019 there have been 73 active suppliers on the natural gas retail market, out of which 34 suppliers on the natural gas regulated retail market and 71 suppliers on the natural gas competitive retail market;
  - In the month of December 2019 there were 4,019,819 end customers for natural gas, out of which 219,574 were non-household customers (approx. 5.46%) and 3,800,245 were household customers (approx. 94.54%);
  - In year 2019 it is noticed a decrease by 2.38 percentage points of the real degree of opening of the natural gas market compared to year 2018, that reached to approx. 74% of the total consumption of end customers;
  - From the analysis of the degree of achievement of the yearly investment plan in the transmission network it has resulted a degree of fulfilment of the investment plan in year 2019 of 9.21%. The operator has recorded delays in the commissioning of the planned objectives corresponding to the BRUA project which, in accordance with the information sent by the operator have already been recovered to a large extent in the first months of year 2020. According to the Procedure, the operator has the possibility to recover the investments delayed in the first 8 months of year 2020;
  - The value of the investments made (the values of the fixed assets resulted from the investments made, commissioned and registered in the accountancy) by the distribution system operators at national level in year 2019 is 387.5 million RON, recording an increase with approximately 24 million RON (6%) compared to the value of the investments made in 2018;
  - The two operators who distribute to more than 100,000 users, SC Delgaz Grid SA and SC Distrigaz Sud Rețele SRL have made investments in 2019 in value of approximately 315 million RON, representing a rate of 81.2% of the total value of the investments made in the entire natural gas distribution system at national level;
  - In the gas year 2018-2019 all of the distribution operators (DO) have registered an increase by approx. 16% in the number of requests for connection, compared to the period between 01.10.2017 and 30.09.2018, mean on which it relied as well the estimation of the volumes of works expected to be contracted with the economic operators who perform the works;
  - It can be noticed that **all of the indicators** of performance of the natural gas system and transmission service corresponding to the gas year 01.10.2018 – 30.09.2019 have very good values and that their degree of fulfilment in terms of compliance with the minimum thresholds provided for by the standard is 100%. Compared to the previous gas year (01.10.2017 – 30.09.2018), it is highlighted the preservation of the level of the performance indicators, which denotes the maintenance of the quality of the services offered to the consumers and the solicitors by the S.N.T.G.N. Transgaz S.A.;
  - In general, the performance indicators of the natural gas distribution service have been complied with or they are close to the minimum threshold provided for by the standard. The indicators referring to the connection to the system could not be achieved, which indicates the difficulties met by the operators during the connection process of the solicitors to the natural gas distribution system. This is the most important indicator in relation to which the operators must act by taking the necessary measures in order to reduce the duration of connection;
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- In year 2019, the TSO has not performed corrective works at the planned level. The non-performance of the works of corrective maintenance might highlight the fact that they have not been necessary, which would be a positive aspect;
- The two great national operators of the natural gas distribution system have performed the works of total maintenance, preventive and corrective, in a rate of 94%, with the mention that they met the condition provided for by the Procedure related to the degree of achievement of the maintenance works, namely the DO has the obligation to perform in 2019 works of preventive maintenance in value of at least 95% of the value of the yearly plan of preventive maintenance undertaken by the operator, and starting from year 2020 it has the obligation to perform yearly maintenance works in value of at least 90% of the total value of the yearly maintenance plan;
- Starting from the date of 1 July 2019, the regulated prices corresponding to household customers, class C1 (with a consumption of up to 280MWh/year), decreased in average with a rate of approx. 5%.

### Energy efficiency

Within the national targets of *Europa 2020* undertaken by Romania with regard to *Power and climatic changes*, **the increase in the energy efficiency is one of the three national priorities**, along with the reduction of greenhouse gas emissions and an increase in the percentage of energy produced from renewable sources in the gross final consumption of power.

The indicative national target **in terms of energy efficiency** relies on the consumption of primary power. Romania established as indicative national target in terms of energy efficiency, the achievement of an economy of **primary power of 10Mtep** at level of year 2020, representing a **reduction by 19% of the forecasted primary power consumption (52.99Mtep)** through the PRIMES 2007 model for the realistic scenario. The achievement of this target assumes that in 2020 the consumption of primary power will be equal to **42.99Mtep**, and the final power consumption will be equal to **30.32Mtep**.

In the field of energy efficiency, the Romanian Energy Regulatory Authority has performed specific activities regarding: the enforcement of the current legislation on the promotion of energy efficiency and the elaboration of secondary regulations, the authorization of energy auditors/certification of energy managers, projects financed by the EU within the Horizon 2020 Programme, the participation in national and international work groups.

The authorization of the energy auditors and the certification of the energy managers carried out within the SEE have supported in 2019 as well the promotion and the development of a system aimed to ensure the availability of some audits able to highlight the energy-saving potential of the energy consumer.

To verify the compliance with the provisions of the legislation in force, in 2019, the ANRE has taken 24 actions of control in stores, of which: one control in Bucharest and 23 controls in the

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country. The documents have been verified, including the energy efficiency label for 2774 household appliances exposed in stores throughout the country.

The teams of control have not applied any sanctions because no non-conformities resulted from the actions of control and all of the requirements of the legislation in force have been met.

In year 2019, for the purpose of disseminating the legislative information and to bring to the same table all of the factors involved: representatives of the authorities, of the producers, distributors and traders, they have taken actions for the development of the international cooperation and the transfer of know-how.

Through the expertise demonstrated within the work group for the **settlement of the EU Pilot or the actions of infringement in the field of energy efficiency, the ANRE**, along with the Ministry of Energy, the Ministry of Foreign Affairs and the Ministry of Regional Development and Public Administration, **has contributed to the resolution of non-conformities** with regard to the takeover of the European acquis in the field of energy efficiency from Romania.

### **Promotion of renewable sources of energy**

In accordance with the provisions of Directive 2009/28/EC on the promotion of the use of power from renewable sources. According to Annex I of Directive 2009/28/EC of the European Parliament and the Council from 23 April 2009 *on the promotion of the use of power from renewable sources*, for the amendment and subsequently for the repeal of Directives 2001/77/EC and 2003/30/EC, the national target for Romania with regard to the percentage of power from renewable resources of power in the gross final consumption of power, to be achieved until year 2020, is equal 24%.

In the national plan of action in the field of E-SRE submitted by the Romanian authorities to the European Commission in September 2010, it was reiterated the commitment of Romania to reach the level of the national targets on the percentage of electricity produced from renewable sources of power in the final consumption of power in the light of years 2010, 2015 and 2020, respectively of 33%, 35% and 38%.

The system of promotion of electricity produced from renewable sources of power through green certificates has been closed at the end of year 2016 as regards the access of new producers of E-SRE within the system, the main activity in the field focusing on the amendment of the regulations in force:

- the amendment of the regulations in force, following the enforcement of Law no. 184/2018 for the approval of the Government Emergency Ordinance no. 24/2017 on the amendment and completion of Law no. 220/2008 establishing the promotion system of the production of power from renewable sources of power and amending some legal acts, has led to the modification of the regulatory framework corresponding to:
  - the promotion system through green certificates, and in 2019 they have been amended and completed some ANRE orders regulating the field;

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- the electricity produced in power plants from renewable sources with an electric power installed of maximum 27 kW belonging to prosumers, and in 2019 they have been amended and completed some ANRE orders with regard to the trade of electricity produced in power plants from renewable sources with an electric power installed of maximum 27 kW belonging to prosumers;
  - The monitoring of the promotion system of electricity produced from renewable sources of power through green certificates, the following being registered on this occasion for year 2019:
    - the issuance of a number of 18 906 700 CV to the producers of E-SRE, for the production of E-SRE of 10 084 GWh supported through the promotion scheme through CV;
    - 18 669 153 CV have been purchased by a number of 195 operators, being given the mandatory rate of acquisition of CV at the value of 0.433548 CV/MWh established by the ANRE in accordance with the legal provisions in force;
    - the impact of the application of the promotion system of E-SRE in the price of electricity at the final customer was equal to RON 59.3/MWh;
    - the financial effort for the promotion of E-SRE expressed through the value of the state aid reported by the producers of E-SRE from the sale of CV amounted to 2440 million RON
    - the degree of achievement of the national target of E-SRE in the gross final consumption of electricity of Romania amounted in 2019 to 43.5% (compared to 38% as undertaken by Romania in 2020);
    - the installed capacity accredited in the production units of E-SRE was 4779MW, down by 6MW compared to 2018, with the electric capacities for which the period of accreditation has expired;
    - the occurrence of a number of 289 prosumers (251 prosumers natural persons and 38 legal persons, having an installed power of 2515.838KW (1922.425kW for natural persons and 593.413kW for legal persons);
    - the issuance of a number of 8,379,038 guarantees of origin for the electricity produced from renewable sources of energy in year 2019.

### Promotion of cogeneration

The scheme of the type of bonus represents a **state aid** (no. 437/2009), authorized by the European Commission as being compatible with the joint market according to art. 87 (3) (c) of the EC Treaty through **Decision C (2009) 7085** (hereinafter referred to as the *Decision*), by which they have been established the conditions for its awarding as well. By **GD no. 2009/1215**, *establishing the criteria and conditions necessary for the implementation of the supporting scheme for the promotion of the high-efficiency cogeneration on the basis of the demand for useful thermal power*, as further amended and completed, it has been implemented the bonus-type of scheme.

**The entry into force of the supporting scheme of the type of bonus has taken place on 1 April 2011.**

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Following the issuance of the **GEO no. 2018/114** establishing some measures in the field of public investments and some tax-budgetary measures, the amendment and the completion of some legal acts and the prorogation of some terms, as well as of the **Government Decision no. 2018/846** for the amendment of the Government Decision no. 1215/2009, in 2019 they have been necessary the amendment and completion of the regulations in force, as follows:

- the amendment and the completion of the Rules for the qualification of the production of electricity in a highly efficient cogeneration and for the verification and monitoring of the consumption of fuel and productions of electricity and useful thermal power, in a highly efficient cogeneration, approved by **Order of the President of the Romanian Energy Regulatory Authority no. 2013/114**;
- the amendment and the completion of the Methodology for the determination and monitoring of the overcompensation of the activity of production of electricity and thermal power in a highly efficient cogeneration benefitting from the supporting scheme of the type of bonus, approved by **Order of the President of the Romanian Energy Regulatory Authority no. 2013/84**;
- the amendment and the completion of the Methodology establishing and adjusting the prices of electricity and thermal power produced and delivered from cogeneration plants benefitting from the supporting scheme, respectively of the bonus for the highly efficient cogeneration approved by **Order of the President of the Romanian Energy Regulatory Authority no. 2015/15**;
- the amendment and the completion of the Regulation on the establishment of the method of collection of the contribution for the highly efficient cogeneration, and the establishment of the method of payment of the bonus for the electricity produced in a highly efficient cogeneration, approved by **Order of the President of the Romanian Energy Regulatory Authority no. 2013/116**.

They have been determined and approved by orders of the president of the Romanian Energy Regulatory Authority:

- the values of the reference bonuses for the electricity produced in a highly efficient cogeneration and the values of the reference prices for the thermal power produced in cogeneration;
- the values of the prices regulated for the electricity produced in a highly efficient cogeneration benefitting from a bonus, sold on the basis of some contracts regulated by the producers of electricity and thermal power in cogeneration and the values of the reference prices of the electricity produced in a highly efficient cogeneration, benefitting from a bonus;
- the values of the contribution for the highly efficient cogeneration.

As regards the monitoring of the support scheme of the type of bonus, they have been performed the following analyses:

- in Q1 of 2019 – the yearly qualification of the quantities of electricity produced in a highly efficient cogeneration benefitting from the support scheme in year 2019;
- in Q1 of 2019 – the overcompensation analysis, corresponding to the activity of production in a highly efficient cogeneration, carried out by the producers benefitting from the support

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scheme of the type of bonus in the period 01.01.-31.12.2018, following which it has been issued a decision for the approval of the amount for the settlement of the pre-overcompensation and overcompensation of the activity of production of electricity and thermal power in a highly efficient cogeneration corresponding to the assessment period between 01.01.2018-31.12.2018;

- in Q4 of 2019 – the pre-overcompensation analysis based on which it was determined the estimation of the registration/ non-registration of the overcompensation of the production of electricity and thermal power in a highly efficient cogeneration in year 2020; in accordance with the results obtained they have been approved, by decisions of the president of the Romanian Energy Regulatory Authority, the bonuses applicable in year 2020.

They have been approved, by decision of the president of the ANRE, the monthly (January-December 2019) and the yearly (2018) quantities of electricity produced in a highly efficient cogeneration benefitting from the support scheme, the values of the bonuses for the electricity produced in a highly efficient cogeneration and delivered in NPS, and the prices regulated for the thermal power delivered in SACET (in the periods November-December 2019, January -June 2020 and July-October 2020), for the producers benefitting from the support scheme of the type of bonus.

There have been issued decisions for the approval, respectively for the amendment of the “List of capacities of production of electricity and thermal power in cogeneration, with final accreditation”.

There have been issued decisions of the president of the ANRE on the qualification of the quantities of electricity produced in a highly efficient cogeneration from renewable sources of power, benefitting from additional green certificates according to the provisions of art. 6 para. (4) of Law no. 2008/220 establishing the promotion system of the production of power from renewable sources of power, republished, with the subsequent amendments and completions.

It has been issued a decision for accreditation for a producer of electricity and thermal power in cogeneration, beneficiary of the support scheme of the type of bonus, that replaced on the same placement existing capacities of cogeneration that benefitted from a bonus for electricity, with capacities of highly efficient cogeneration, within the limit of the electric capacity installed registered on the date of 31 December 2016 on the List of capacities of production of electricity and thermal power in cogeneration, with final accreditation.

Also, following the provisions of **GEO no. 2018/114**, it has been amended and completed the Methodology establishing the prices for the thermal power delivered in SACET from plants with cogeneration units that do not benefit from support schemes for the promotion of the highly efficient cogeneration, approved by Order of the president of the Romanian Energy Regulatory Authority no. 111/2014 and it has been amended art. II of the Order of the president of the Romanian Energy Regulatory Authority no. 184/2018 regarding the amendment of the Methodology establishing the prices for the thermal power delivered in SACET from plants with cogeneration units that do not benefit from schemes of support for the promotion of the highly

efficient cogeneration and there have been approved, by decisions of the president of the ANRE, the regulated prices for the thermal energy delivered in 2010 by the producers who have not accessed the support scheme of the type of bonus.

### Consumer protection

- In year 2019 there have been registered and settled a number of **9948** petitions, filed by natural and legal persons, beneficiaries/ solicitors of services provided by the economic operators from the electricity, natural gas and thermal power sectors. From the total number, in the sector of electricity and thermal power there have been registered **6047** petitions, and in the sector of natural gas there have been registered **3901** petitions. Compared to 2018 it has been registered an increase in the number of petitions by approx. 23%, generated especially by problems generated by the conclusion and implementation of the contracts on the competitive market, by problems regarding the connection with electricity/ natural gas systems/ networks, as well as by the manner in which they have been put into practice the new legal provisions, for instance the mounting of the natural gas detectors.

In year **2019**, there have been performed a **total** number of **1652** actions of control, of which:

- **505** actions of control of the type of **inspection**, carried out according to the **yearly programme of control**;
- **192** actions of control of the type of **verification**, carried out for the research/ analysis of some complaints received from third parties, of some complaints ex officio, as well as of some requests/ complaints received from the part of the departments of the ANRE;
- **955** actions of control of the type of **supervision**, carried out for finding the manner in which the natural/legal persons fulfil their duties and their legal responsibilities, dealt with continuously by the departments of the ANRE, in the fulfilment of their specific duties, based on documents, data and information.

The actions of control have concerned mainly the holders of licenses/ authorizations/ certificates issued by the ANRE.

Following the actions of control carried out in 2019, there have been drawn up 840 reports of findings and for the sanctioning of contraventions (412 in the field of electricity, 357 in the field of natural gas, 3 in the field thermal power and 70 in the field of energy efficiency) being applied for the irregularities found a number of **1601** civil sanctions, distributed as follows:

- **943** in the field of electricity;
- **565** in the field of natural gas;
- **13** in the field of thermal power;
- **80** in the field of energy efficiency.

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Through the reports of findings and for the sanctioning of contraventions, there have been applied fines in a total amount of **RON 24,427,300.37**

From the total of 840 reports of findings and for the sanctioning of contraventions, 16 have been applied to some natural persons and 824 have been applied to economic agents.

### **Administrative actions**

There have been 318 cases, of which: 139 have been settled in favour of the ANRE, 11 have not been settled in favour of the ANRE.

#### **2.1. Report on the implementation of the provisions of the Clean Energy Package**

By the **ANRE Decision no. 2206/20.12.2019** it has been awarded to the national company for electricity transmission, "Transelectrica" S.A., the derogation from the obligation to fulfil the provisions of art. 16 para. (8) of the Regulation (EU) 2019/943 of the European Parliament and Council from 5 June 2019 on the internal electricity market (recast).

The decision to award the derogation had as purpose the awarding to C.N.T.E.E. Transelectrica S.A. of the derogation from the obligation to fulfil the provisions of art. 16 para. (8) of the Regulation (EU) 2019/943 of the European Parliament and the Council from 5 June 2019 on the internal electricity market (recast), for a duration of one year, starting from the date of 01.01.2020, following the request of C.N.T.E.E. Transelectrica S.A.

The derogation applies to the borders of the tendering area Romania-Hungary and Romania-Bulgaria.

C.N.T.E.E. Transelectrica S.A. presented the following reasons for which it has solicited the derogation:

- a) the non-implementation of the coordinated calculation of the capacities in the regions of calculation of the CORE and SEE capacities, that follow the stages provided for by the methodologies of coordinated calculation of the capacities, elaborated and approved under the provisions of the Regulation (EU) 2015/1222 of the Commission from 24 July 2015 establishing some guidelines on the allocation of capacities and on congestion management;
- b) the absence of some agreements concluded with the countries outside of the European Union, with which Romania through lines of interconnection, according to the Recommendation of the European Union Agency for the Cooperation of Energy Regulators no. 2019/01 "on the implementation of the minimum margin available for cross-zonal trade pursuant to Article 16(8) of Regulation (EU) 2019/943". Without concluding such agreements, intended to include as well the method of distribution of the costs corresponding to the application of the actions of remediation, they cannot be taken into consideration the movements of powers on the borders with the countries outside of the European Union. Thus, there can be some risks related to safety during the operation of the national electro-energetic system following an artificial increase in the capacities available on the borders Romania-Hungary and Romania-Bulgaria

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- without taking into consideration, in the calculation of the capacity, the movements of power on the borders with the stated outside of the European Union;
- c) the failure to complete the approval process of the methodologies for the redispatching or coordinated countertrading of the methodologies on cost sharing for redispatching or countertrading purposes, elaborated in accordance with the provisions of the Regulation (EU) 2015/1222 of the Commission from 24 July 2014 establishing some guidelines on the allocation of capacities and the congestion management. An individual redispatching process cannot be fulfilled due to the absence of the operational experience of the transmission system operator with regard to the redispatching process for the achievement of the target provided for by art. 16 para. (8) of Regulation (EU) 2019/943 of the European Parliament and the Council from 5 June 2019 on the internal electricity market (recast), as well as of the available calculation programmes, necessary for the assessment of the impact of cost-generating actions of remediation.

As an effect of the removal of the limitation of the price difference of RON 250/MWh between the maximum and minimum price of the offer of a participant on the PE, introduced by the ANRE Order no. 2018/31 for the purpose of the gradual alignment of the national PE rules to the principles of the internal electricity market, stated in the Regulation (EU) 2017/2195 establishing the guidelines on the balancing of the electricity system and the Regulation (EU) 2019/943 on the internal electricity market, the yearly average deficit price in 201 has increased by 1.5 compared to the price of 2018 (RON 401.67/MWh), while the excessive yearly average price decreased to the value of RON 11.67/MWh, smaller by 67% than the same price for 2018 (RON 35.48/MWh).

In applying the provisions of art. 10 para. (5) of Regulation 943/2019 it has been approved the ANRE Order no. 2019/236 for the approval of the rules for the removal and/or mitigation of the impact of some measures or policies that can contribute to the limitation of the formation of the wholesale electricity prices. Through this Order it has been established the term for the amendment of the regulations on the electricity market in view of the implementation of some provisions of the Regulation 2019/943 and in view of eliminating/ mitigating the identified restrictions.



### 3. THE ELECTRICITY MARKET

#### 3.1. Aspects related to network regulation and technical operation

##### Unbundling

As regards unbundling, 2019 did not bring any changes compared to the situation of 2018.

##### Monitoring investment projects with regard to the commissioning of a cross-border interconnection capacity

Romania is part of the priority corridor no. 3 regarding electricity “North-South Electricity Interconnections in Central and South-Eastern Europe” (“NSI East Electricity”): north-south and east-west interconnections and internal lines for the completion of the internal market and for the integration of the production from renewable sources.

The current value of the interconnection capacity is 10-11%, which is due to the update of the powers installed in the NPS of the groups included in the commercial operation licenses and to the increase in the values of the NTC on the Bulgarian border at values between 25-300MW and 900MW through the removal of some internal congestions in the transmission network of ESO-EAD, the Bulgarian TSO.

As regards the achievement of the interconnection target of 15% for year 2030, the intention is to meet this objective mainly through the implementation of PCIs and the performance of other projects included in the RET Development Plan.

Based on the periodic reports of the TSO, the current state of the projects of common interest initiated by the transmission and system operator, comprised in the RET Development Plan, which are part of the “North-South Electricity Interconnections in Central and South-Eastern Europe (“NSI East Electricity”)” priority corridor is the following:

PDRET code 2018-2027	TYNDP code 2018	PCI code	Description	Scheduled commissioning	Outstanding stages
F.5	138.275	3.8.5	OEL 400kV Smârdan-Gutinaș	2023	Issuance of the GD for the transfer of the right of management and change of usage, temporary or final removal from the agricultural circuit, temporary or final removal from the national forestry fund. Completion of the expropriation procedure. Performance of the acquisition procedure, conclusion of the execution contract and the execution of the works.
F.6+ F.7+ F.8+ F.9	138.273	3.8.4	OEL 400kV Cernavodă – Stâlpu, with an entry/exit circuit at Gura Ialomitei Station	2021	Obtaining the building permit for the expansion works of Gura Ialomitei station with two 400kW cells; Issuance of the Order of the Minister for the final removal from the national forestry fund; Execution of the works
F.4	144.238	3.22.1	Interconnection OEL 400kV Reșita –	2018	The execution works ended on 30.03.2018. The commercial operation shall begin after the

			Pancevo		completion of the 400kV station of Reșița.
F.1.1+ F.1.2+ F.1.3	144.269	3.22.2	OEL 400kV Porțile de Fier – Anina – Reșița	2021	Execution of the works
F.2.1+ F.2.2	144.270	3.22.3	Transition to 400kV of the 220kV OEL Reșița – Timișoara/Săcălaz, including the construction of the 400kV stations Timișoara	2023	Elaboration and submission of the application file to the Ministry of Energy-ACPIC, according to the provisions of the EC Regulation 2013/347, art. 10 point 1; Obtaining the Endorsements for DJ Caraș Severin and Timișoara, the Environmental Permit, the Building Permits, obtaining the GD for the approval of the location and the commencement of the procedure for the expropriation of the private properties that constitute the expropriation corridor for public utility of national interest. Execution of the works
F.3.1+ F.3.2+ F.3.3	144.270	3.22.4	Transition to 400kV of the 220kV OEL Arad – Timișoara/Săcălaz, including the construction of the 400kV Săcălaz station and the expansion of Arad station	2027	In course of elaboration PT+CS; In course of obtaining the endorsements and the consents solicited in the urbanism certificates; Execution of works: 2022-2027.

### Monitoring the implementation of the development plan for the electricity transmission network for 10 years

The stage of the projects comprised in the RET Development Plan in force for the period 2018-2027 is detailed in the table below:

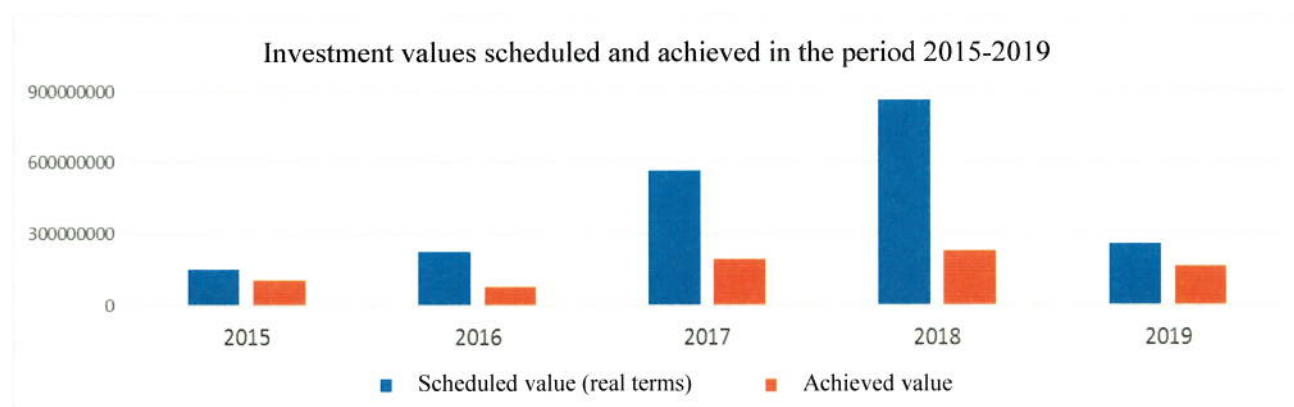
	Total works	Stage			
		Completed	Within the term	Delayed	Excluded from the plan
A - Reengineering of the existing RET	58	8	24	25	1
C – Security of supply of consumption	4	0	1	3	0
D – Integration of the production from new plants - Dobrogea and Moldova	11	0	2	9	0
E - Integration of the production from plants – other areas	2	0	0	2	0
F - Increase of the capacity of interconnection and integration of the production from the SRE	17	2	4	11	0
G - Integrated platform for NPS operational management + Replacement of EMS SCADA Areva system components + Replacement of supporting components of the Balancing Market platform	1	0	1	0	0
H - Measuring data management and metering system for electricity on the wholesale market	1	0	0	1	0
J - Information and telecommunication system management	1	0	0	1	0
K – Critical infrastructure	1	0	0	1	0

ANRE solicited the TSO to analyse the impact of the deferred commissioning of the projects estimated in the development plan in 2019, which have not been included afterwards in the annual investment plan. As per the reply of the TSO, the delay in the projects for the modernization of the electricity stations leads to the maintenance of some high operating costs, the delay of some

projects such as the increase in the capacity of the transformers from the station affects the fulfilment of the safety criteria, and the delay of other projects does not have any impact on the operation of the RET. The operator makes efforts to recover the delays, taking at the same time the necessary measures to reduce the impact of the failure to complete the ANRE works in a timely manner.

### Monitoring the implementation of the investment plan of the TSO for year 2019

The evolution of scheduled/ achieved values of investments from own sources in the period 2015-2019 is the following:



	2015	2016	2017	2018	2019
Scheduled value [RON]*	155,096,750	256,300,431	587,335,286	885,087,021	259,804,158
Achieved value [RON]	106,817,186	81,392,087	197,358,724	235,739,485	165,411,524
Degree of achievement of the scheduled value (including from other plans)	69%	32%	34%	27%	64%

Note: \*) Scheduled values are expressed in nominal terms

The investments made in 2019 are presented in the following table:

	Work description	Achieved
<b>A</b>	<b>Reengineering of the existing RET</b>	<b>83,974,008</b>
1	Reengineering of the 400/110/20kV station of Domnești	35,791,417
2	Reengineering of the 400kV station of Isaccea - Stage I	30,612,836
3	AT and Trafo replacement in electricity stations - Stage 2, phase 2 Lot II - Trafo	2,554,035
4	Modernization of the 110 and 400 (220) kV stations of Focșani Vest	7,889,800
5	Mobile cells of 110kV, 220kV and 400kV	7,125,920
<b>B</b>	<b>RET expansion (21 investments at level of subsidiaries and executive managers =</b>	<b>12,008,302</b>
<b>I</b>	<b>Other investments and equipment</b>	<b>7,304,020</b>
	<b>Achievements of 2019</b>	<b>103,286,330</b>

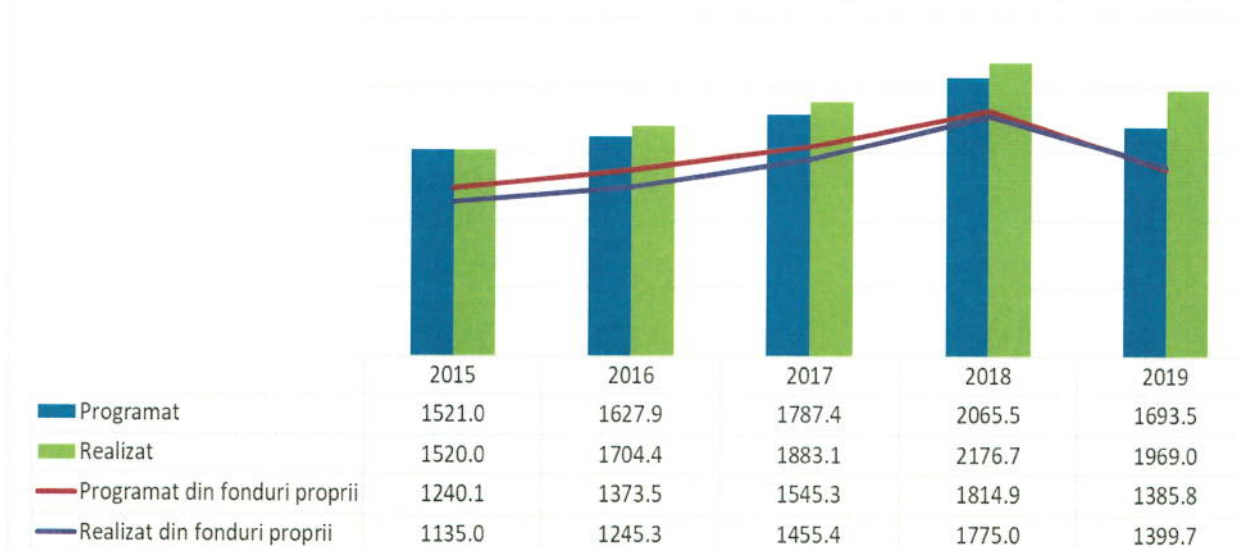
From the analysis of the reported values it is found that approx. 62% of the works performed in year 2019 represents works belonging to the investment plan of 2019, the rest representing recoveries/ exceedances from the plans of other years (RON 103,286,330 out of RON 165,411,524).

## Monitoring the implementation of the investment plans of the DO for year 2019

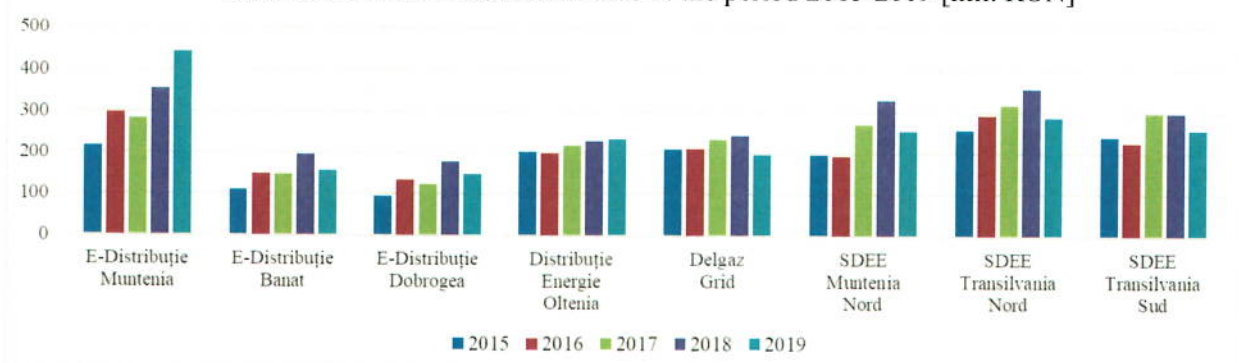
The establishment of the necessary works of investment and maintenance in the electricity distribution networks at a level aimed to ensure their safety, reliability and efficiency is the exclusive responsibility of the distribution operators. They can and have the legal obligation to establish some investment and maintenance schedules founded on analyses and assessments performed within the activity of asset management.

The investments made by the concessionaire electricity distribution operators in the period 2015-2019 compared to the undertaken plans, total values and values from own sources, with the mention that the achievements of 2019 are provisional because the analysis carried out by the ANRE is not completed, are presented in the following tables:

Scheduled and achieved value of the investments in RED in the period 2015-2019 [mil. RON]



Total value of the investments made in the period 2015-2019 [mil. RON]



From the data presented by the operators it is found that in year 2019 the degree of country-wide achievement of the investment plans was 101%, improved significantly compared to the previous years – 97.8% in year 2018, respectively 94.2% in year 2017. According to the provisions of the *Procedure* applicable for year 2019, approved by the ANRE Order no. 2016/8, the DOs had the obligation to achieve at least 95% of the total value of the annual investment schedule, including the investments in equipment.

The types of the works performed on the electricity distribution networks in year 2019 are presented in the table below:

Type	Category	Achieved total value [RON]	of which own resources:
	<b>TOTAL, out of which:</b>	<b>1,968,965,808</b>	<b>1,399,658,556</b>
<b>A</b>	<b>ESSENTIAL - Total (A1+A2+A3+A4)</b>	346,949,218	345,345,348
A1	Reengineering and modernization of the lines/ stations and existing transformation substations that are overloaded, considered to be places of work with particular conditions in terms of work security, having non-compliant technical parameters	272,533,729	270,929,859
A2	Replacement of the existing equipment which is worn physically and morally, for which there are no spare parts and for which it is no longer possible to perform appropriate maintenance works; replacement of the equipment to comply with the environmental conditions	74,415,489	74,415,489
A3	Plants for the power factor compensation	0	0
<b>B</b>	<b>NECESSARY - Total (B1+B2+B3+B4+B5+B6)</b>	1,427,437,697	859,734,316
B1	Replacement of the depreciated existing equipment, the technical parameters of which are no longer compliant with the rules in force and which no longer ensure the compliance with the performance and quality parameters provided for by the legislation	9,392,022	9,392,022
B2	Replacement of the equipment, reengineering and modernization works for the reduction of the OTC, replacement of the metering groups	311,215,462	310,230,621
B3	Improvement in the quality of the distribution service	353,108,218	341,817,027
B4	Creation of new capacities, expansion of the existing network for the supply of new users	79,904,971	63,123,408
B5	Implementation of smart metering systems	63,067,609	58,804,677
B6	New connections, including those imposed by the primary law, consolidation of the network for the new connections, as well as for the part not covered by the connection tariff	610,749,415	76,366,561
<b>C</b>	<b>JUSTIFIABLE - Total (C1+C2+C3+C4)</b>	194,578,892	194,578,892
C1	Acquisition of the equipment necessary to ensure work security and acquisition of work equipment	29,729,517	29,729,517
C2	Improvement of work conditions	84,111,223	84,111,223
C3	Taking over electricity distribution capacities from third parties	2,033,221	2,033,221
C4	Replacement of metering groups and replacements of some components of fixed assets	78,704,930	78,704,930

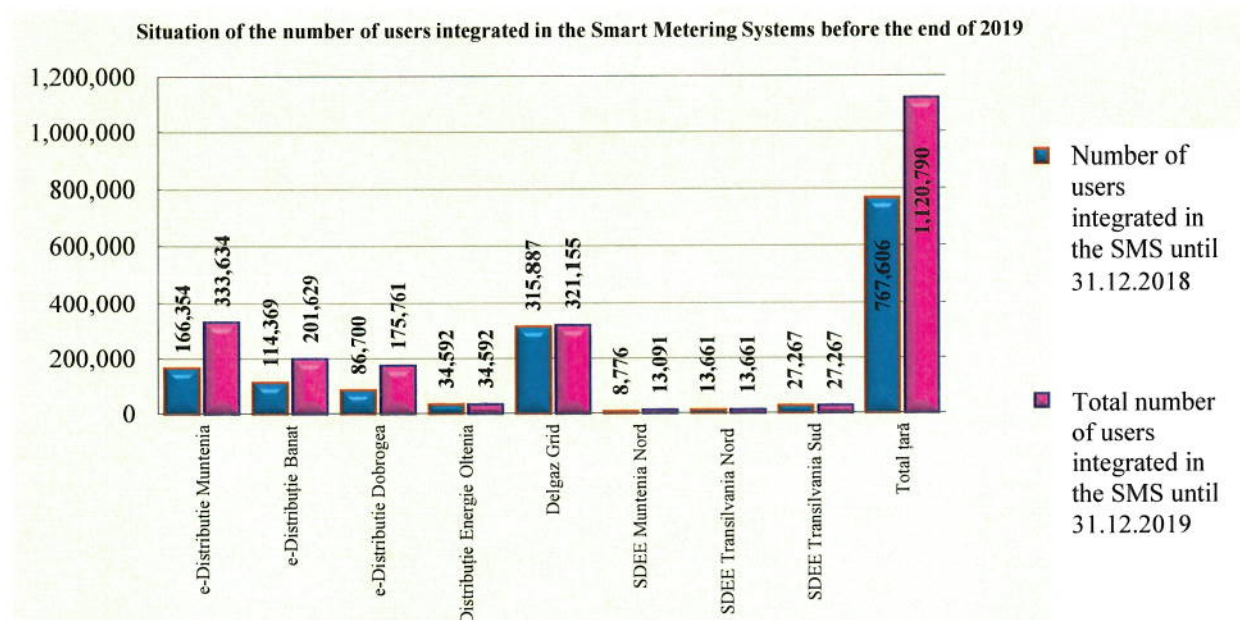
It is found that out of the total value of the investment works completed from own resources in 2019, the investment works in RED represent 91.87 %.

### Smart electricity metering systems

Based on the data sent by the DO with regard to the stage of the implementation of the Smart Metering Systems until the end of 2019, they resulted the centralized situations reflecting the stage of implementation of the Smart Metering Systems and the results obtained through the implementation of the Smart Metering Systems in the areas of concession of the electricity distribution service, starting from the first pilot projects completed in 2015, until the end of 2019.

The following image presents the situation of the number of users integrated in the Smart Metering Systems until 31.12.2019, which includes the demand facilities integrated in the Smart Metering Systems according to the provisions corresponding to year 2019 according to the country-wide timetable for the implementation of electricity smart metering systems for the period 2019-2028, approved by ANRE Decision no. 2019/778. The following tables present the fulfilment of the obligations to implement the Smart Metering Systems provided in the Timetable for year 2019, compared to the planning from the implementation timetable approved by Decision no. 2019/778 and the total degree of implementation of Smart Metering Systems until 31.12.2019 for each area

of concession, calculated as a ratio between the total number of users integrated in the Smart Metering Systems and the total number of users from the concession area.



Name of the distribution operator	Number of users integrated in the Smart Metering Systems in year 2019	Total number of users integrated in the SMS in 31.12.2019, out of which:	household costumers	non-household customer	prosumers	producers	Total degree of implementati on achieved on 31.12.2019
e-Distributie Muntenia	167,280	333,634	314,224	19,395	11	4	25.0%
e-Distributie Banat	87,260	201,629	185,267	16,345	16	1	22.0%
e-Distributie Dobrogea	89,061	175,761	162,130	13,627	4	0	26.7%
Distributie Energie Oltenia	0	34,592	32,305	2,283	4	0	2.4%
Delgaz Grid	5,268	321,155	306,180	14,955	15	5	21.5%
SDEE Muntenia Nord	4,315	13,091	12,422	669	0	0	1.0%
SDEE Transilvania Nord	0	13,661	12,690	971	0	0	1.1%
SDEE Transilvania Sud	0	27,267	24,505	2,762	0	0	2.3%
<b>Country-wide total</b>	<b>353,184</b>	<b>1,120,790</b>	<b>1,049,723</b>	<b>71,007</b>	<b>50</b>	<b>10</b>	<b>11.6%</b>

**Note:**

\* It includes all of the demand facilities integrated in the Smart Metering Systems starting from 2015.

\*\* The total degree of implementation at the end of year 2019 which has been scheduled, was determined on the basis of a total number of users from the concession area, estimated on the basis of a presumed evolution of the demand for new connections.

**Notifying users on the implementation process of Smart Metering Systems carried out by**

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## the DO in accordance with the provisions of the enforceable regulations

A major objective of the European legislation applicable in all of the member states, when speaking about the implementation of smart metering systems, is to create the conditions necessary to allow and support the active participation of the final consumers in the energy market, in order to obtain some benefits.

In the framework conditions for the elaboration of the timetable for the country-wide implementation of smart electricity metering systems approved by the ANRE Presidential Order no. 2018/177 there have been included some provisions related to the obligations of the DO to inform users. The stage of fulfilment of these obligations by each DO is detailed in the Report regarding the implementation stage of smart electricity metering systems according to the Timetable for the country-wide implementation of smart electricity metering systems for the period 2019-2028, approved by the ANRE Presidential Decision no. 77/08.05.2019, which is published by the ANRE on the webpage <https://www.anre.ro/ro/energie-electrica/informatii-de-interes-public/info-sisteme-de-masurare-inteligenta>. The results laid down in the report have been obtained exclusively on the basis of the data reported by the DO on the basis of the obligations provided for by art. 11 of the Framework-conditions.

### Network tariffs

The approval of the ruled tariffs for public interest electricity networks in year 2019

#### Transmission system tariffs

Network ruled tariffs that the ANRE approves in the field of electricity according to the legal provisions are charged by the network operators based on the contracts ruled for the connection to the network, respectively for using the network, namely for the transmission and system service and the electricity distribution service.

In year 2019 there have been approved two new methodologies for the establishment of the tariffs practiced by the TSO, respectively the ANRE Order no. 2019/57 on the completion of the Methodology establishing the tariffs for the electricity transmission service, approved by ANRE Order no. 2013/53 by which it has been added a period of transition of 6 months between the third regulatory period and the fourth period, and the ANRE Order no. 2019/171 on the approval of the Methodology establishing the tariffs for the electricity transmission service, setting out that the period for which they are determined and applied the electricity transmission tariffs shall be equal to 1 calendar year, starting on 1 January and ending on 31 December.

According to the provisions of the ANRE Order no. 2019/57, the ANRE has the obligation to perform annual adjustments of value, partial adjustments of investments and controllable costs corresponding to the third regulatory period and of the income ruled for the **period 1.07-31.12.2019**, as well as the obligation to approve the average transmission tariff, the component of supply of electricity into the network and the component of extraction of electricity from the network for the said period.

Thus, the ANRE Order no. 81/24.06.2019 approved the following tariffs:

1. the average transmission tariff – 17.68 RON/MWh, down by 2.48% in nominal terms compared to the value approved for the previous tariff period (respectively the period between 1 July 2018 and 30 June 2019),

2. the average tariff for the supply of electricity into the networks ( $T_G$ ) – 1.18 RON/MWh, unique value at level of the national power system (NPS), at the same level with the average value approved for the previous tariff period (respectively the period between 1 July 2018 and 30 June 2019);
3. the average tariff for the extraction of electricity from the networks ( $T_L$ ) – 16.52 RON/MWh, unique value at level of the national power system (NPS), down by 2.19% in nominal terms compared to the average value approved for the previous tariff period (respectively the period between 1 July 2018 and 30 June 2019).

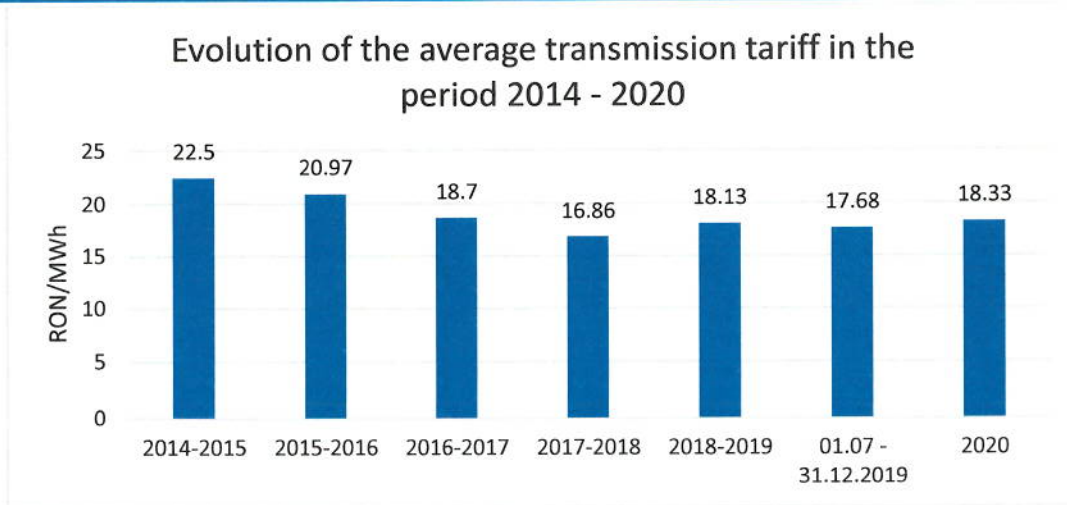
We mention that making a comparison with the tariffs previously approved for the period 1 January – 30 June 2019 is not relevant, since the income approved for the tariff period of transition comprises a part of important adjustments of investments and the controllable costs corresponding to the third regulatory period.

According to the provisions of the ANRE Order no. 2019/171, the ANRE established the annual adjustments of value and those of the third regulatory period, of the initial target income, of the linearized income and of the transmission tariff projection for each year of the fourth regulatory period, and the ANRE Order no. 218/11.12.2019 approved the average transmission tariff, the component of supply of electricity in the network and the component of extraction of electricity from the network **applicable in 2010**, the first year of the fourth regulatory period, as follows:

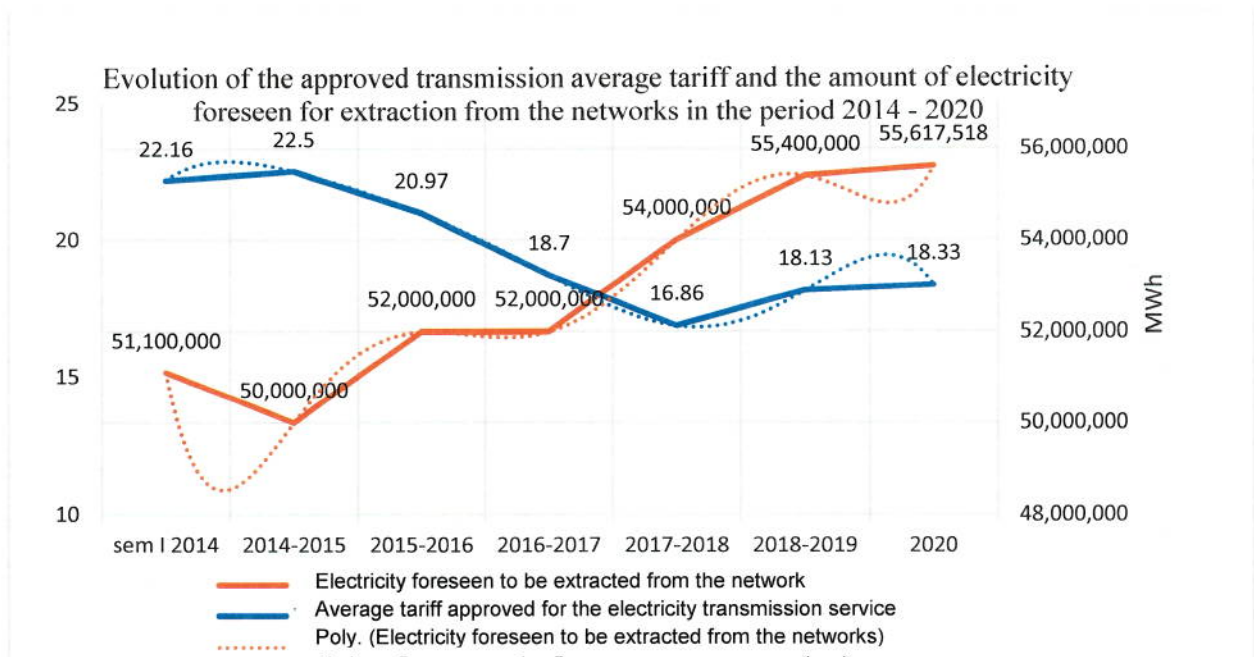
1. the average transmission tariff – 18.33 RON/MWh, increased by 3.68% in nominal terms compared to the value approved for the transition period (respectively the period between 1 July – 31 December 2019),
2. the average tariff for the supply of electricity into the networks ( $T_G$ ) - 1.30 RON/MWh, unique value at level of the national power system (NPS) and unique value for the entire fourth regulatory period (1 January 2020 – 31 December 2024), increased by 10.17% in nominal terms compared to the value approved for the transition period (respectively the period between 1 July – 31 December 2019);
3. the average tariff for the extraction of electricity from the networks ( $T_L$ ) – 17.03 RON/MWh, unique value at level of the national power system (NPS), increased by 3.09 % in nominal terms compared to the value approved for the transition period (respectively the period between 1 July – 31 December 2019).

The evolution of the average transmission tariff in the third regulatory period (01.07.2014-30.06.2019), in the transition period and the tariff year 2020 is presented in the following chart:





In the following chart they are compared the curves of tendency of polynomial type of the average transmission tariff and the amount of electricity extracted from the networks in the period 2014-2020.



Note: the chart does not include the transition period because it does not belong to an adjustment period

The evolution of the transmission tariffs in the third regulatory period has been influenced by the increase in the amount of power extracted from the networks, as well as by the imposition by the ANRE of an increased requirement with regard to the foundation and classification of the categories of costs corresponding to the transmission service and of some stricter conditions for the recognition of these costs.

For the costs with the OTC, representing approx. 20% of the total costs corresponding to the electricity transmission service, it has been applied an optimization mechanism through the

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establishment of some OTC targets reduced progressively every year throughout the regulatory period. The ANRE recognizes in the regulated tariffs the costs registered by the TSO for the acquisition of electricity necessary to cover the OTC in RET, only to the extent in which the amount of electricity is within the limits previous established as efficiency target, and the price of acquisition does not exceed the price of reference calculated as weighted mean of the transaction prices on the power market. Therefore, the ANRE has capped both the amount and the price of acquisition of the electricity necessary to cover the OTC, by means of a formula which takes into account the evolution of the transaction price in competitive regime on the power market. The OTC acquisition structure does not accept quantitative imbalances higher than 10%, and the cost of the imbalances has been limited starting from the date of 1 July 2017 to maximum 5% of the price of reference calculated as the weighted mean of the transaction prices on the power market.

On the date of 1 January 2020, it started the fourth regulatory period, and the period 1 July 2019-31 December 2019 has been considered, according to the methodological provisions, a period of transition. As regards the average tariff of transmission applied in 2020, we mention that for its determination there have been calculated and applied both annual adjustment of closure, as well as adjustments corresponding to the closure of the third regulatory period. The level of negative adjustments applied in the establishment of the tariffs for year 2020 is due mainly to the adjustments made at the end of the period, respectively the adjustments corresponding to the controllable costs determined by the absence of expenses resulting from the non-performance of the maintenance schedule or of other works foreseen at the beginning of the regulatory period, and adjustments corresponding to the absence of investments.

It is noticed a moderate increase (approx. 4%) in the transmission tariffs approved for year 2020 compared to the tariffs previously approved, determined mainly by their application under the methodology of the inflation foreseen for year 2020 by the National Forecast Commission of 3% on the approved costs.

### **Tariffs for the system service and prices regulated for the supply of system technological services by the producers**

#### **System service tariffs**

System service tariffs are determined on the basis of the *Methodology establishing the system service tariffs*, approved by the ANRE Order no. 2017/45, as further amended and completed.

The system service tariff has two components: the tariff for system functional services and the tariff for system technological services, covering the acquisition costs of the power reserves from the producers.

In the application of the said methodological provisions, the system service tariffs are reviewed starting from the date of 1 July of each year. Therefore, in the period April – June 2019, the ANRE has analysed the proposal for foundation transmitted by the TSO, it has established and approved by ANRE Order no. 2019/81 the tariffs to be applied in the period 1 July 2019 – 30 June 2020, as follows.

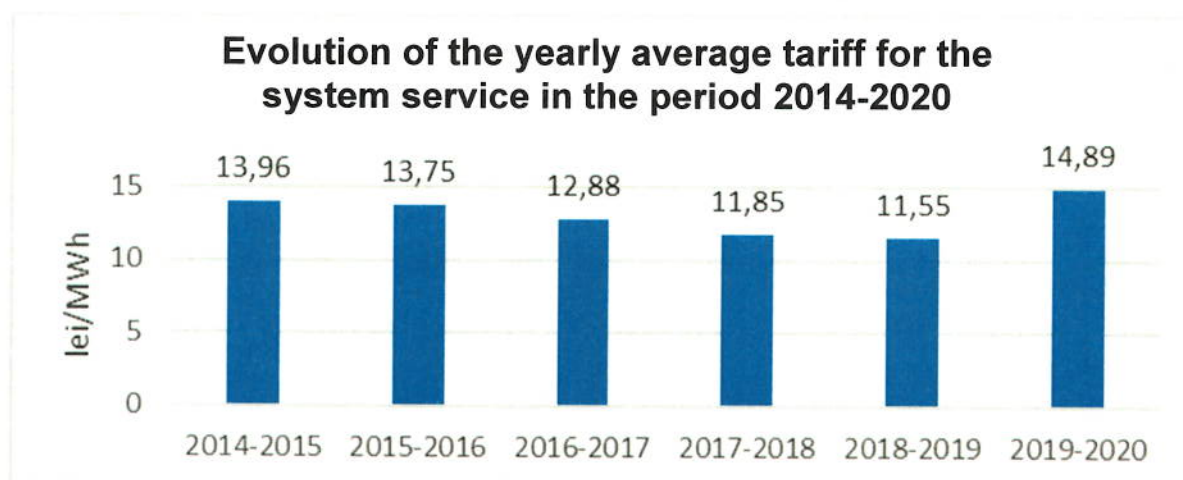
- System service tariff – 14.89 RON/MWh, having the two components:

- the tariff for the system technological services covering the acquisition costs of the power reserves from producers – 13.05 RON/MWh and
- the tariff for the system functional service – 1.84 RON/MWh covering the own costs of the TSO for this service.

Compared to the tariff previously approved, the system service tariff for the period 2019-2020 registers an increase by 28.92%, an increase determined mainly by the augmentation of the acquisition costs in a competitive regime of the system technological services, representing approximately 88%.

As regards the tariff of the system functional service, we mention that it has been registered an increase owed mainly to the occurrence of some additional costs compared to those of the previous periods (the costs with operational security services from the Core European region), respectively of some increased costs (for instance, the costs with the contribution in cash to the ANRE).

In the following chart it is presented the evolution of the tariff for the system service in the period 2014-2020, expressed in nominal terms of each year, reflecting the changes in the components of the said system service tariffs. For the tariff period 2017-2018 the STS tariff was expressed as the mean of the STS tariffs approved in this period, weighted with the amounts of electricity extracted from the networks.



### Prices for the supply of system technological services

In compliance with the provisions of the *Methodology establishing the system service tariff*, approved by ANRE Order no. 2017/45, as further amended and completed, system technological services are purchased in competitive regime, except for those supplied in accordance with the provisions established by specific legal acts, as well as by the producers selected by the TSO, in order to avoid the transformation of the dominant position on the competitive market of electricity, abusing of the dominant position on the said segment (the company for the generation of electricity in hydroplants "Hidroelectrica" S.A.)

*Government Emergency Ordinance no. 2018/26 on the adoption of some safety measures for the supply of electricity* established that in order to maintain the safety level of the National Power System, the company Complexul Energetic Hunedoara S.A. has the obligation to supply system technological services to the Transmission and System Operator for a power value of at least 400MW.

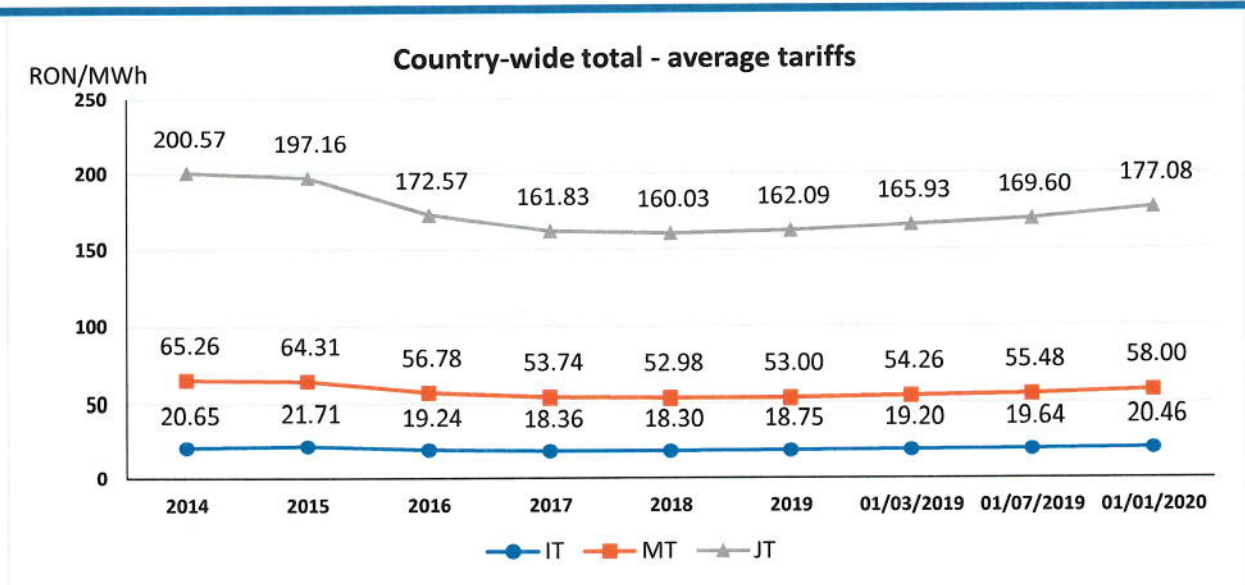
*GD 2019/593 for the approval of the measures regarding the safety and security level of the operation of the National Power System, as well as the measures related to the completion of the safety stocks of the National Power System as regards fuels and the water volume from storage lakes for the period 1 November 2019-31 March 2020, established that the transmission and system operator must purchase system technological services in a regulated regime from S.C. Electrocentrale Galați S.A. for a power value of 77MW.*

Thus, by enforcing the above-mentioned legal provisions, in 2019 the ANRE approved the acquisition of the system technological services supplied in a regulated regime, with the indication of the volumes and regulated prices, as follows:

- by ANRE Decision no. 1203/24.06.2019 for the amendment of the ANRE Decision no. 1440/29.08.2018 on the regulated price and amounts for the acquisition of system technological services supplied by the company for the generation of electricity in hydroplants "Hidroelectrica" S.A. – for the period 1 July – 31 August 2019;
- by ANRE Decision no 1551/28.08.2019 regarding the regulated price and amounts for the acquisition of system technological services supplied by the company for the generation of electricity in hydroplants "Hidroelectrica" S.A. – for the period 1 September 2019 – 30 June 2020;
- by ANRE Decision no. 1851/30.10.2019 regarding the acquisition of the system technological service – slow tertiary reserve supplied by the company Electrocentrale Galați S.A. with groups from CET Galați functioning with alternative fuel, respectively heating oil, for the company Electrocentrale Galați S.A. for the period 1 November 2019 – 31 March 2020;
- by ANRE Decision no. 2212/23.12.2019 for the approval of the regulated price of acquisition of the technological service – slow tertiary reserve supplied by company Complexul Energetic Hunedoara S.A. – for the company Complexul Energetic Hunedoara for the period 1 January – 30 June 2020

### **Tariffs for the electricity distribution service supplied by concessionaire distribution operators**

In the following chart it is presented the evolution of the average tariffs of electricity distribution applied in the period 2014-2020 to end customers, depending on the levels of voltage at which their demand facilities are connected to the electricity distribution networks, expressed in nominal terms:



The evolution of the electricity distribution tariffs in the third regulatory period (2014-2019) is explained both by the increase in the amounts of distributed electricity, as well as by the reduction of the regulated revenues following the imposition by the Methodology of some stricter conditions for the recognition of the costs (the enhancement of the verifications, the request for additional supporting documents and data, etc.). The third regulatory period has been characterized by a lower level of the costs recognized in the tariffs, both of those with the capital through the adjustment of the regulated rate of the capital return, as well as of those with the operation-maintenance, reflecting the improvement of the service accumulated in the previous regulatory periods. Also, for the costs with technological losses of network, the ANRE included in the methodology the mechanism for the stimulation of their improvement, having effects both on the amount and on the price of acquisition.

The evolution of the distribution tariffs valid from the date of 1 January 2020 compared to those from the date of 1 January 2019 is due to the legislative changes that led to the successive increase in the distribution tariffs applied by concessionaire distribution operators from 1 March 2019 and from 1 July 2019.

Thus, Government Emergency Ordinance no. 2007/33 regarding the organization and functioning of the ANRE, approved with amendments and completions by Law 2012/160, as further amended and completed, has been completed by art. 78 of Government Emergency Ordinance no. 114/2018 *regarding the imposition of some measures in the field of public investments and of some tax and budgetary measures, the amendment and the completion of some legal acts and the postponement of some terms*. According to these provisions, the contribution in cash collected from the holders of licenses in the field of electricity, the field of thermal and electric power in cogeneration for the component of electricity, the field of natural gas has been increased to 2% of the turnover achieved by them from the activities that are subject to the licenses granted by the ANRE.

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Being given the increase in the forecast value in the category of *Costs resulted from the payments of taxes, royalties, fees and related instalments, established according to the legislation in force or by the local authorities*, caused by the modification of the percentage applied to the turnover achieved in 2018 from 0.1% to 2%, the ANRE approved **the ANRE Orders no. 19-26 from 2019 by which there have been established the tariffs of the concessionaire distribution operators valid from the date of 1 March 2019.**

According to the provisions of art. IV point 3 of the *Emergency Ordinance no. 19/2019 for the amendment and completion of some legal acts*, the *Law* has been amended by adding a new paragraph (8) in art. 79. According to these amendments of the *Law*, the rate of return of the invested capital, representing the average cost of the invested capital, expressed in real terms, before taxation, has been set at the value of 6.9% for the calculation of the electricity distribution and transmission tariffs, in the regulatory period 2019-2024.

Being given the said legislative amendments, the ANRE approved **the ANRE Orders no. 73-80 from 2019 by which they have been established the tariffs of the concessionaire distribution operators valid from the date of 01 July 2019.**

In Q4 of year 2019 the ANRE analysed the grounded requests of the operators and approved, **by ANRE Orders no. 222 -220 from 2019 the specific tariffs for the electricity distribution service, applicable by the concessionaire distribution operators from 1 January 2020.**

Thus, the country-wide average specific tariffs, by levels of voltage, calculated as weighted mean of the specific tariffs approved for concessionaire electricity distribution operators applicable from 01 January 2020 with the distributed amounts of electricity are the following:

- the average specific tariff for high voltage – 20.46 RON/MWh, the average specific tariff for medium voltage – 37.54 RON/MWh, the average specific tariff for low voltage – 119.08 RON/MWh.

**Compared to the values of the specific average tariffs applicable from 1 January 2019, the average tariffs have recorded a variation of 9.11% at high voltage, 9.61% at medium voltage and 9.15% at low voltage.**

As it results from the above chart, the level of the distribution tariffs approved for year 2020 is comparable to the level of the tariffs applied in year 2016.

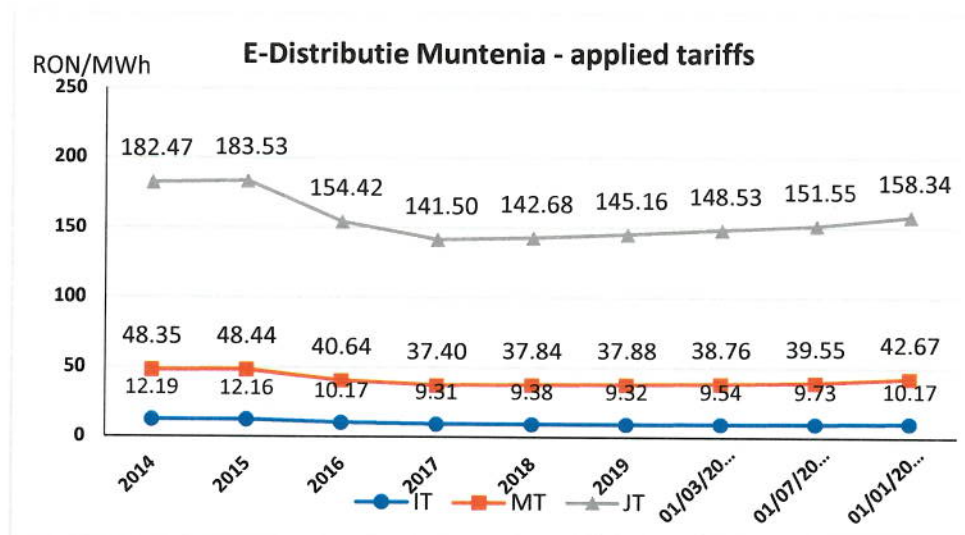
In 2019 it has been carried out a redesign of the tariffs for the ongoing regulatory period, as a result of the resumption of the linearization procedure of the revenues, after the update of the initial target income as a consequence of the closure of year 2018. The difference of revenues for the first year of the regulatory period represents a phased correction in the ongoing regulatory period, by taking it into consideration in the establishment of the linearized revenues. Thus, in order to determine the distribution tariffs approved by ANRE Orders no. 222 to 229 from 2019, they have been calculated and applied the annual adjustments at the end of 2018, as well as those corresponding to the closure of the third regulatory period (2014-2018). This shows that for the

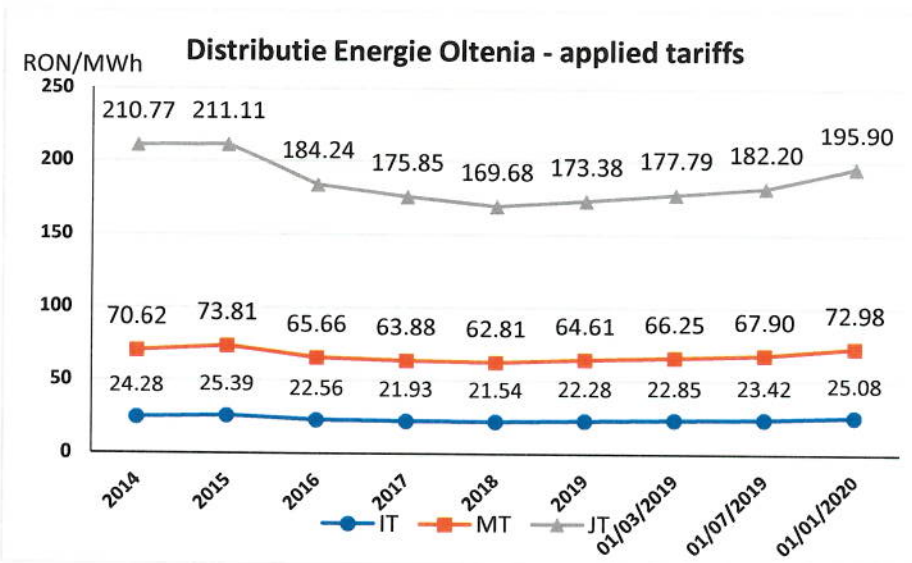
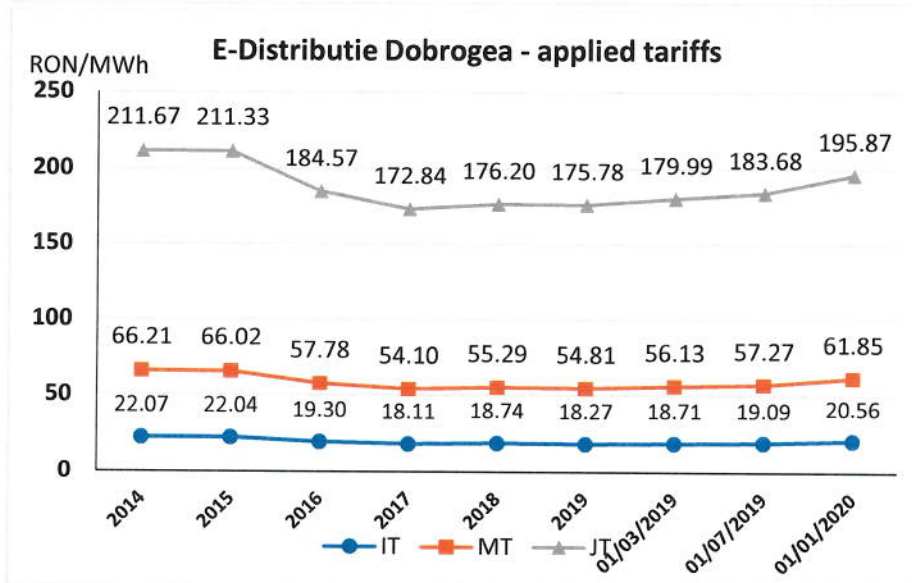
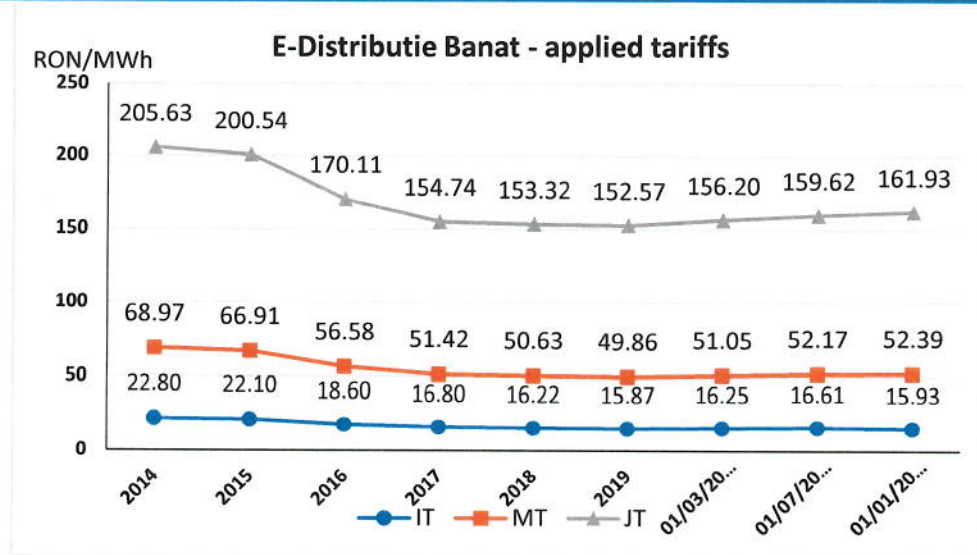
third regulatory period they have been applied significant adjustments of value, corresponding to the controllable costs and the fact that the investments have not been made.

The detailed analysis of the costs based on which they have been established the tariffs for the distribution service has been presented in the documents for the approval of the ANRE Order no. 222 to 229 from 2019.

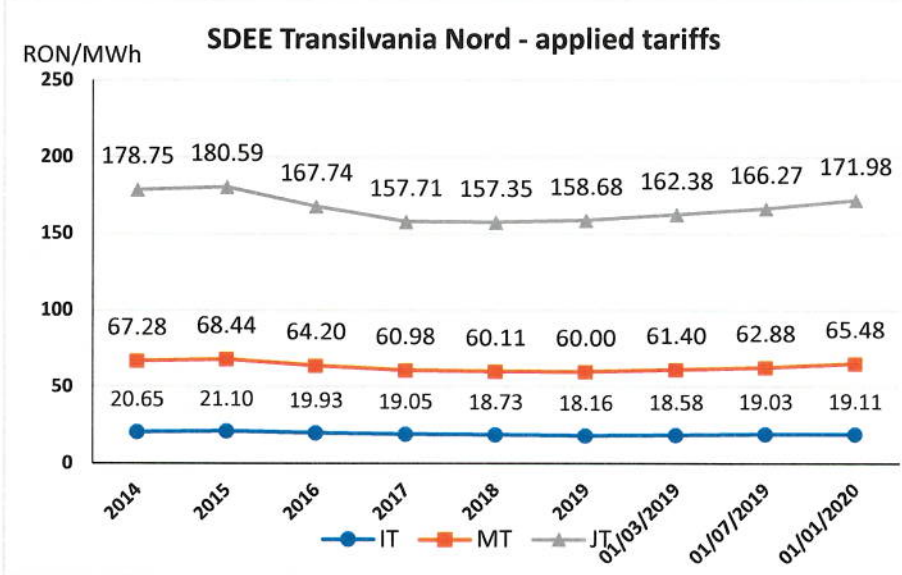
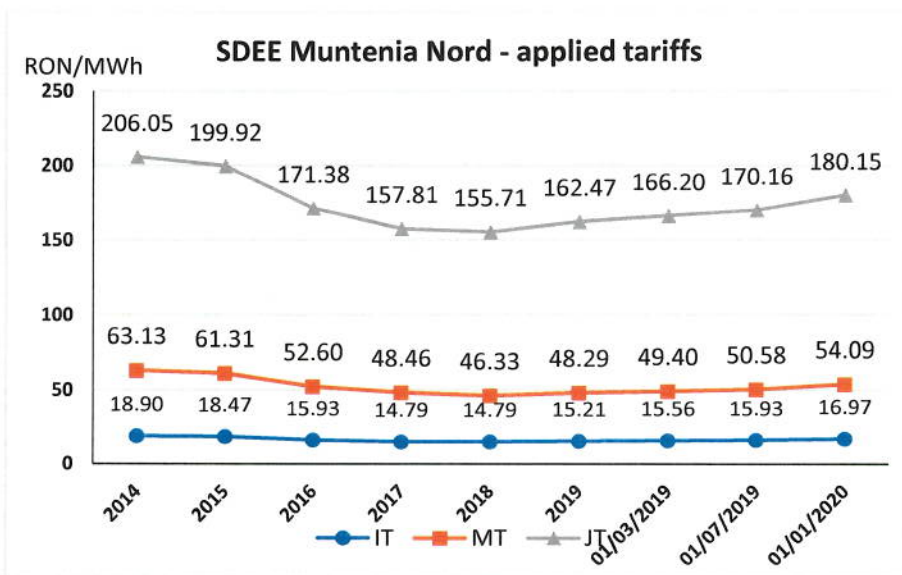
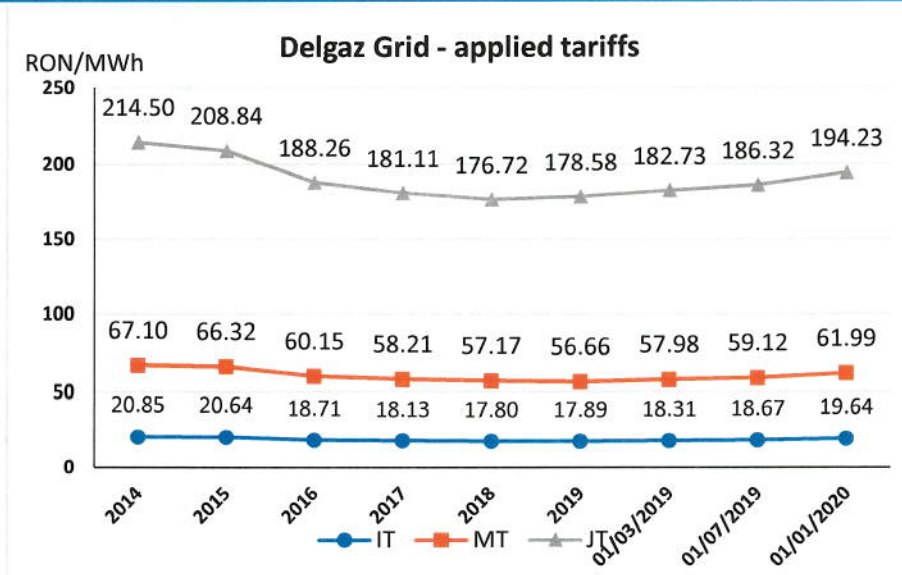
We mention that in the application of the provisions of art. 48 para. (2) letter (c) of the *Law*, according to which the concessionaire distribution operators, as well as the transmission and system operator have the obligation to publish the costs regarding the operation, maintenance and development of electricity networks on own sites, the ANRE has approved by Decision no. 2015/618 the templates with the framework format for their publishing.

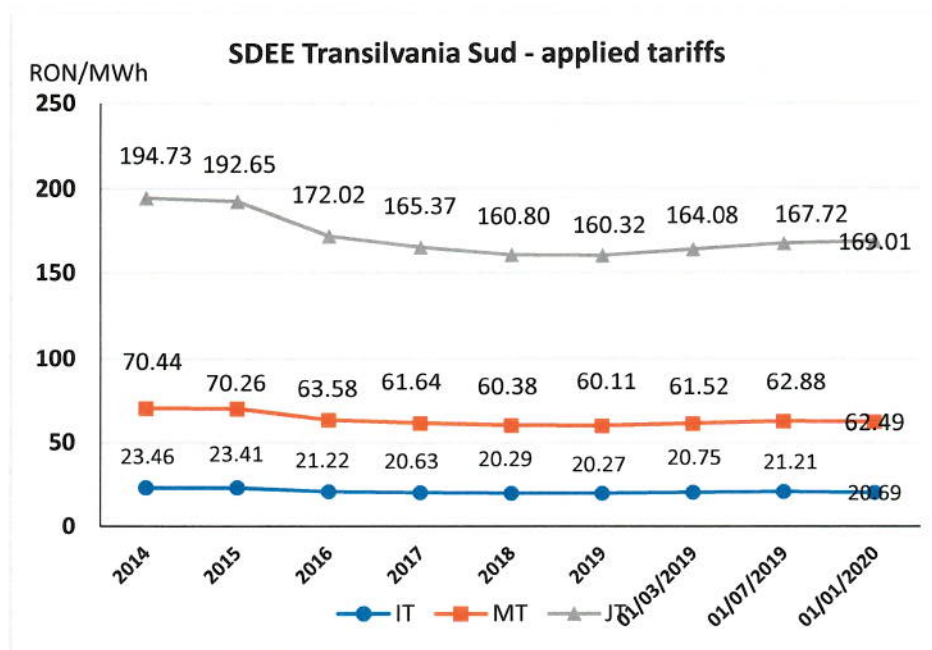
In the following charts it is presented the evolution of the distribution tariffs applied by each concessionaire distribution operator in the period 2014-2020, in which the values are expressed in nominal terms, and they are obtained through the addition of the specific tariffs approved by the ANRE, that the end customers pay in accordance with the level of voltage to which their plants are connected.



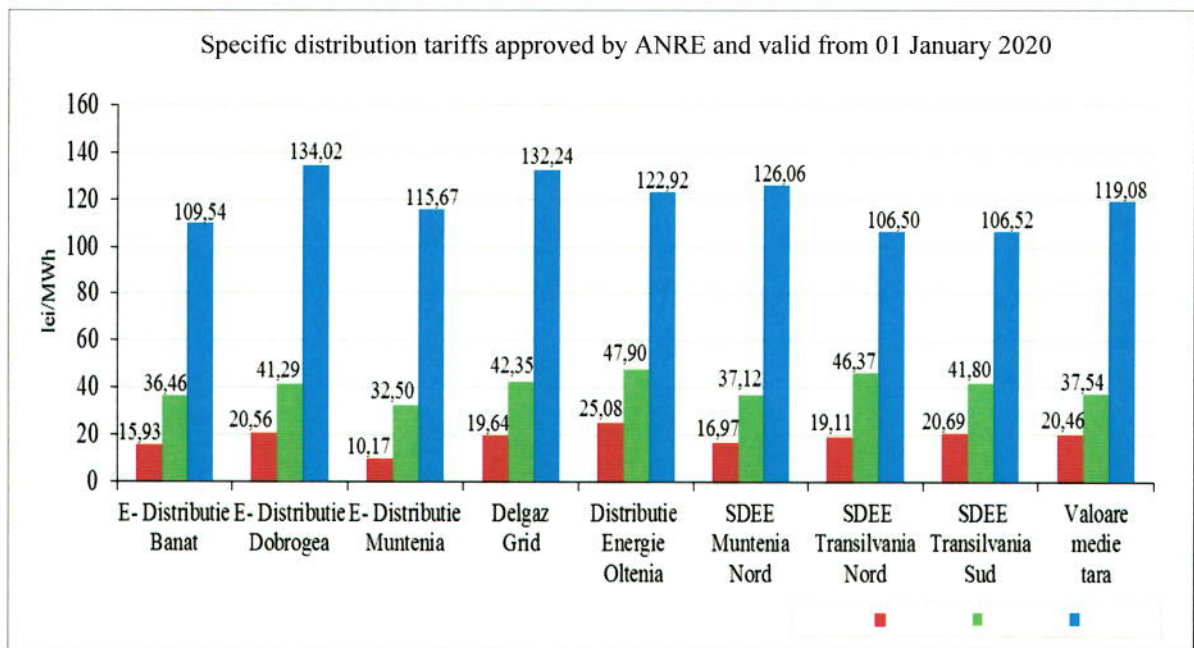








The comparison of the specific tariffs of distribution approved by the ANRE and applicable from 01.01.2020, for the eight concessionaire electricity distribution operators, is presented in the following chart, in which the values are expressed in the nominal terms of year 2020.



**Tariffs for the distribution service provided by distribution operators, other than concessionaire operators**

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Tariffs for the distribution service provided by distribution operators, other than concessionaire operators, are approved by ANRE at the request of distribution operators who own, operate, maintain and develop distribution networks within industrial platforms and parks or within some patrimonial areas, connecting users – recipients of distribution service.

Tariffs are determined based on the *Methodology establishing the tariff for the electricity distribution service by operators, other than the concessionaire distribution operators, approved by ANRE Order no. 2016/102*. In 2019 there have been issued 3 decisions regarding the approval of the tariff for the electricity distribution service provided by distribution operators, other than the concessionaire operators.

### **Regulated prices for reactive electricity**

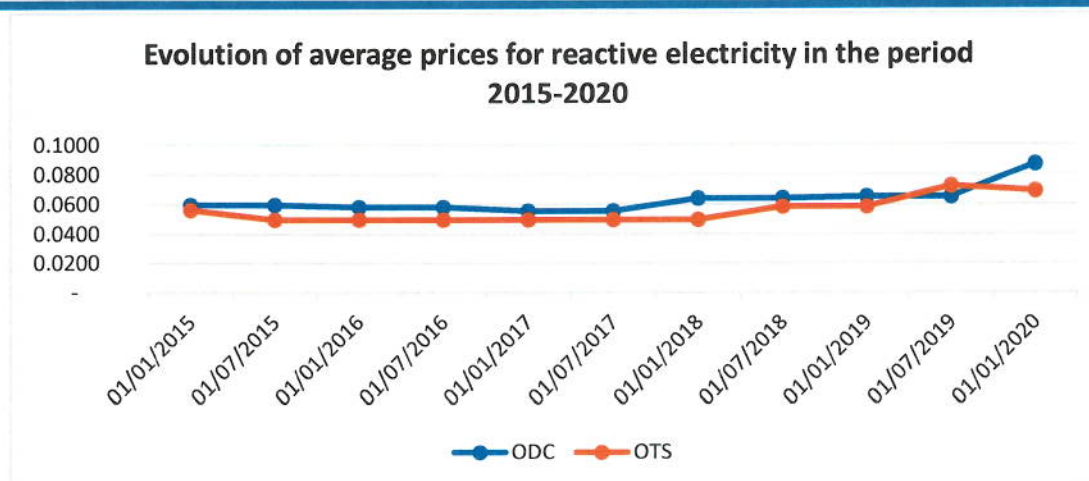
By ANRE Order no. 33/2014, as further amended and completed, it has been approved the *Methodology establishing the obligations to pay the reactive electricity and the regulated price for reactive electricity*, which has come into force on the date of 1 January 2015.

In compliance with the provisions of the *Methodology*, the regulated price of the reactive electricity is established, by convention at the level of 30% of the regulated price of acquisition of the active electricity for the coverage of own technological losses of the electricity networks owned by the transmission and system operator, respectively by the concessionaire distribution operators.

The regulated prices for reactive electricity applied in 2019 by the transmission and system operator are those approved by ANRE Order no. 81/2019 for the period 1 July – 31 December 2019, respectively 0.726RON/kVARh and by ANRE Order no. 218/2019 for year 2020, respectively 0.0692 RON/kVARrh.

The regulated prices for reactive electricity applied by the electricity distribution operators in 2020 are those approved by ANRE Orders 222 to 229 from 2019.

In the following chart it is presented the evolution of the average prices for reactive electricity approved for concessionaire distribution operators (CDO) and for the transmission and system operator (TSO) in the period 2015-2020.



### **Monitoring the balance forecast between the resources and the consumption of electricity for the following 5 years and the estimation of the evolution of electricity supply safety for a period comprised between 5 and 15 years**

The ANRE monitors the balance forecast between the resources and the consumption of electricity for the following 5 years and the estimation of the evolution of the electricity supply safety for a period comprised between 5 and 15 years, implicitly the planning of the commissioning of new capacities of production based on the information and analyses presented by the TSO within the RET development plan. The RET development plan is updated every two years, so that on the elaboration date of the current Activity Report it is in force the **RET development plan for the period 2018-2027**, which has been approved by ANRE Decision no. 1604 from 5 October 2018 and supplemented with the Completion Note approved by ANRE decision no. 2070 from 03.12.2019, document published on the internet page of CNTEE Transelectrica SA at the address: <http://www.transelectrica.ro/documents/10179/9406678/completare+Plan+Dezvoltare+2018-2027+Septembrie+clean+final+CTES+CCh+DB+clean.pdf/b4084b29-9a71-41c8-92ea-c70da0d5db2e>.

Being given that at the present time CN Transelectrica SA, in the capacity of TSO elaborates the **RET development plan for the period 2020-2019**, which follows to be subject to the public debate and then to be sent for approval to ANRE, these monitoring data are not updated compared to those presented in the previous annual report of ANRE. They are presented hereinafter, summarized, the main aspects related to the balance forecast between the resources and the consumption of electricity for the following 5 years and the estimation of the evolution of the electricity supply safety for a period comprised between 5 and 15 years.

### **NSP balance forecast between the production and the consumption for a period of 10 years**

Within the **RET development plan for the period 2018-2027**, the TSO has analysed the adequacy of the NSP in the light of the time horizons 2018-2022-2027.

The production park of a system is considered adequate if it can cover the demand for electricity in all of the stationary regimes in which the national power system (NPS) is able to operate under normal conditions.

For the assessment in perspective, it has been verified the capacity of production for the time of the year when it is reached in the NPS the maximum value of consumption, namely the winter evening peak, using the methodology applied at European level within ENTSO-E.

The adequacy of the NPS has been assessed taking into consideration two scenarios: a reference scenario and a favourable scenario of variation of the consumption in conjunction with a "green" scenario regarding the evolution of the capacities of production, characterized by the increase in the power installed in the renewable sources of power.

The estimation of the adequacy of the production park for the time horizons 2018-2022-2027, in the reference scenario of variation of consumption (in which it was considered a cumulative increase in the consumption of electricity by 2.7% on medium term, namely until 2022, and by other approx. 5.2% on the long term, namely until 2027), leads to the conclusion that the surplus of net power available in the system is approx. 11% of the net capacity of production in 2018, value that continues to be quasi-consistent due to the graduation reduction of the capacity of production from the units that function on the basis of fossil fuel, on one hand, and due to the increase in the consumption, on the other hand, according to the data from the following table:

### Adequacy of the production park in the NSP - Reference scenario

		MW		
Putere netă în SEN		2018	2022	2027
1	centrale nucleare	1300	1300	2630
2	centrale termoelectrice conventionale	6559	7148	6529
	• pe lignit	2676	3193	2860
	• pe huila	428	428	428
	• pe gaze naturale / hidrocarburi	3456	3528	3241
3	resurse energetice regenerabile	4500	5100	5500
	• eoliene	3000	3400	3600
	• fotovoltaice	1350	1500	1600
	• biomasa	150	200	300
4	centrale hidroelectrice	6436	6505	6532
	• CHEAP			
<b>5</b>	<b>Capacitatea netă de producere [5=1+2+3+4]</b>	<b>18796</b>	<b>20053</b>	<b>21190</b>
6	Putere indisponibilă totală	7946	8628	8924
	• Putere indisponibilă (Reduceri temporare+conservari)	4512	4940	5175
	• Putere în reparatie planificată	1110	1184	1115
	• Putere în reparatie accidentală (după avarie)	1217	1277	1347
	• Rezerva de putere pentru servicii de sistem	1107	1227	1287
<b>7</b>	<b>Puterea disponibilă netă asigurată [7=5-6]</b>	<b>10850</b>	<b>11425</b>	<b>12266</b>
8	Consum intern net la varful de sarcina	8855	9185	9690
<b>9</b>	<b>Capacitate rămasă ( fără considerarea schimburilor cu alte sisteme)</b>	<b>1995</b>	<b>2241</b>	<b>2576</b>
10	Sold Import-Export la varful de sarcina	-800	-1000	-1200

In the favourable consumption variation scenario, characterized by an increase in electricity consumption by 5.08 % annually in the medium run (2022) and 4.67 % in the long run (2027) and a "green" evolution scenario for the production capacities, characterized by increased power installed in renewable energy sources, due to economic and financial conditions conducive to the implementation of energy policies promoted at European Union level, the surplus net power available in the system will be about 11% of the net production capacity. The increase of power unavailable in this scenario is due to the unforeseeable component associated to the increased production from renewable sources, especially from wind and photovoltaic sources. In this case, the prognosis of the adequacy considered the fact that the consequence of the installation of wind and solar plants is the increase of the power unavailable as a consequence of the specificity of the intermittent operation of these plants, characterized by a small number of hours of use of the

maximum power. As the availability of wind and solar power plants is limited during the year and their production is not controllable, as is the case with conventional power plants, in order to ensure suitability it is imperative to have a certain amount of power in peak conventional plants with quick start and/or capacities to store energy, for instance power storage hydro plants, technologies and equipment for electricity storage etc.

**Suitability of the production park from NPS - Favourable Scenario regarding the consumption/ "Green" scenario regarding capacities**

		MW		
	Putere netă in SEN	2018	2022	2027
1	centrale nucleare	1300	1300	2630
2	centrale termoelectrice conventionale	6559	7148	6529
	• pe lignit	2676	3193	2860
	• pe huila	428	428	428
	• pe gaze naturale / hidrocarburi	3456	3528	3241
3	resurse energetice regenerabile	4500	5100	6500
	• eoliene	3000	3400	4000
	• fotovoltaice	1350	1500	2000
	• biomasa	150	200	500
4	centrale hidroelectrice	6436	6505	6532
	• CHEAP			
<b>5</b>	<b>Capacitatea netă de producere [5=1+2+3+4]</b>	<b>18796</b>	<b>20053</b>	<b>22190</b>
6	Putere indisponibilă totală	7946	8666	9738
	• Putere indisponibilă (Reduceri temporare+conservari)	4512	4940	5815
	• Putere in reparatie planificată	1110	1179	1135
	• Putere in reparatie accidentală (după avarie)	1217	1321	1382
	• Rezerva de putere pentru servicii de sistem	1107	1227	1407
<b>7</b>	<b>Puterea disponibilă netă asigurată [7=5-6]</b>	<b>10850</b>	<b>11387</b>	<b>12452</b>
8	Consum intern net la varful de sarcina	8855	9500	9940
<b>9</b>	<b>Capacitate rămasă ( fără considerarea schimburilor cu alte sisteme)</b>	<b>1995</b>	<b>1886</b>	<b>2512</b>
10	Sold Import-Export la varful de sarcina	-800	-1000	-1200

		MW		
	Putere netă în SEN	2018	2022	2027
1	centrale nucleare	1300	1300	2630
2	centrale termoelectrice conventionale	6559	7148	6529
	• pe lignit	2676	3193	2860
	• pe huila	428	428	428
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4	centrale hidroelectrice	6436	6505	6532
	• CHEAP			
<b>5</b>	<b>Capacitatea netă de producere [5=1+2+3+4]</b>	<b>18796</b>	<b>20053</b>	<b>22190</b>
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10	Sold Import-Export la varful de sarcina	-800	-1000	-1200

### Assessment of the evolution of safety in the supply of electricity for a period of 15 years

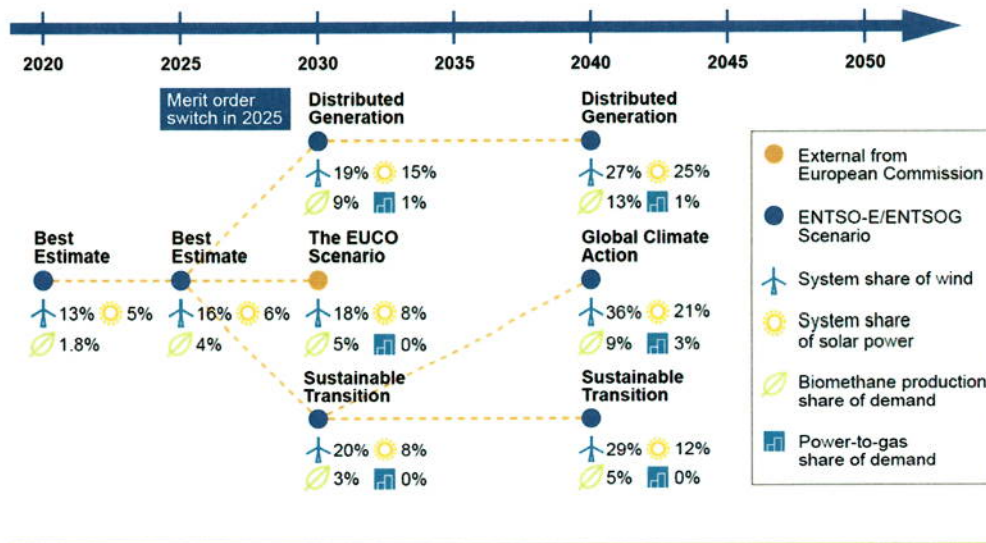
The assessments for the necessary conditions to ensure the safety in electricity supply for 2020-2030-2040 are further presented according to the scenarios elaborated under TYNDP 2018 mentioned above. The plan takes into account the integrated model of the European electricity network and it is based on the national plans for the development of the power transmission network for ten years, taking into account regional investment plans as well as community-wide network planning issues, including projects of common interest ensuring the development of cross-border transmission capacities.

TYNDP scenarios include a **“Best Estimate” (BE)** short-term scenario and three long-term scenarios, reflecting the changes necessary in the production and use of power in order to achieve the decarbonization targets:

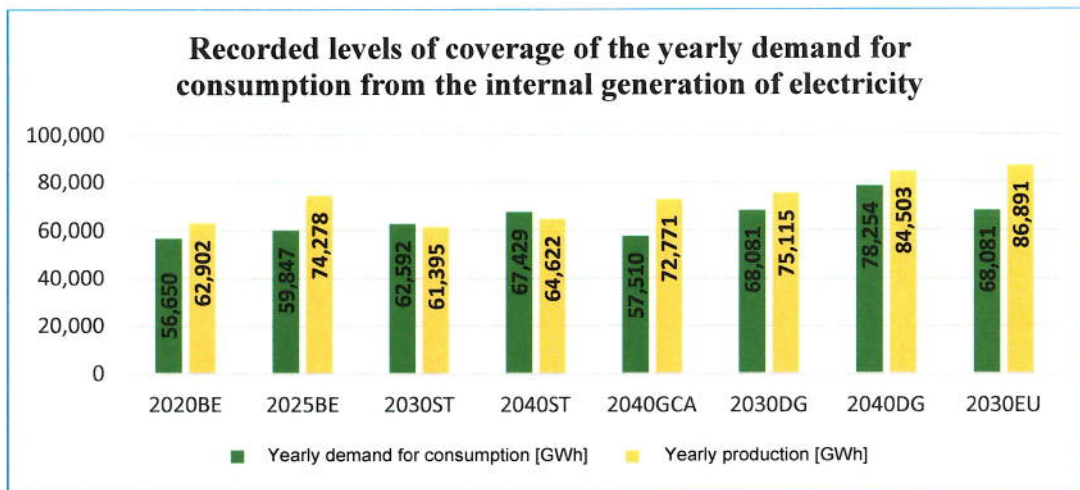
- **“Sustainable Transition” (ST)** - The sustainable transition aims for a quick and sustainable reduction of CO<sub>2</sub> emissions through the replacement of gas coal in the power sector. In this scenario, it is achieved the EU objective for the reduction of CO<sub>2</sub> emission by 80-95% until 2050.
- **“Distributed Generation” (DG)** – The distributed generation allows the participation of prosumers in the market. This scenario represents a decentralized development of power generation, with a focus on technologies to final users. This evolution leads to the achievement of a high level of response to requests related to the power generation and supply.
- **“Global Climate Action” (GCA)** - The global climate action (GCA) represents a global effort for the accelerated decarbonization. The focus is on the use of power from renewable sources on large scale, and even on nuclear power.

The following diagram presents the development of scenarios from the TYNDP 2018.

**Diagram of scenarios comprised in the TYNDP 2018**



It can be noticed that in case of Romania for all of the scenarios, the forecast demand for electricity is covered by the generated power, except for the ST scenario, in which the consumption is higher by approx. 2% than the generation for the time horizon 2030 and by approx. 4% than the time horizon 2040, as it results from the following graphic:



**Monitoring the planning of the commissioning of new capacities of generation**

The analysis of the plan for the commissioning of the new capacities of generation is carried out by the TSO within RET Development Plan in the period 2018-2027, in force. According to the information presented in this plan, 80% of the existing thermo-power groups have exceeded their duration of useful life. There have been carried out reengineering and/ or modernization works for the thermo-electric groups from the NPS, but not all of them are equipped with greenhouse gas emission reduction plants aimed to enable them to comply with the European Union emissions standards for sulphur dioxide, nitrogen oxide and dust from large combustion plants.

In order to comply with the EU standards, the Ministry of Administration and the Interior issued the Order no. 2005/859 implementing the “National schedule for the reduction of Sulphur dioxide, nitrogen oxide and dust from large combustion plants”, according to which all of the



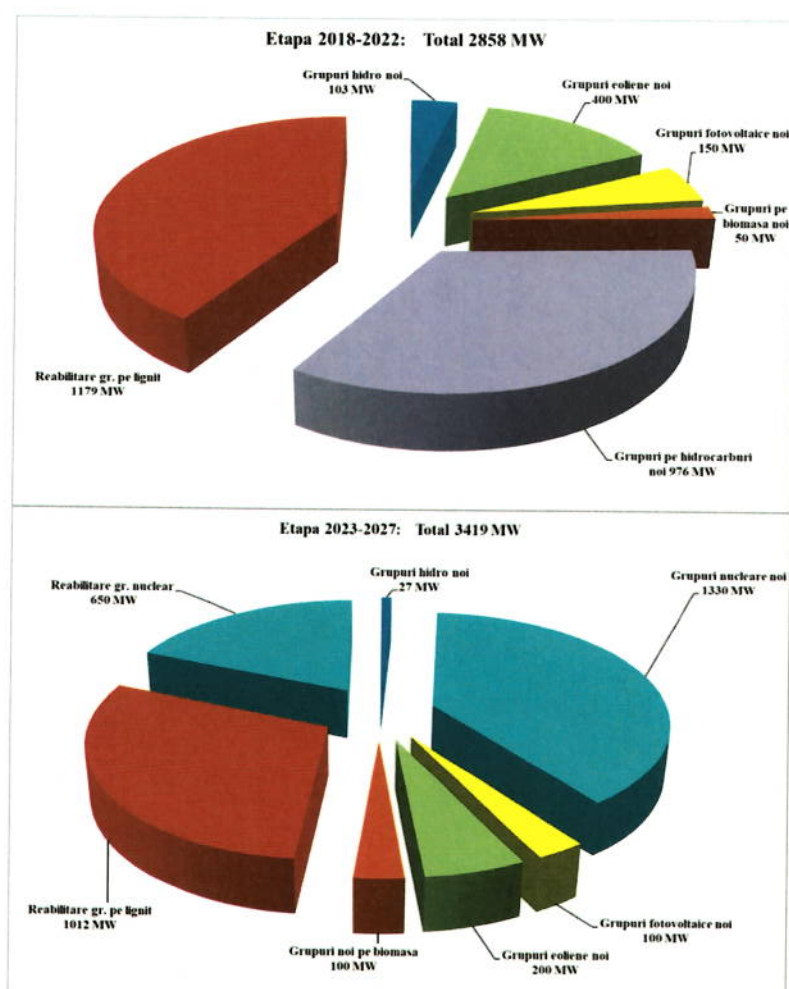
thermoelectric groups must comply with the environment requirements imposed to stay in operation.

Therefore, for the period 2018-2027, the schedule for the final withdrawal from operation at the end of life or due to the non-compliance with the requirements of the European Union on pollution, totals 4996MW available net power, of which 2714MW until 2022 inclusively. In certain cases, the scrapping of the groups is associated with the intention to replace them with new groups that are more performant, more flexible and have a high global efficiency.

In the same period of time they will be recommissioned, after rehabilitation, four groups in Turceni, three groups in Rovinari, one group in Craiova, and a nuclear-electric group at Cernavodă (stopped in reengineering for the prolongation of the lifespan), totalling an available net power of 2841MW.

As regards the intentions to install new groups, they total an available net power of approx. 2306MW, excluding projects based on renewable resources.

The following images highlight the projects for rehabilitation and new groups, for the stages of 2018-2022, respectively 2023-2027, corresponding to the reference scenario regarding the evolution of the generation park.



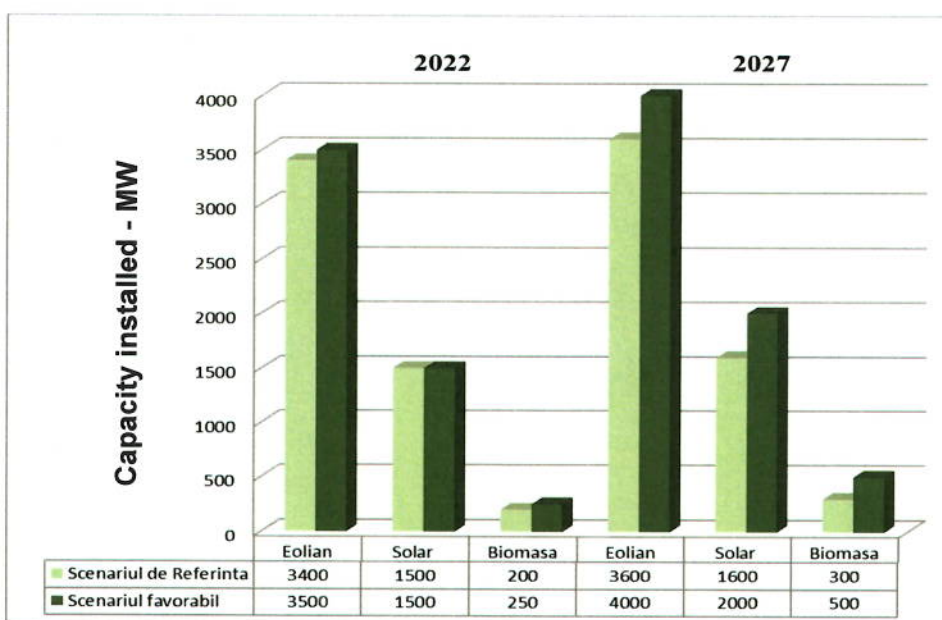
The projects for new groups provided in the RET Development Plan of 2018-2027 which is currently in force, include:

- completion of Nuclear Groups 3 and 4 from CNE Cernavodă, available for the time horizon 2027;
- new groups on natural gas (gas or combined cycle, condensing (the company Romgaz implements an investment project in a natural gas plant with combined cycle at Iernut, with a capacity of 400 MW) or cogeneration turbines (Bucharest));
- the completion of some hydroelectric plants in different stages of execution;
- other new groups from intermittent renewable sources: wind, solar (photovoltaic);
- other new groups from biomass renewable sources. It was taken into consideration as well the completion until 2025 of the building project for hydroelectric plant with pump storage CHEAP Tarnița Lăpușești, with 4 groups of 250 MW each.

The zonal analysis of the completed demand/consumption report from the RET Development Plan for the period 2018-2027 has highlighted the areas in which the shortage in the capacity of generation of electricity by reference to the demand for consumption shows some opportunities for investments in capacities of generation. These areas cover the centre, western and northern part of the country.

ANRE considers that certain hypotheses are too optimistic, for instance the completion of groups 3 and 4 from Cernavodă and CHEAP Tarnița Lăpușești is not plausible, being given that practically there have not been started yet any activities for the completion of these investments.

In addition to the *Reference Scenario*, it has been analysed as a *Favourable Scenario* (“*green scenario*”), characterized by the integration of renewable sources, the increase in energy efficiency, the reduction of CO<sub>2</sub> emissions, the development of Smart Grid-type of solutions and the integration of power storage capacities in the networks, typically for the favourable scenario for the evolution of the consumption. The following image presents a forecast of the evolution of the generation capacity of electricity from renewable sources, by type of source of generation, according to the two scenarios considered:



According to the estimations of the TSO from the RET Development Plan for the period 2018-2027, in 2018 it was scheduled the scrapping of some electricity generation units having a total capacity of 590MW.

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### **Measures taken in 2019 to cover the peak of consumption and the deficits of power**

According to the legal provisions, CNTEE Transelectrica SA as TSO is responsible for ensuring the safe operation of the NPS, a stable frequency and voltage, a continuous supply of users and the coordination of the exchanges of electricity with other electro-power systems

In order to meet this responsibility, TSO determined the possibility of a crisis situation in the operation of the NPS based on short and medium term analysis of NPS adequacy using information on fuel stocks, the state of the National Gas Transmission System, the volume of water reserves in storage lakes, the availability of power generation units, electricity consumption forecast for NPS or an area of the NPS, availability of RET (electricity transmission networks) and RED (electricity distributions networks). As a result of this analysis, if a crisis situation is identified on the energy market, TSO is obliged to propose to ANRE and to the ministry the adoption of safety measures.

Based on these hypotheses they have been established the conditions for ensuring the NPS adequacy and they have been provided the necessary technical and organizational conditions.

These measures have been provided for by *GD no. 773/2018 for the approval of the measures regarding the level of safety and security of operation of the National Power System, and the measures related to the completion of the safety stocks of the NPS as regards fuels and the water volume from reservoirs for the period between 1 November 2018-31 March 2019.*

The provisions of GD no. 773/2018 established that the TSO would acquire regulated technological services from the producers Electrocentrale București S.A. and Electrocentrale Galați S.A. provided by the groups with alternative fuel, heating oil and furnace gas.

Based on GD no. 773/2018, it was approved by ANRE Decision no. 1911/28.11.2018 the purchase of the system technological services – slow tertiary reserve supplied by the company Electrocentrale Galați S.A. with group from CET Galați functioning with alternative fuels, respectively heating oil, for the period between 1 December 2018 – 31 March 2019.

Similarly, for the period between 1 November 2019 – 31 March 2020, *GD no. 593 from 12 August 2019 for the approval of the measures regarding the level of safety and security in the operation of the National Power System, as well as of the measures related to the completion of the safety stocks of the National Power System with regard to fuels and water volume from storage lakes for the period between 1 November 2019 – 31 March 2020*, established that the TSO should acquire, in a regulated regime, system technological services in the monthly amounts provided for by the decision.

Based on the GD no. 2019/593 it has been approved by ANRE Decision 1851/30.10.2019 the acquisition of the system technological service – slow tertiary reserve supplied by the company Electrocentrale Galați S.A. with groups from CET Galați on alternative fuel, respectively on heating oil, for the period between 1 November 2019 – 31 March 2020.

### **Monitoring the technical state and maintenance level of the electricity transmission networks**

#### **Volume and duration of operation of the electricity transmission network**

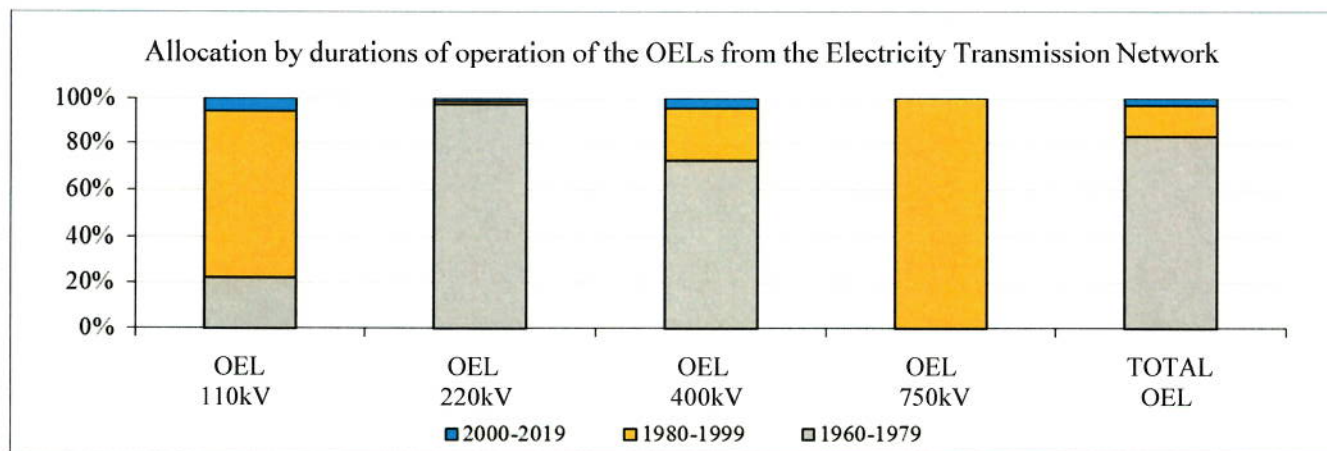
The technical state of the electricity networks is monitored by the ANRE through the yearly monitoring of the duration of operation of the plants, by reference to the volume of investment

and maintenance works performed by network operators, as well as through the performance indicators of the electricity distribution, system and transmission services.

**The electricity transmission network (RET)** comprises: overhead electricity lines (OEL) with rated voltages of 750kV, 400kV, 220kV, 110kV and electricity stations having the upper voltage of 750kV, 400kV and 220kV.

The total length of the electric transmission electric is 8,890.87km, of which the interconnection lines are 489.04km long.

The allocation of the overhead electricity lines by durations of operation is the following:



Of the total OEL, 83% have the year of implementation in the period 1960 – 1979, 14% between the years 1980 and 1999. It is found that a large part of the OEL have a duration of use at the limit of the lifespan, with an exceeded technological level, but it is also recorded a reduced rate of implementation after year 2000, of 3%.

The degree of utilization of the OEL represents the percentage ratio between the duration of operation and the standard duration of normal life (48 years according to the latest edition of the *Catalogue on the Classification and Normal Operating Time of Fixed Assets* established by GD 2139/2004) and it is presented hereinafter:

	Commissioning period	OEL category				
		110kV	220kV	400kV	750kV	TOTAL
Degree of utilization (%)	1960-1979	114,58	100,14	99,60	-	99,89
	1980-1999	65,38	79,17	73,79	68,75	73,85
	2000-2019	12,50	22,35	15,35	-	16,65

Note:

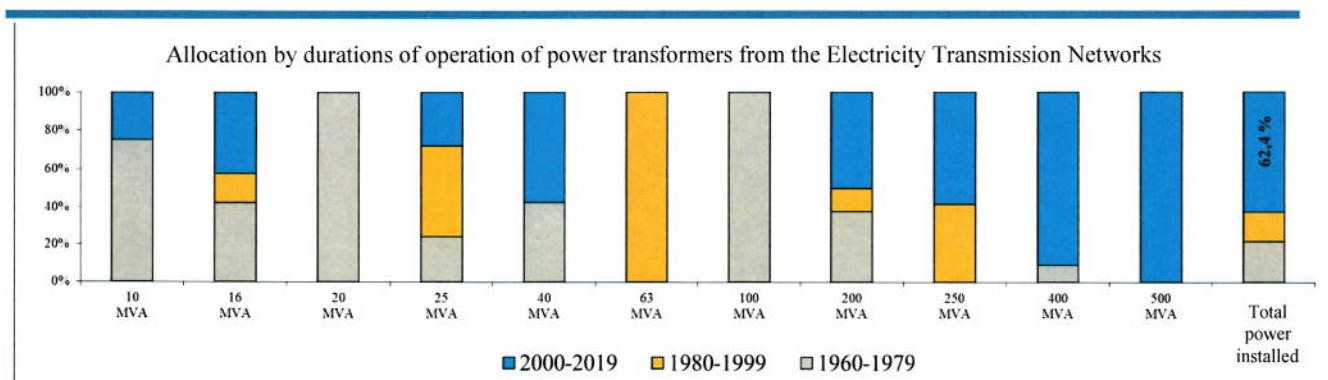
They have been taken into consideration the constructive voltages of the OEL.

In case that the same OEL comprises pillars sizes for different constructive voltages, it has been taken into consideration the lowest voltage.

The average degree of utilization by category of OEL has been calculated as a weighted mean with the length of the degrees of utilization of the OEL.

It is noted a very high average degree of utilization (99.89%) for the OEL commissioned until 1979, given that they represent 83.08% of the total overhead electricity lines from the administration of the TSO.

The allocation of transformers and autotransformers by durations of operation is the following:



It is found that *the transformers/ autotransformers from the electricity stations belonging to the TSO* that have been commissioned after 2000 have 62.4% of the total power installed (22,279MVA of the total installed of 35,583MVA).

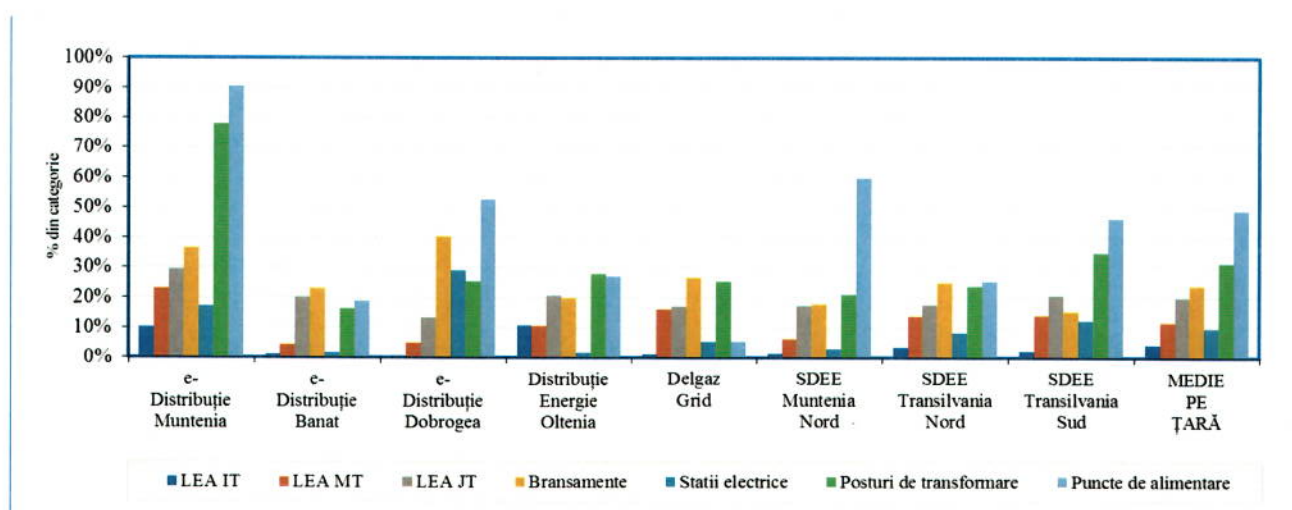
### Volume and duration of operation of electricity distribution networks

It is found country-wide, the following allocation by durations of operations of the plants:

Commissioning	OEL+UEL HV [route km]	OEL+UEL MV [route km]	OEL+UEL LV [route km]	LV connections [route km]	Electric stations [pcs]	Transformation substations [pcs]	Points of supply [pcs]
before 1960	1,627 (7.3 %)	9,991 (8.3 %)	7,950 (4.3 %)	7,948 (4.7 %)	38 (3.2 %)	2,017 (2.8 %)	25 (2.3 %)
1960-1979	14,618 (65.8 %)	73,176 (60.5 %)	88,534 (48 %)	70,221 (41.7 %)	720 (61.4 %)	29,384 (40.2 %)	343 (32.1 %)
1980-1999	5,049 (22.7 %)	23,469 (19.4 %)	51,587 (28 %)	50,038 (29.7 %)	302 (25.8 %)	18,997 (26 %)	176 (16.5 %)
2000-2019	923 (4.2 %)	14,358 (11.9 %)	36,405 (19.7 %)	40,338 (23.9 %)	112 (9.6%)	22,743 (31.1 %)	523 (49 %)
<b>TOTAL</b>	<b>22,216</b>	<b>120,994</b>	<b>184,476</b>	<b>168,545</b>	<b>1,172</b>	<b>73,141</b>	<b>1,067</b>

It is found that most of the plants corresponding to the electricity distribution networks which are currently in operation, have a long duration of useful life, predominantly over 35 years.

The weight of power capacities commissioned in the period 2000-2019 of the total, by categories of plants and operators, is the following:



Given that the significant amount of power capacities with a long duration of useful life, in correlation with the record of accidental events, it is necessary to enhance and streamline the

maintenance activities to maintain the electricity plants within the rated parameters of operation, to monitor and assess adequately the state of the networks, as well as to apply some consistent schedules for the reengineering and modernization of these plants.

### Achievement of yearly maintenance schedules

The degree of achievement of the maintenance schedule in the RET of the TSO in the period 2017-2019, broken down by types of works is presented in the following table:

			2017		2018		2019	
Scheduled value [RON]			106,979,224		88,545,234		99,872,785	
Achieved value [RON]			79,496,413		86,825,665		97,286,813	
Achievement degree [%]	Major	Capital Repairs (KR)	61	64	99	98.7	96.7	98.3
		Current repairs (CR)	65		98		99.8	
	Minor	Accidental Interventions (AI)	82	80	99.6	97.8	96.8	96.7
		Technical Inspections (TI)	99		99.8		99.9	
		Special Works (SW)	75		94.5		98.0	
		Materials	29		96		95.5	
		Derived Current Repairs (DCR)	89		98.7		87.2	
		Technical Revisions (TR)	97		99.9		99.1	
<b>Total</b>			<b>74</b>		<b>98</b>		<b>97.5</b>	

The degree of achievement of the maintenance schedule by categories of works in the electricity distribution networks is presented for each concessionaire operator in the following table:

	MU	E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	SDEE Muntenia Nord	SDEE Transilvania Nord	SDEE Transilvania Sud
Scheduled	Thousands RON	94,504	60,866	52,386	126,264	195,526	75,783	71,888	113,839
Achieved	Thousands RON	81,687	64,031	60,601	132,442	195,526	85,016	82,210	108,736
<b>Degree of achievement</b>		<b>86 %</b>	<b>105 %</b>	<b>116 %</b>	<b>105 %</b>	<b>100 %</b>	<b>112 %</b>	<b>114 %</b>	<b>96 %</b>

In year 2019, with a single exception, it has been met the condition provided for by art. 36, para. (5) of the *Procedure*, with regard to the performance of the maintenance works in value of at least 90% of the total value of the yearly plan (mandatory condition from year 2020).

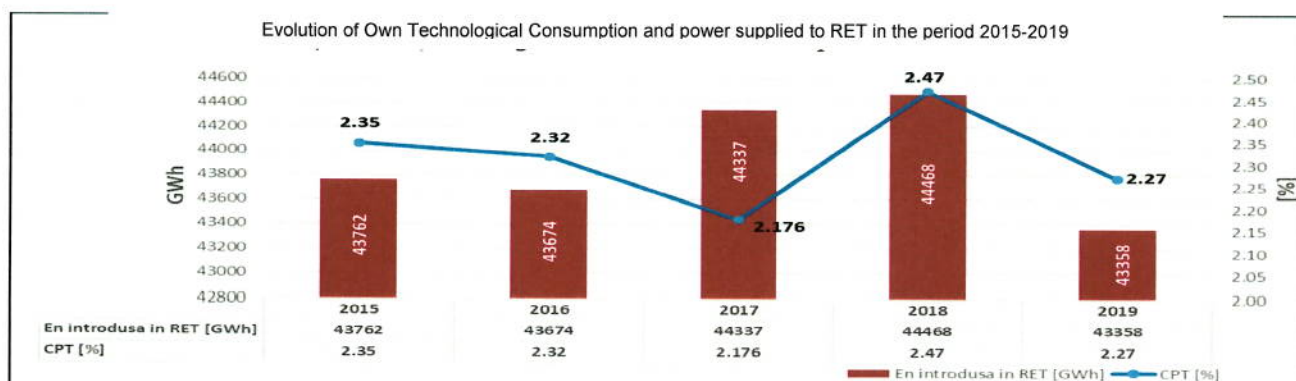
### Monitoring the performance indicators of the electricity distribution, system and transmission service, of the duration of reconnection after the scheduled repairs and after the unscheduled interruptions

The monitoring of the performance indicators is presented in the Report on the achievement of the performance indicators for the electricity distribution, system and transmission services and the technical state of electricity transmission and distribution networks – 2019 - , published on the ANRE published at the address: <https://www.anre.ro/ro/energie-electrica/rapoarte/rapoarte-indicatori-performanta>.

### Overall performance and continuity indicators of the electricity transmission service

*Own technological consumption in RET*, calculated as the difference between the electricity supplied to RET and the electricity extracted from RET, by reference to the electricity supplied to RET.

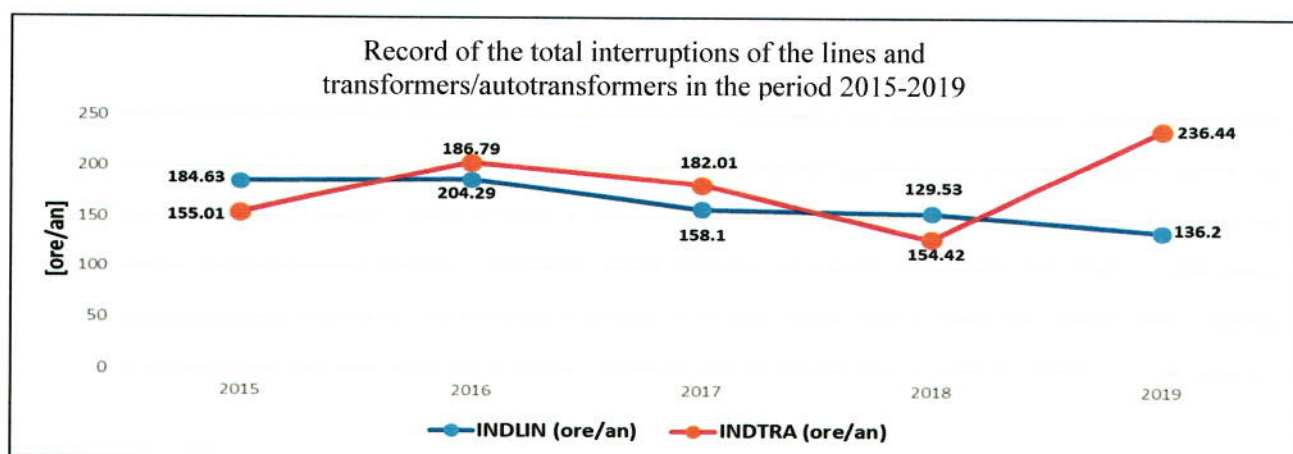
In the following chart it is presented a comparative situation of Own Technological Consumption (OTC) in the period 2015-2019).



In 2019 it is recorded a decrease of the value of own technological consumption in the RET by 10.4% compared to 2018 (from 1100MWh to 986MWh), under the conditions of the reduction of the power supplied to RET by 2.5% (1,110 GWh) compared to the previous year, on the ground of the decrease by approx. 6.1% (187GWh) of the power received from the distribution network, and by 10.4% (3,615GWh) of the power produced by generating groups that debit directly the RET, of the increase by 48.8% of the physical flows of import (2,692 GWh) and under the conditions of a favourable distribution of the physical flows of import/ export on the interconnection lines, that determined the reduction of the remote transmission, as well as more reduced amounts of precipitations.

The average unavailability in time of INDLIN and INDTRA installations determined according to schedule or unscheduled (accidental) events, and compared to the length expressed in km for the OEL from the RET or the apparent power expressed in MVA for the transformers and autotransformers from RET stations.

In the following chart it is presented the evolution of the INDLIN and INDTRA indicators in the period 2015-2019.



In 2019, the indicators provided by the standard with regard to the use of the RET (INDLIN and INDTRA) have had different evolutions. INDLIN decreased, influenced in the first place by the reduced number of incidents from the OEL. According to the statements of the TSO, this can be explained by a good maintenance of the passages of the OEL from RET, as well as by the particularly good weather from the last part of the year, but also by the fact that a part of the

electricity lines withdrawn in 2018 for works of major maintenance or investments have been recommissioned in 2019 following the completions of the works. INDTRA increased, influenced both by the long-term failure of some transformation stations, especially in Q4 of 2019, as well as by the graphics of investments and maintenance works (a part of the transformation stations requiring works of minor maintenance).

*The power not supplied to users/ not generated in the ENS plants and the Average Interruption Time – AIT* represent the indicators of quality with regard to the continuity of the service. In the following table they are summarized the ENS and AIT values from the period 2015-2019.

Indicator		2015	2016	2017	2018	2019
ENS (MWh)	- planned interruptions	0	0	0	0	0
	- unplanned interruptions caused by particular weather conditions	<sup>1)</sup>	38.62	0	0 / 476.66 <sup>2)</sup>	8,983 / 0,249 <sup>2)</sup>
	- unplanned interruptions caused by other operators, users, producers	0	0	11.85/ 2.05 <sup>2)</sup>	0	0
	- unplanned interruptions caused by the TSO	38.36	224.69/ 264.70 <sup>2)</sup>	289.46/ 1105.55 <sup>2)</sup>	118.81 / 3088.83 <sup>2)</sup>	91,784 / 6,532 <sup>2)</sup>
AIT (min/year)	- planned interruptions	0	0	0	0	0
	- unplanned interruptions caused by particular weather conditions	<sup>1)</sup>	0.36	0	0 / 4.52 <sup>2)</sup>	0,0885 / 0,00245 <sup>2)</sup>
	- unplanned interruptions caused by other operators, users, producers	0	0	0.113 / 0.019 <sup>2)</sup>	0	0
	- unplanned interruptions caused by the TSO	0.36	2.11/ 2.49 <sup>2)</sup>	2.762 / 10.55 <sup>2)</sup>	1.127 / 29.302 <sup>2)</sup>	0,9047 / 0,0643 <sup>2)</sup>

Note:

2) The reporting of 2015 relied on the performance standard for electricity system and transmission services, approved by ANRE Order no. 2007/17 that did not include this chapter. For 2015, the value refers to the power not delivered to consumers.

3) The performance standard for the electricity transmission and system service, approved by ANRE Order no. 2016/12 imposes the registration of the values for the power not delivered to users, respectively for the power not delivered from the plants because of long-term interruptions.

In 2019, compared to 2018 it has been recorded an improvement of the performance indicators with regard to the continuity of the electricity transmission service, through the decrease of the number of incidents with power not delivered to consumers or blocked in plants.

### Overall performance indicators of the system service

No *emergency assistance* has been solicited/ provided in 2019.

*The deviation of the NPS balance by ACE frequency correction* is presented in the following table:

Deviation of the NPS balance by ACE frequency correction [MWh/h]			
Year	2017	2018	2019
ACE average value	1.67	1.01	2.74
ACE maximum value	229	300	256
ACE minimum value	-133	-206	-218
Standard deviation	13.38	12.98	13.5

The network restrictions that caused these congestions have been recorded in 2019 on the ground of the accidental withdrawal from operation of the 220kV OEL of Fântânele-Ungheni, the scheduled withdrawal from operation of the 400kV OEL of Iernut-Sibiu Sud and the disconnection of the 400kV OEL of Constanța Nord-Tariverde, solicited by the ISU team for the avoidance of

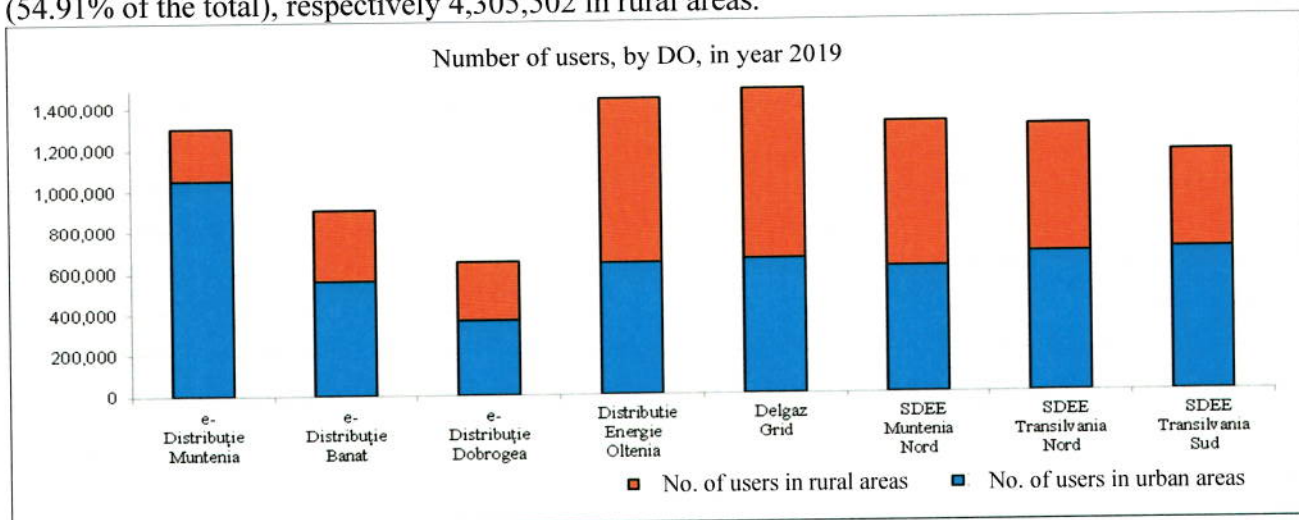


accidents of electric nature.

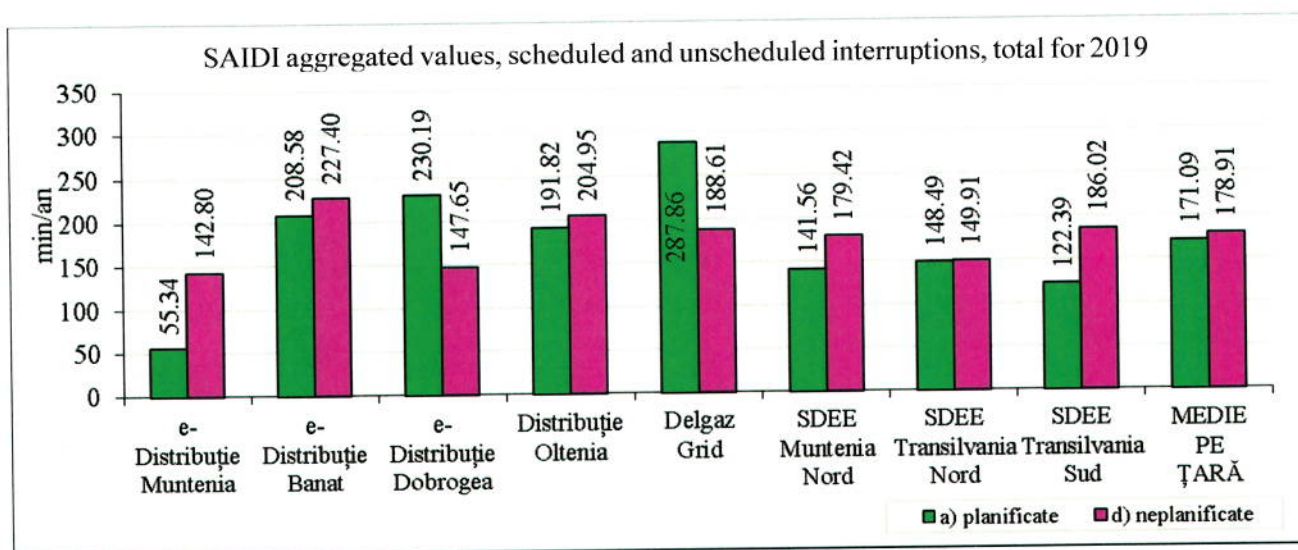
	Congestions caused by network restrictions		
	in the scheme with N elements in operation in the RET and in the 110kV network of RED	as a result of the withdrawal of RET elements from operation	as a result of the withdrawal of RED elements from operation
Amount of energy used for network congestion management [MWh]	0	28,821,784	982,924
Congestion cost [RON]	0	7,473,978	743,700

### Continuity indicators of the electricity distribution service

At the end of 2019 it has been registered a number of 9,548,041 users connected to the electricity networks pertaining to the eight distribution operators (DO), concessionaires of the electricity distribution service, in growth compared to the previous years (9,448,823 in 2018, 9,332,511 in year 2017, 9,260,396 in year 2016, 9,187,239 in year 2015), of which 5,242,521 in urban areas (54.91% of the total), respectively 4,305,502 in rural areas.



The SAIDI User Supply Continuity Index registered the following values for 2019:

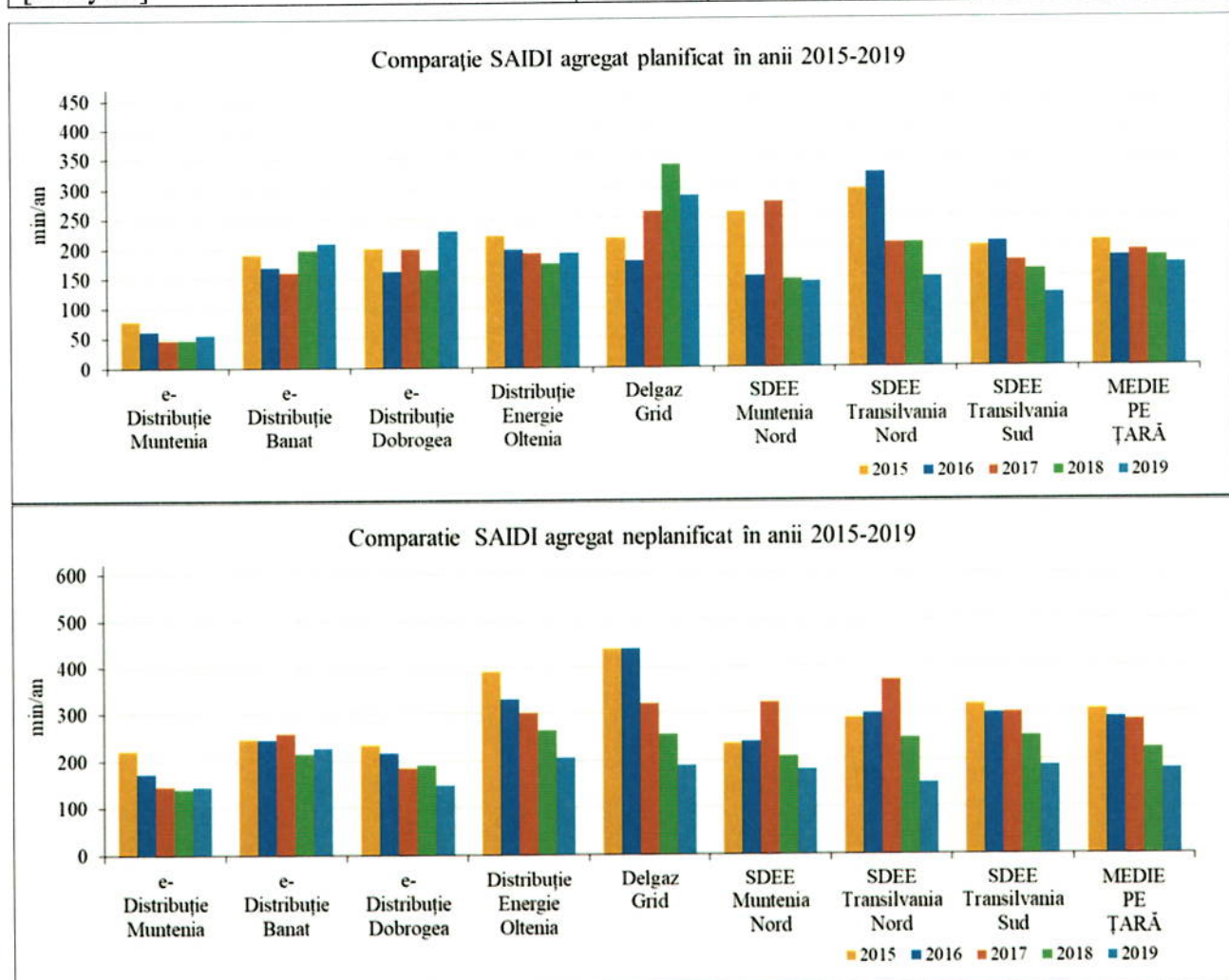


SAIDI scheduled interruptions has registered a decrease in the average value to 171.1 min/year (compared to the value of 183.6 min/year in year 2018), above the value of approx. 40-150 min/year registered in advanced European countries. Also, country-wide, SAIDI unscheduled

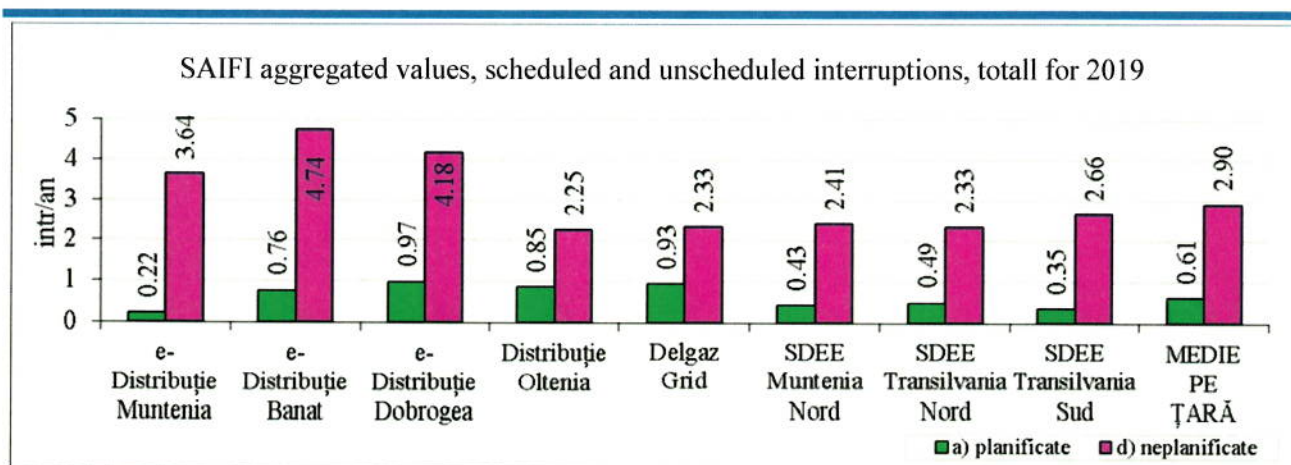
interruptions has registered a decrease to the value of 178.9 min/year (compared to 224 min/year in 2018), remaining nevertheless above the value of approx. 20-100 min/year registered in advanced European countries.

According to the analysis performed, in the period 2015-2019 it is noticed an improvement of the SAIDI values for schedules and unscheduled interruptions.

Year	2015	2016	2017	2018	2019
SAIDI scheduled interruptions (a) [min/year]	211	184	193	184	171
SAIDI unscheduled interruptions (d) [min/year]	308	290	284	224	179



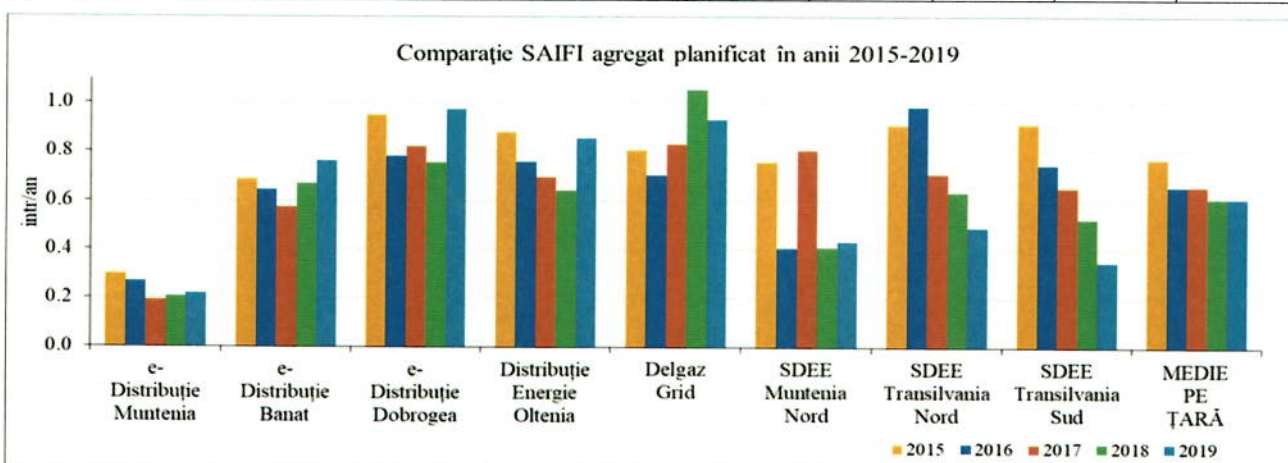
The SAIFI User Supply Continuity Index registered the following values for 2019:

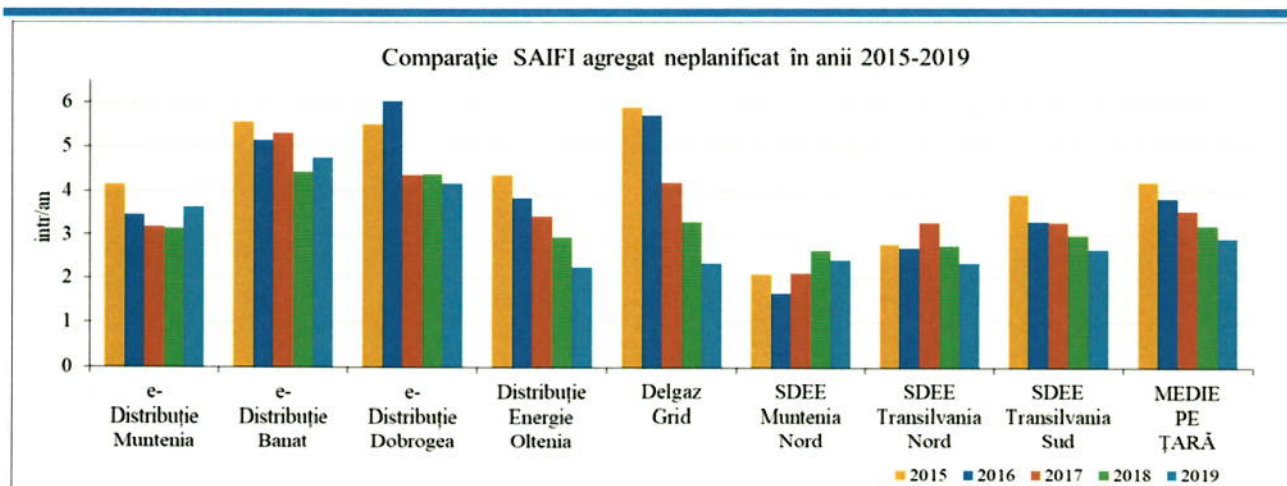


SAIFI recorded an average value of 0.61 interruption/year (similar to 2018) and it complies with the range of average values of approx. 0.1-1 interruptions/ year in advanced European countries. Also, country-wide, SAIFI unscheduled interruptions (case d) recorded an average value per country of 2.9 interruptions/year (compared to 3.2 interruptions/year in 2018), above the average value of approx. 1-2 interruptions/ year in advanced European countries.

According to the analysis carried out, in the period 2015-2019 it is noticed an improvement of the SAIFI values for scheduled and unscheduled interruptions.

Year	2015	2016	2017	2018	2019
SAIFI scheduled interruptions (a) [interruptions/year]	0.77	0.65	0.66	0.61	0.61
SAIFI unscheduled interruptions (d) [interruptions/year]	4.19	3.83	3.54	3.2	2.9





### Monitoring the duration of the connection process to the electricity distribution network

The average duration of the connection process, which is the time between the submission date of the application for connection with the complete supporting documentation and the commissioning date of the plant to be use, has registered in 2019 the following distribution by DO:

Table no. 2.4.4.1

DO		E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	SDEE Muntenia Nord	SDEE Transilvania Nord	SDEE Transilvania Sud	COUNTRY AVERAGE
Average duration of the connection process [days]	LV	96	143	123	81	114	104	45	60	96
	MV	480	440	382	244	172	143	117	56	254
	HV	1,087	-	-	-	-	-	-	-	-

The average duration of the connection process at LV had a value of 96 days country-wide (compared to 89 days in 2018), being between 45 days at SDEE Transilvania Nord and 143 days at E-Distribuție Banat. They are recorded the lowest performances, compared to the country average, in case of the operations E-Distribuție Banat, E-Distribuție Dobrogea and Delgaz Grid.

The average duration of the connection process at MV had a value of 254 days country-wide (compared to 235 days in 2018), with a minimum value of 56 days at SDEE Transilvania Sud and a maximum value of 448 days at E-Distribuție Muntenia. It is noticed a low performance of the operators E-Distribuție Muntenia, E-Distribuție Banat and E-Distribuție Dobrogea (similar to the registrations of 2018).

The average cost of the connection process has registered in 2019 the following distribution by DO:

Table no. 2.4.4.2

DO		E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	SDEE Muntenia Nord	SDEE Transilvania Nord	SDEE Transilvania Sud	COUNTRY AVERAGE
Average cost of connection [RON] <sup>1)</sup>	LV	870	2,161	1,794	1,615	1,694	3,005	2,414	5,764	2,415
	MV	226,219	96,291	69,499	38,342	75,779	106,973	71,570	101,501	98,272
	HV	16659313 <sup>2)</sup>	-	-	-	-	-	-	-	-

1) Average cost of connection per connected user, paid to the distribution operator (CTER fee + solution study cost + connection fee);

2) The case of a connection plant to 110kV consisting of 3.3km LES route with a double circuit in the metropolitan area + connection station of 110kV (2 hybrid cells in line, a longitudinal coupled cell with separator, 2 measuring cells, control room, protections and remote control, civil engineering works)

The average cost of connection at LV was 2,415 RON country-wide (compared to 1,775 RON in 2018 and 1,884 RON in 2017) with a minimum value of 870 RON at E-Distribuție Muntenia and a maximum value of 5,764 RON at SDEE Transilvania Sud.

The average cost of connection at MV was 98,272 RON country-wide (92,033 RON in 2018, 68,645 RON in 2017) with a minimum value of 38,342 RON at Distribuție Energie Oltenia and a maximum value of 226,219 RON at E-Distribuție Muntenia.

### **Implementation of the provisions of the network codes and guidelines**

ANRE issued the decisions necessary for the application of the provisions of the network codes, the implementation of which was solicited in year 2019, less the terms, the conditions and the methodologies that have been sent by ACER for decision.

They have been approved:

**1. The ANRE Order no. 1/16.01.2019 for the approval of the document “Proposal of all of the transmission and system operators with regard to the key organizational requirements, roles and responsibilities (KORRR) for the exchange of data in accordance with the provisions of art. 40 para. (6) of the Regulation (EU) 1485/2017 of the Commission from 2 August 2017 for the establishing of a guideline with regard to the operation of the electricity transmission system”.**

KORRR sets out the responsibilities of the entities during the operation of the interconnected electricity networks and the organizational requirements for the exchange of data, including the time stamping and the frequency of the data transmission, in accordance with the provisions of the *Regulation no. 1485/2017 of the Commission from 2 August 2017 for the establishment of a guideline with regard to the operation of the electricity transmission system* (referred to hereinafter as the *Regulation no. 2017/1485*). KORRR provisions apply to transmission and system operators (TSO), distribution operators, closed distribution system operators and significant network users. In accordance with the provisions of the *Regulation no. 2017/1485*, KORRR took into consideration and supplemented the operational conditions from the Generation and Load Data Provision Methodology (GLDPM), approved by ANRE Decision no. 02/06.01.2017 and elaborated pursuant to the provisions of art. 16 of the *Regulation (EU) 2015/1222 of the Commission from 24 July 2015 for the establishment of some guidelines on capacity allocation and congestion management*. In this respect, KORRR clarify the performance of the exchange of data, they establish the content of the data and information, the means of communication, the format and the applicable standards, the timetable and the responsibilities of the involved parties. By applying KORRR provisions, it is ensured the supply of necessary data between transmission and system operators, and between the TSO and all of the other interested parties, for the elaboration of the functional safety analysis according to the provisions of art. 75 from the *Regulation no. 2017/1485*.

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## **2. The ANRE Order no. 51/17.04.2019 for the approval of the Procedure for the notification of the connection of generation units, and for the verification of the compliance of generation units with the technical requirements regarding the connection of generation units to the electricity networks of public interest**

*The procedure for the notification of the connection of generation units and for the verification of the compliance of generation units with the technical requirements regarding the connection of generation units to electricity networks of public interest applies, starting from the date of 27.04.2019, the provisions of art. 30÷37 and art. 40÷57 from the Regulation (EU) 2016/31 of the Commission from 14 April 2016 establishing a network code regarding the requirements for the connection to the network of the generation plants (referred to hereinafter as the Regulation (EU) no. 631/2016). At the same time, the legal act repeals Annex no. 1, Annex no. 2, point 2.1. of Annex no. 5 and point 2.1 of Annex no. 6 to the Procedure regarding the energization for the trial period and the certification of the technical compliance of wind and photovoltaic electricity plants, provided for by the Annex to the ANRE Order no. 2013/74, published in the Official Journal of Romania, Part I, no. 682 from 6 November 2013, as further amended.*

In the document it has been included the provision of the Regulation (EU) no. 2016/631 according to which the process of notification and verification of the compliance (including the tests and simulations) shall apply to electricity generation plants (generation units) commissioned after the date of 27.04.2019.

The legal act describes the process of notification to distribution operators and/ or the transmission and system operator (TSO), as the case may be, regarding the connection of generation units, as well as the process of performance of the tests and simulations necessary for the verification of their compliance with the technical requirements provided for by:

- ANRE Order no. 72/2017 for the approval of the *Technical rule regarding the technical requirements for the connection of synchronous producers to public electricity networks*, as further amended and completed;
- ANRE Order no. 208/2018 for the approval of the *Technical rule regarding the technical requirements for the connection of generation modules, plants formed of generation modules and plants formed of offshore generation modules to public electricity networks*;

The legal act contains a series of general provisions on the testing of the generation units, related to the responsibilities of the TSOs, distribution operators and managers of electricity generation plants, and provisions on general testing conditions, requirements for measuring devices, as well as for simulation and registration equipment.

At the same time, the document contains provisions related to the monitoring of the compliance of generation units, but also to the situations regarding the revocation of a certificate of conformity. The procedure contains a series of annexes in which they are presented the templates of the certificates of conformity (including duplicates), the synthesis of the requirements regarding the verification of the performances of generation units, the synthesis of the notification process, the synthesis of the testing and simulation process, the logical schemes that describe the energization process for the trial period of class B, C and D generation units, as well as the models of requests for the issuance of the agreement for energization for the commencement of the trial period and for the issuance of the certificate of conformity.

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**3. The ANRE decision no. 665/10.04.2020 for the approval of the documents “Proposal of all of the transmission and system operators from the synchronous area of the Continental Europe for the rules on the dimensioning of frequency stabilization reserves (FSR) in accordance with the provisions of art. 153 para. (2) of the Regulation (EU) 2017/1485 of the Commission from 2 August 2017 establishing the guidelines on the operation of the electricity transmission system”, the “Proposal for all of the transmission and system operators from the synchronous area of the Continental Europe for the limits applicable to the amounts of frequency restoration reserves (FRR) exchanged and shared between synchronous areas in accordance with the provisions of art. 176 para. (1) and art. 177 para. (1) of the Regulation (EU) 2017/1485 of the Commission from 2 August 2017 establishing the guidelines with regard to the operation of the electricity transmission system” and the “Proposal of all of the transmission and system operators from the synchronous area of the Continental Europe for the limits applicable to the amounts of replacement reserves (RR) exchanged and shared between synchronous areas in accordance with the provisions of art. 178 para. (1) and art. 179 para. (1) of the Regulation (EU) 2017/1485 of the Commission from 2 August 2017 establishing the guidelines with regard to the operation of the electricity transmission system”.**

The legal acts establishes the **operational agreements from the synchronous area of the Continental Europe** regarding the rules for the dimensioning of the frequency stabilization reserves (FSR), the limits applicable to the amounts of frequency restoration reserves (FRR) exchanged and shares between synchronous areas and the limits applicable to the amounts of replacement reserves (RR) exchanged and shared between synchronous areas.

The rules for the dimensioning of the frequency stabilization reserves (FSR) do not lead to any change in the dimensioning rules established at the moment (the dimension of the baseline incident in the synchronous area of the Continental Europe is 3000MW in positive direction and 3000MW in negative direction).

The frequency restoration reserve (FRR) and the replacement reserve (RR) are new standard products, at level of European-wide balancing platforms. In order to apply the restrictions for the exchange and share of these products between synchronous areas at level of the EU member states, it is necessary for the trading platforms of these products (PICASSO for the FSR enabled automatically, MARI for the FSR enabled manually, respectively TERRE for the RR) to be operational.

**4. The ANRE decision no. 666/10.04.2019 for the approval of the document “Proposal of the transmission and system operators from the calculation region of the SEE capacities regarding the common methodology for the calculation of the capacities for the time frame of the day-ahead market and the intra-day market in accordance with the provisions of art. 21 of the Regulation (EU) 2015/1222 of the Commission from 24 July 2015 establishing some guidelines on capacity allocation and congestion management”**

In view of performing the unique coupling of the day-ahead and intra-day electricity markets, the calculation of the capacities for the time frames of the day-ahead market and the intra-day market

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must be coordinated by the transmission and system operators (TSOs) at least region-wide, being ensured as such the reliability of the calculation of the capacities and the provision on the market of the optimal capacity.

There are two methods admitted for the calculation of the cross-zonal capacity: the flow-based method and the method based on the coordinated net capacity of transmission. In the capacity calculation region of the “South-Eastern Europe” (CCR SEE) it is applied the **method based on the coordinate net capacity of transmission** being given that in the CCR SEE it has not been completed the unique coupling of the electricity markets. The method based on the coordinated net capacity of transmission represents a capacity calculation method based on the ex-ante definition and assessment principle of the maximum exchange of power between adjacent bidding zones.

According to the provisions of art. 20 para. (4) of the *Regulation (EU) 2015/1222 of the Commission from 24 July 2015 establishing some guidelines with regard to capacity allocation and congestion management* (referred to hereinafter as the *Regulation (EU) no. 2015/1222*), the TSOs from the CCR SEE shall propose the introduction of a joint methodology of capacity calculation, that uses the flow-based method, within a 6-month term after all of the contracting parties take part in the unique coupling, at least of the day-ahead markets.

The proposal for the CCM SEE provides the following elements:

- the calculation methodologies for the input data used in capacity calculation, namely:
  - the calculation methodology of the reliability margin;
  - the methodologies for the safety limits in operation, contingencies and restrictions of allocation;
  - the methodology for the generation modification mechanisms;
  - the methodology for the remediation actions that must be taken into consideration in the calculation of the capacities;
- rules for the avoidance of discrimination between the internal and cross-zonal exchanges;
- the methodology for cross-zonal capacity validation. Each TSO validates and is entitled to adjust the relevant cross-zonal capacity for the borders of its bidding zone for reasons of functional safety;
- the mathematical description of the day-ahead and intra-day capacity calculation method;
- the procedure of last resort for the situation in which the initial calculation of the capacities did not lead to any result.

The joint methodology for the calculation of the capacities in CCR SEE provides within the implementation process two testing stages, an internal and an external stage, so that the TSO can be able to monitor the effects and the performance of the application of the methodology on the basis of some monitoring and performance criteria established together with the regulatory authorities, ACER and other interested parties, the results obtained following to be included in a monitoring report.



**5. The ANRE decision no. 667/10.04.2019 for the approval of the document "Proposal of all of the TSOs from the Continental and Northern Europe regarding the hypotheses and methodology for the Cost-Benefit Analysis in accordance with article 156 para. (11) of Regulation (EU) 2017/1485 of the Commission from 2 August 2017 establishing the guidelines with regard to the operation of the electricity transmission system".**

The legal act establishes the methodology for the Cost-Benefit Analysis in view of assessing the duration necessary for the supplying units of frequency stabilization reserve (FSR) or the supplying groups of FSR with limited power tanks (for instance, electricity storage batteries, compressed air power storage batteries, flywheels, supercapacitors etc.) to remain available from the moment when it is triggered the state of alert and throughout its duration. By applying the provisions of the legal act, the transmission and system operators (TSOs) assess the effects of the depletion of the limited power tanks on an extended set of potential conditions of operation of the electro-power system, in the hypothesis of two scenarios: a) without taking into consideration the remediation actions of the deterministic frequency deviations and b) by taking into consideration the remediation actions of deterministic frequency deviations. Thus, it is determined the REL share and the minimum period of activation which must be ensured by the suppliers of FSR, from the triggering of the state of alert and throughout its duration, for the synchronous areas of the Continental Europe and Northern Europe. As such, it is improved the FSR cost taking into consideration the fact that a share of the FSR will be ensured by the actual and future FSR REL, who shall invest in the construction of supplying units of FSR REL or supplying groups of FSR REL.

The methodology for the Cost-Benefit Analysis is new for the national legislation, due to the fact that this type of sources has not been taken into consideration so far for the supply of the necessary frequency stabilization reserves.

**6. The ANRE Order no. 67/30.05.2019 for the approval of the technical rule on technical requirements for the connection to public electricity networks for the demand facilities**

*The technical rule on the technical requirements for the connection to public electricity networks for the demand facilities* implements the provisions of the European legislation, respectively of the *Regulation (EU) 2016/1388 of the Commission from 17 August 2016 establishing a network code regarding the connection of the consumers* (referred to hereinafter as the *Regulation (EU) no. 2016/1388*) and it applies to new demand facilities/ distribution plants/ distribution systems during the connection to the transmission system, as well as to new demand units used by a demand facility or a closed distribution system, to supply services of demand response to the relevant network operators and the TSO, commissioned after 18 August 2019.

The technical requirements provided in the standard are classified according to the manner of description in the *Regulation (EU) no. 1388/2016*, into two categories:

- Requirements described explicitly (exhaustively), such as: frequency and voltage ranges in which the demand facilities connected to the transmission system, the distribution plants connected to the transmission system and the distribution systems must remain connected to the network and functional for specified periods of time;
- Requirements that are not described explicitly (exhaustively), such as: the periods of time in which the demand facilities connected to the transmission system, the distribution plants connected to the transmission system and the distribution system must function in

the ranges of frequency and voltage, the real interval of the reactive power in case of the demand facilities and distribution systems connected to the transmission system, the content of the analysis that approaches the potential solutions and establishes the optimal solution for the exchange of reactive power between electricity distribution networks and the electricity transmission network, the maximum short-circuit current in the point of connection, the capacity of disconnection of the consumption in case of underfrequency.

With regard to non-exhaustive requirements, certain necessary information or parameters have been defined/ established either by the TSO, or by common consent between the TSO and the involved parties.

**7. The ANRE Order no. 157/24.06.2019 for the approval of the Methodology for the cost-benefit analysis for the extension of the application and the granting of the derogations regarding the requirements provided for by the technical rules of connection.**

The legal act implements the provisions of the European legislation, respectively of the *Regulation (EU) 2016/631 of the Commission from 14 April 2016 establishing a network code regarding the requirements for the connection to the network of the generation plants* (referred to hereinafter as the *Regulation (EU) 261/631*), the *Regulation (EU) 2016/1388 of the Commission from 17 August 2016 establishing a network code regarding the connection of consumers* (referred to hereinafter as the *Regulation (EU) no. 2016/1388*) and the *Regulation (EU) 2016/1447 of the Commission from 26 August 2016 establishing a network code regarding the requirements for network connection of high voltage direct current systems and generation modules from the plant connected in direct current* (referred to hereinafter as the *Regulation (EU) no. 2016/1447*).

The main objective of the legal act was to establish the minimum common requirements that must be taken into consideration by the transmission and system operator (TSO), the relevant network operators, the distribution system operators and closed distribution system operators, the managers of electricity generation plants and demand facilities, in the elaboration of the cost-benefit analyses (CBA) in case of proposals for the extension of the application of one or more requirements provided for by the technical rules of connection, as detailed further, or in case of requests for derogation from the obligation of fulfilment of one or more requirements provided for by the technical rules of connection, as the case may be.

*The cost-benefit analysis methodology for the extension of the application and the granting of the derogations regarding the requirements provided for by the technical rules of connection* provides the stages, general principles and criteria to be taken into consideration in the elaboration of the cost-benefit analyses for:

- the extension of the application of a certain requirement provided for by the technical rules of connection to the existing electricity generation plants, the existing demand facilities connected to the transmission system, the existing distribution plants connected to the transmission systems, the existing distribution systems, including the existing closed distribution systems, the demand units used by an existing demand facility or an existing closed distribution systems, to supply services of demand response , as they are defined in the applicable technical rules of connection, approved by ANRE orders;
- the extension of the application of the requirements provided in the technical rules for the connection of generation units and electricity plants classified differently from the categories established by the ANRE order for the approval of the classification of the

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- generation units and the electricity plants, following the modification of the power thresholds and their classification into another category;
  - the granting of derogations from the obligation to fulfil one or more requirements provided in the technical rules of connection for the electricity generation plants, the demand facilities connected to the transmission system, the distribution installations connected to the transmission system, the distribution systems, including closed distribution systems, the demand units used by a demand facility or a closed distribution system, in order to supply services of demand response, the high voltage direct current systems and the generation modules from electricity plants connected to public electricity networks through high voltage direct current systems, defined according to the applicable provisions of the technical rules of connection, approved by ANRE orders.

**8. The ANRE Order no. 175/07.08.2019 for the approval of the Procedure regarding the granting of the derogations of the demand facilities connected to public electricity networks, from the obligation to fulfil one or more requirements provided in the technical rule of connection.**

Under this legal act there have been enforced the provisions of art. 50-55 of the *Regulation (EU) 2016/1388 of the Commission from 17 August 2016 establishing a network code regarding the connection of consumers* (referred to hereinafter as the *Regulation (EU) no. 1388/2016*), with regard to the derogations from one or more requirements provided in the *technical rule regarding the technical requirements of connection to public electricity networks for the demand facilities*, approved by ANRE Order no. 67/2019 (referred to hereinafter as the *Technical rule*) for:

- the demand facilities connected or to be connected to the transmission system;
- the distribution plants connected or to be connected to the transmission system;
- the distribution systems, including closed, new or existing distribution systems;
- the demand units used by a closed, new or existing distribution system or demand facility, to supply services of demand response to the relevant network operators and the TSOs.

The legal act provides the stages and the manner of performance of the derogations from the obligation to fulfil one or more requirements provided in the *Technical rule*. It provides, predominantly, the following aspects:

- the establishment of the entities entitled to solicit derogations (the managers or potential managers of some demand facilities, the distribution operators, including those of closed distribution systems or the potential operators, the relevant network operators and the transmission and system operator), as well as of the entities having the necessary competencies to grant/ revoke/ monitor them (ANRE, ACER, European Commission);
- the clarification of the conditions under which the derogations are granted by the regulatory authority, namely the compliance with the criteria for the granting, set out by the provisions of the ANRE Order no. 2017/42 for the approval of *the criteria for the derogation of demand facilities connected to the electricity transmission and distribution networks from the obligation to fulfil one or more requirements of the technical rule for connection*;

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- the ensuring of the continuity of the derogation process in case of any changes in the criteria according to which it is granted, for the requests for granting registered before the date of entry into force of the modified criteria;
  - the presentation of the responsibilities of the parties involved in the process, with the indication of the terms that they must observe;
  - the description of the method of analysis and approval of the requests for derogation, both of the individual requests filed by the managers or potential managers of the demand facilities, respectively the distribution operators/ distribution operators of closed distribution systems or potential operators, as well as of the request of category filed by the relevant network operators (including the transmission and system operator);
  - the detailed presentation of the content of the request for derogation, of necessary data, information and supporting documents, comprising inclusively the cost-benefit analysis carried out for the requirement/s for which it is solicited a derogation.

**9. The ANRE Order no. 176/07.08.2019 for the approval of the Procedure of notification for the connection to public electricity networks of the demand facilities and verification of their compliance with the technical requirements of connection.**

*The procedure of notification with regard to the connection of the demand facilities to public electricity networks, and verification of their compliance with the technical requirements of connection applies country-wide the provisions of art. 22-26 and art. 31-47 of the Regulation (EU) 2016/1388 of the Commission from 17 August 2016 establishing a network code regarding the connection of consumers (referred to hereinafter as the Regulation (EU) no. 2016/1388).*

The legal act describes the process of notification of distribution operators and/ or the transmission and system operator (TSO), as the case may be, regarding the energization for the trial period, testing and verification of the compliance with the technical requirements provided in the *Technical rule with regard to the technical requirements for the connection of demand facilities to public electricity networks* approved by ANRE Order no. 2019/67 for:

- the connection of the demand facilities to the transmission system;
- the connection of the distribution plants to the transmission system;
- the connection of the distribution systems to the transmission system;
- the demand units used by a demand facility or a closed distribution system to supply demand response services to the network operators.

The legal act includes, predominantly, the provisions related to the responsibilities of the involved entities, the content of the documents, the description of the process of notification and verification of the compliance with regard to:

- the notification for the connection to the transmission system of the demand facilities, distribution plants and distribution systems;
- the notification of the demand units used by a demand facility or a closed distribution system to supply demand response services to the network operators;
- the verification of the compliance with the requirements provided in for by the technical rule of connection in force by means of tests and simulations.

At the same time, the legal act contains provisions related to the monitoring of the compliance of the demand facilities connected to the transmission system, of the distribution plants connected to

the transmission system, of the distribution systems connected to the transmission system and the demand units used by a demand facility or a closed distribution system to supply demand response services to the network operators.

**10. The ANRE Order no. 185/28.08.2019 for the approval of the Technical rule with regard to the technical requirements of connection to public electricity networks for high voltage direct current systems and for the electricity plants formed of generation modules that are connected to the public electricity networks by means of high voltage direct current systems.**

Under this legal act they are applied country-wide the provisions of art. 11-50 of the *Regulation (EU) 2016/1447 of the Commission from 26 August 2016 establishing a network code regarding the requirements for the connection to the network of the high voltage direct current systems and of the generation modules from the plant connected in direct current*, with regard to the technical requirements for the connection of:

- a) the new high voltage direct current systems (called HVDC systems), that connect between them synchronous areas or areas of adjustment, including the “back-to-back” schemes;
- b) the new high voltage direct current systems, that connect to the electricity transmission or distribution network some electricity plants formed of generation modules;
- c) the new high voltage direct current systems, that are integrated in an area of adjustment and connected to the electricity transmission network;
- d) the new high voltage direct current systems, that are integrated in an area of adjustment and connected to the electricity distribution network, when the transmission and system operator demonstrates the existence of a cross-border impact, taking into consideration in this assessment, the long-term development of the network;
- e) the electricity plants formed of new generation modules, connected to the public electricity networks by means of high voltage direct current systems called hereinafter MGCCC.

**11. The ANRE Order no. 186/28.08.2019 for the approval of the Procedure with regard to the derogations of high voltage direct current systems and electricity plants formed of generation modules, that are connected to the public electricity networks by means of high voltage direct current systems, from the obligation to fulfil one or more requirements provided in the technical rule of connection.**

The legal acts transposes in the national legislation the provisions of art. 77 – 83 of the *Regulation (EU) 2016/1447 of the Commission from 26 August 2016 establishing a network code regarding the requirements for the connection to the network of high voltage direct current systems and generation modules from the plant connected in direct current*, with regard to the granting of the derogations from one or more requirements provided in the *Technical rule on technical requirements of connection public electricity networks for the high voltage direct current systems and for electricity plants formed of generation modules that are connected to the public electricity networks by means of high voltage direct current systems*, approved by ANRE Order no. 2019/185 (called hereinafter “Technical rule of connection”).

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The legal act contains the stages and the manner of performance of the process for the granting of the derogations of the HVDC and MGCCC systems from the obligation to fulfil one or more requirements provided in the Technical rule of connection.

Its provisions are applied by the manager or potential manager of the HVDC system or a MGCCC, as the case may be, the transmission and system operator and the relevant network operators for the purpose of obtaining the derogations of the HVDC and MGCCC systems from the obligation of fulfilment of one or more requirements provided in the technical rule of connection.

**12. The ANRE Order no. 219/11.12.2019 regarding the approval of the operational methodology for the RFP-TEL block in accordance with the provisions of art. 119 of the Regulation (EU) 2017/1485 of the Commission from 2 August 2017 establishing the guidelines with regard to the operation of the electricity transmission system.**

Under the legal act they are established the ramp rate limits for the active power generation, the rules for the dimensioning of the frequency restoration reserve (FRR), the rules for the dimensioning of the replacement reserve (RR), the measures of coordination aimed to reduce frequency restoration adjustment deviation (FRAD) and the measures for the reductions of the FRAD through the request for changes in the generation or the demand for active power of the generation units and the demand units within the frequency-power adjustment block operated by the C.N.T.E.E. Transelectrica S.A.

The dimensioning rules of the FRR and RR using methods of the probabilistic type replace the dimensioning rules of deterministic type currently used by the transmission and system operator (called TSO) and mentioned in the guide “Application Handbook”, elaborated by ENTSO-E.

At the same time, the TSO has the obligation to monitor the amounts of calculated reserves, the values of the dimensioning incident and the differences between the amounts of calculated reserves and the amounts of activated reserves. In order to ensure the passage from the calculation of the balancing reserves by deterministic methods to the calculation by methods of probabilistic type, established as starting from the date of 01.07.2022, the legal act provides a period of transition starting from the date of 01.07.2020 in which the TSO shall perform in parallel a calculation of the power reserves by deterministic methods and probabilistic methods.

Within the reserve dimensioning process, the TSO shall use historical data corresponding to a period of minimum 1 year, in accordance with the provisions of the *Regulation (EU) 2017/1485 of the Commission from 2 August 2017 for the establishment of some guidelines with regard to the operation of the electricity transmission system*. CNTEE Transelectrica S.A. shall use a period of two years and take into consideration the relevance of the data in view of obtaining the power reserves necessary for the analysed dimensioning period.

**13. The ANRE Order no. 220/11.12.2019 for the approval of the Procedure for the notification of the connection to the public electricity networks of the high voltage direct current systems and the electricity plants formed of generation modules, which are connected to the public electricity networks by means of high voltage direct current systems, and for the verification of their conformity.**

The legal act applies country-wide the provisions of art. 55-65 and art. 67-74 of the *Regulation (EU) 2016/1447 of the Commission from 26 August 2016 for the establishment of a network code*

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*with regard to the requirements for the connection to the network of the high voltage direct current systems and the direct current generation modules from the plant.*

In the document they are established the manner of performance and the stages of the energization process of the trial period, the content of the tests intended for the verification of conformity and the stages of the verification process regarding the compliance with the technical requirements set out in the *Technical rule on the technical requirements for the connection to the public electricity networks of the high voltage direct current systems and the electricity plants formed of generation modules that are connected to the public electricity networks by means of high voltage direct current systems*, approved by ANRE Order no. 2019/185, for the connection of:

- the high voltage direct current systems, called HVDC systems;
- the electricity plants formed of generations modules, that are connected to the public electricity networks by means of HVDC systems called MGCCC

**14. The ANRE Order no. 233/16.12.2019 for the approval of the Methodology for the exchange of data between the transmission and system operator, the distribution operators and significant networks users.**

The legal act establishes the exchange of data sent in real time, the exchange of structural data and the exchange of data on scheduling and forecasting between significant network users (SNU), distribution operators (DO) and the transmission and system operator (TSO). The methodology supplements the provisions of the *“Proposal of all of the transmission and system operators regarding the key organizational requirements, roles and responsibilities (KORRR) for the exchange of data in accordance with the provisions of art. 40 para. (6) of the Regulation (EU) 2017/1485 of the Commission from 2 August 2017 for the establishment of the guidelines with regard to the operation of the electricity transmission system”* approved by ANRE Order no. 2019/1, specifying country-wide the exchange of data between the listed economic operators.

The methodology takes into consideration the increase in the level of transparency in the NPS operation, as regards the transmission of the data and information required by the TSO in this activity, and it provides:

- The real-time exchange of data, where it is detailed the exchange of data between the TSO and the DO in the area power-frequency adjustment range of the TSO, of the exchange of data between the TSO and the managers of alternative current interconnection lines or HVDC systems, respectively between the TSO and the managers of electricity generation plants connected to the transmission system and the exchange of data between the TSO, the DO and the managers of electricity generation plants connected to the distribution system;
- The exchange of structural data between the TSO, the DO and the managers of electricity generation plants connected to the distribution system;
- The exchange of data on scheduling and forecasting between the TSO, the DO and the managers of the electricity generation plants connected to the distribution system;
- Other provisions regarding the exchange of data, that detail the exchange of data on scheduling and forecasting between the TSO, the DO and the managers of electricity generation plants connected to the distribution system, the exchange of data between the TSO and the managers of the demand facilities connected to the transmission system.

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### **Other regulations approved by the ANRE in 2019 resulted from the application of the European code provisions**

1. The ANRE decision no. 240 from 20.02.2019 for the approval of the Proposal of all of the TSOs with regard to the Methodology of Calculation of the Scheduled Exchanges resulting from the unique coupling of the day-ahead markets, in accordance with article 43 of the Regulation (EU) 2015/1222 of the Commission from 24 July 2015 for the establishment of some guidelines on capacity allocation and congestion management.
2. The ANRE decision no. 563 from 27.03.2019 for the approval of the document “Annex specific to the ranges for the calculation range of the CORE capacity to the Harmonized Rules of Allocation of the long-term transmission rights in accordance with art. 52 of Regulation (EU) 2016/1719 of the Commission from 26 September 2016 establishing a guideline with regard to the allocation of the capacities on the long-term market”.
3. The ANRE decision no. 1028 from 05.06.2019 for the approval of the document “Proposal of all of the TSOs for a Congestion Income Distribution Methodology (CID) in accordance with Article 57 of the Regulation (EU) 2016/1719 of the Commission from 26 September 2016 for the establishment of a guideline for the timely allocation of the capacity”.
4. The ANRE decision no. 1029 from 05.06.2019 for the approval of the “Proposal of all of the TSOs regarding the Calculation Methodology of Scheduled Exchanges resulting from the unique coupling of intra-day markets, in accordance with article 56 of the Commission Regulation (EU) 2015/1222 from 24 July 2015 for the establishment of some guidelines on capacity allocation and congestion management”.
5. The ANRE decision no. 1823 from 23.10.2019 regarding the approval of the document “Rules for Intra-day Allocation for the Coordinated Allocation of the Cross-zonal Capacity at the border between the Bidding Zones of the C.N.T.E.E. Transelectrica SA and MAVIR ZRt.”.
6. The ANRE decision no. 1825 from 23.10.2019 for the approval of the document “Regional annex specific for the RCC Core to the Harmonized Rules of Allocation of Long-Term Transmission Rights, in accordance with Article 52 of the Regulation (EU) 2016/1719 of the Commission from 26 September 2016 for the establishment of a guideline with regard to the allocation of the capacities on the long-term market”.

### **3.2. Operation of the electricity market and competition**

#### **Structure of electricity generated in dispatchable units**

Based on the provisions of the electricity wholesale market monitoring methodology, approved by ANRE Order n. 67/2018 – PAN Monitoring Methodology – the monthly electricity generation sector monitoring process focused on the activity of the holders of the license for the commercial operation of the capacities of generation of electricity, the holders of dispatchable units from sources of hydro-power, nuclear, thermo-power, wind, photovoltaic and biomass generation, in terms of their participation on the electricity market.



From the data collected on a monthly basis from the 123 electricity producers monitored on the basis of the PAN Monitoring Methodology, it results that in 2019 the dispatchable units have generated an amount of 57.02TWh of electricity, less than the amount of 2018 of 61.97TWh. At the same time, the electricity delivered by the said producers to the networks was of approx. 53.63TWh, down by approx. 8% than the electricity delivered in the previous years by the same dispatchable producers.

We present hereinafter, the yearly values of the power delivered to the networks by the dispatchable units and its structure by type of source of generation, starting from the monthly data reported by the dispatchable producers and published by the ANRE in the monthly reports with regard to the results of the electricity marketing monitoring.

Type of electricity generation source	2019		2018		Evolution 2019/2018 (%)
	GWh	%	GWh	%	
Coal	12,211	22.77	14,124	24.22	▼13.5
Heating oil	18	0.03	37	0.06	▼50.7
Gas	8,515	15.88	9,705	16.64	▼12.3
Hydro	14,978	27.93	16,943	29.06	▼11.6
Nuclear	10,346	19.29	10,443	17.91	▼0.9
Biomass	99	0.18	54	0.09	▲83.7
Wind	6,673	12.44	6,237	10.70	▲7.0
Solar	793	1.48	763	1.31	▲3.9
TOTAL	53,633	100.00	58,306	100.00	▼8.0

Source: The monthly reports of dispatchable electricity producers – ANRE processing –

Comparing the electricity delivered by sources of generation in 2019 with the previous period, it is noticed a decrease in the annual amount of power generated and delivered to the networks from classical sources, while the power from wind, solar and biomass sources increased in terms of volume compared to 2018, not being able to offset the deficit of generation from thermo-electric and hydro-electric plants.

Month-wide, the negative differences compared to the same periods of the previous year as regards the power generated and delivered from solid and gaseous fuels have been present since the beginning of the year, the tendency intensifying towards the end of year 2019.

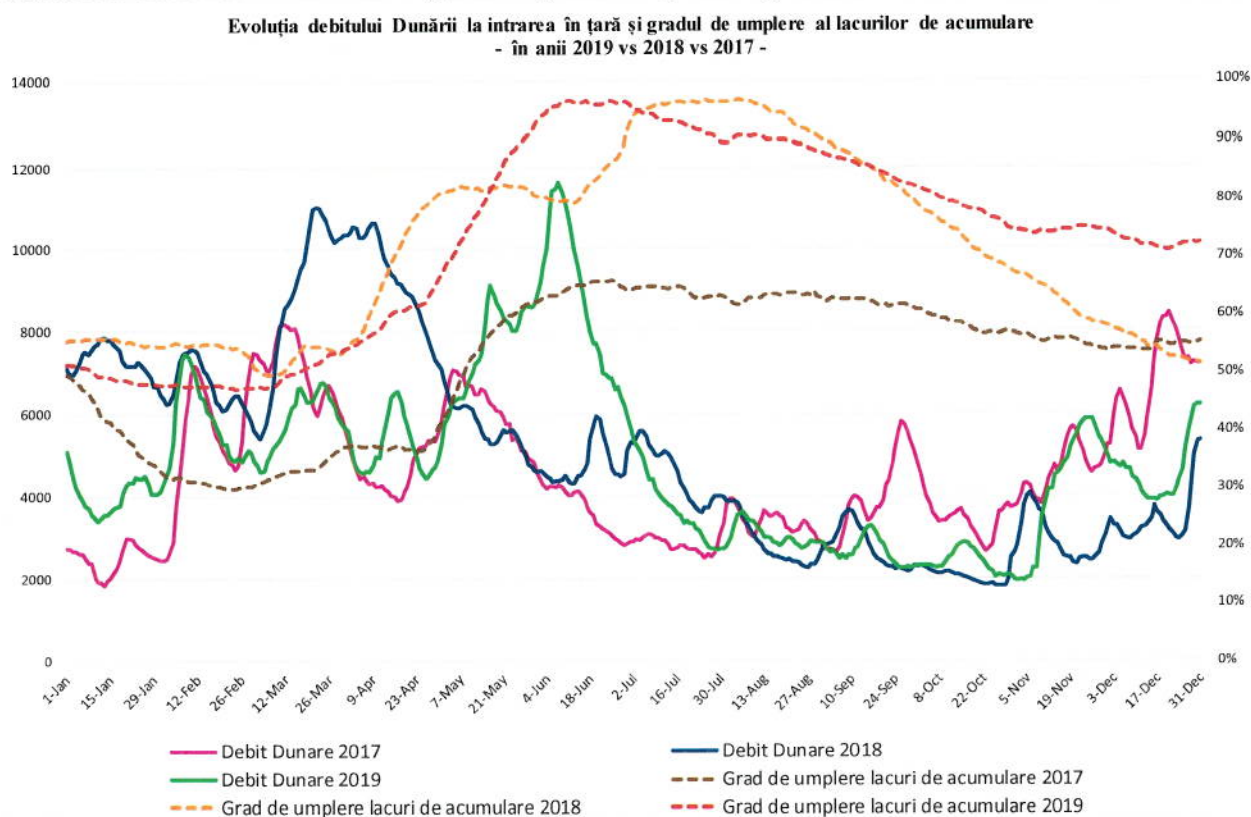
The weight of the total generation in hydro-electric plants decreased every month compared to the similar periods of 2018, being caused by the reduction of the hydraulicity level of the Danube and inner rivers, except for the months of May and June (the debits of the Danube when it enters the country reduced compared to multiannual means, concomitantly with a decrease of the power reserve from the main storage lakes) to which it was added the tendency of the producer to preserve the existing water reservoirs, being given the unfavourable prognoses in terms of hydrology for the second semester of 2019. Subsequent to the evolution of the two indicators specific to hydraulicity, the recorded values of the annual average daily production from a hydro source have been lower than the values of the previous year.

Annual daily mean	MU	Analysis year	
		2019	2018
Danube debit	Mc/s	4,802	5,080

Filling degree	%	73	72
Daily generation	MWh	42,917	48,532

Source: information resulted from the daily data published by CNTEE Transelectrica SA

In the following graphic it is presented the monthly evolution between 2017 and 2019 of the indicators that characterize the degree of hydraulicity of the period.



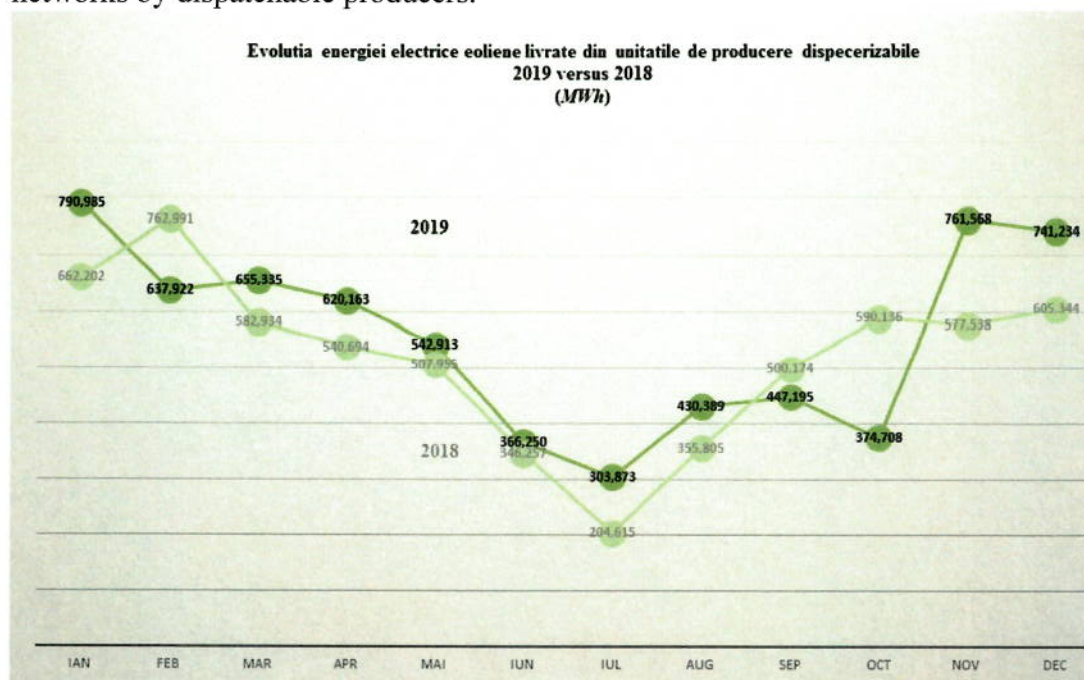
Source: Daily reports of CNTEE Transelectrica SA, INHGA information – ANRE processing -

Another reason for which the generation from hydro and thermo sources decreased compared to the previous year was constituted by the legislative changes adopted by Law no. 2018/184 for the amendment and completion of Law no. 2008/220. Thus, the injection in the networks of an amount of power generated from wind sources which was higher than the notified amount (therefore without having been contracted on the markets prior to the balancing market) in correlation with the rules of priority in dispatching given to wind power producers, has determined the issuance of some provisions for the reduction of power by PE applied to the producers from hydro and thermo sources, that led to the additional decrease of the amounts of electricity delivered by them in the network.

The annual generation of electricity based on biomass almost doubled in 2019 compared to the previous year, having the highest rate of increase (84%), speaking nevertheless about a single producer from the field with dispatchable units, who recorder an annual amount under 100GWh.

Determined by the favourable weather conditions, the power obtained from a wind source recorded an increase by almost 7% year-wide, in the period March-August the monthly generation being systematically higher than that of the similar period of 2018. In the following chart it is

presented, comparatively, the monthly evolution of the wind electric power delivered in the networks by dispatchable producers.



In the following table it is presented the record of the dispatchable producers depending on the electricity generated in own plants in 2019, compared to year 2018.

Dispatchable producer	Electricity generated in 2019 (GWh)	Electricity generated in 2018 (GWh)	Evolution 2019 / 2018 (%)
HIDROELECTRICA	15,205	17,232	▼ 11.8
COMPLEXUL ENERGETIC OLTENIA	12,401	14,143	▼ 12.3
NUCLEARELECTRICA	11,280	11,377	▼ 0.9
OMV PETROM	4,425	4,848	▼ 8.7
ELECTROCENTRALE BUCURESTI	2,545	2,592	▼ 1.8
ENEL GREEN POWER ROMANIA	1,251	1,226	▲ 2.0
COMPLEXUL ENERGETIC HUNEDOARA	796	960	▼ 17.1
TOMIS TEAM	692	646	▲ 7.0
ROMGAZ	590	1,165	▼ 49.4
OVIDIU DEVELOPMENT	512	479	▲ 7.1
CET GOVORA	478	525	▼ 8.9
VERBUND WIND POWER	478	431	▲ 10.7
EDPR ROMÂNIA	461	426	▲ 8.2
VEOLIA ENERGIE PRAHOVA	385	408	▼ 5.6
CRUCEA WIND FARM*	296	272	▲ 8.8
OTHER DISPATCHABLE PRODUCERS (market shares under the threshold of 0.5%)	5,226	5,241	▼ 0.3
<b>TOTAL</b>	<b>57,021</b>	<b>61,973</b>	<b>▼ 8.0</b>

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\* in the ANRE Annual Report of 2018, the producers were classified in the category “Other dispatchable producers (market shares under the threshold of 0.5%)”

Source: The monthly reports of the electricity dispatchable producers – ANRE processing -

The electricity generation sector was dominated, like every year, by the main 3 electricity producers from classical sources, HIDROELECTRICA, COMPLEXUL ENERGETIC OLTENIA and NUCLEARELECTRICA, that ensured altogether in 2019 more than 68% of the electricity generated in dispatchable units, respectively approx. 66% of the entire power generated in Romania (dispatchable and non-dispatchable units of generation) and reported by CNTEE Transelectrica SA.

Similar to the previous years, the fourth place in terms of power generated by dispatchable units was occupied by the producer OMV PETROM, with a market share of more than 5%.

From the producers of electricity from unconventional sources, there stand out the wind power producers with shares above 0.5% ENEL GREEN POWER ROMANIA, TOMIS TEAM, OVIDIU DEVELOPMENT, VERBUND WIND POWER, EDPR ROMANIA and CRUCEA WIND FARM who have recorded, compared to the previous year, increases in the electricity generated in own plants. Similar to 2018, the wind power producer with a level of generated electricity above 1.2TWh was ENEL GREEN POWER ROMANIA.

On the ground of the difficulties previously mentioned the largest decreases of the amounts of generated electricity, compared to 2018, have been registered by the producers HIDROELECTRICA (2,027GWh), followed by COMPLEXUL ENERGETIC OLTENIA (1,743GWh), ROMGAZ (575GWh) and OMV PETROM (423GWh).

The highest market share in terms of generated electricity was registered by HIDROELECTRICA, 26.65% with an amount of 15.21TWh, down by almost 12% compared to 2018, but increased by almost 8% compared to the same indicator calculated for year 2017. The rates of decrease compared to 2018, respectively of increase compared to 2017 are maintained as well in the case of the electricity delivered to the networks by the producer.

The highest amounts of generated electricity have been achieved by HIDROELECTRICA in the months of May and June 2019, above 2.2-2.3TWh every month, representing maximum values of the same months of the past 4 years. By comparison with the previous years, the other months have been characterized by a relatively low generation, determined by the unfavourable hydrological conditions from the spring of 2019 and the second half of the same year. Thus, the months of January, March 2019 and September-November 2019 have represented minimum values of the generation from the same months of the period 2016-2019. Even under these conditions, in 8 of the 12 months, HIDROELECTRICA remained the most important player on the electricity generation market with the highest market shares calculated monthly both for the power generated and the power delivered (with maximum value of 48% in the months of May and June 2019), outrunning the second largest producer in terms of annual market share, COMPLEXUL ENERGETIC OLTENIA.

On the ground of multiple difficulties encountered during the year, COMPLEXUL ENERGETIC OLTENIA has recorded the lowest power generation from the past 4 years. Thus, in all of the months of the second semester of 2019 the values of the generated power represented the minimum values from the similar months of 2016-2019. Nevertheless, in the months of January, August, September and October 2019 it has recorded the highest market share for the power delivered to the networks.

Even if in the month of September 2019, it existed an accidental stop of unit 1 of the plant from Cernavodă solved in 7 days, the amount of electricity generated by NUCLEARELECTRICA, the producer with the third market share, was maintained at level of the values registered in the preceding years.

The values of the indicators of concentration calculated according to the power delivered to the networks by the producers holding dispatchable units for year 2019, place this year as well the electricity generation sector within the limits that separate the markets with a moderate degree of concentration from the markets with a high degree of concentration.

Indicators of concentration	2019	2018	2017
C1 (%)	27.88	29.02	24.05
C3 (%)	67.96	68.91	65.96
HHI	1,679	1,742	1,552

Over the whole of 2019, the internal demand for electricity (calculated on the basis of the power delivered to the networks by the dispatchable producers and the import-export commercial balance and presented monthly in the Monthly Reports with regard to the results of the electricity market monitoring) was slightly lower the demand recorded in the preceding year (55.18TWh, 1% smaller than the value of 2018).

The evolution of the monthly values of the internal demand followed the seasonal trend, in the winter months being recorded peak demands (maximum monthly value in January of 5.34TWh) and lower values in the months with moderate temperature (June, September: 4.26TWh). Compared with the monthly values recorded in 2017 and 2018, the monthly variation of the monthly internal demand of 2019 was closer to the curve described by the values of 2017.

Even though it did not register excessive monthly values compared to the previous years, the annual value being even lower than that of 2018, the internal demand exceeded the possibilities to cover with power the internal capacities of generation at competitive costs, concomitantly with the decrease of the real availability of capacities of generation and the degree of hydraulicity, so that, on the ground of a decreasing generation, the necessary demand has been covered more and more with imported electricity. The monthly values of the net import-export balance show that from the month of July 2019, Romania has become a net importer, situation that maintained, even if at lower values, until the end of the year.

### 3.2.1. Electricity wholesale market

Changes in the structure of the wholesale market, which occurred with the entry into force of Law no. 2012/123 on electricity and natural gas (the Law), continued and strengthened as the market participants replaced the transactions carried out on the market of negotiated bilateral contracts with transactions concluded on the centralized markets organized at level of Opcom SA.

We further present the annual volumes delivered on each of the wholesale components in the period 2015-2019 and their evolution compared to the values of the preceding year, as well as the share of the internal demand recorded in 2019. It is presented as well the graphical evolution of the volumes delivered on a monthly basis, compared to the monthly internal demand for the same period.

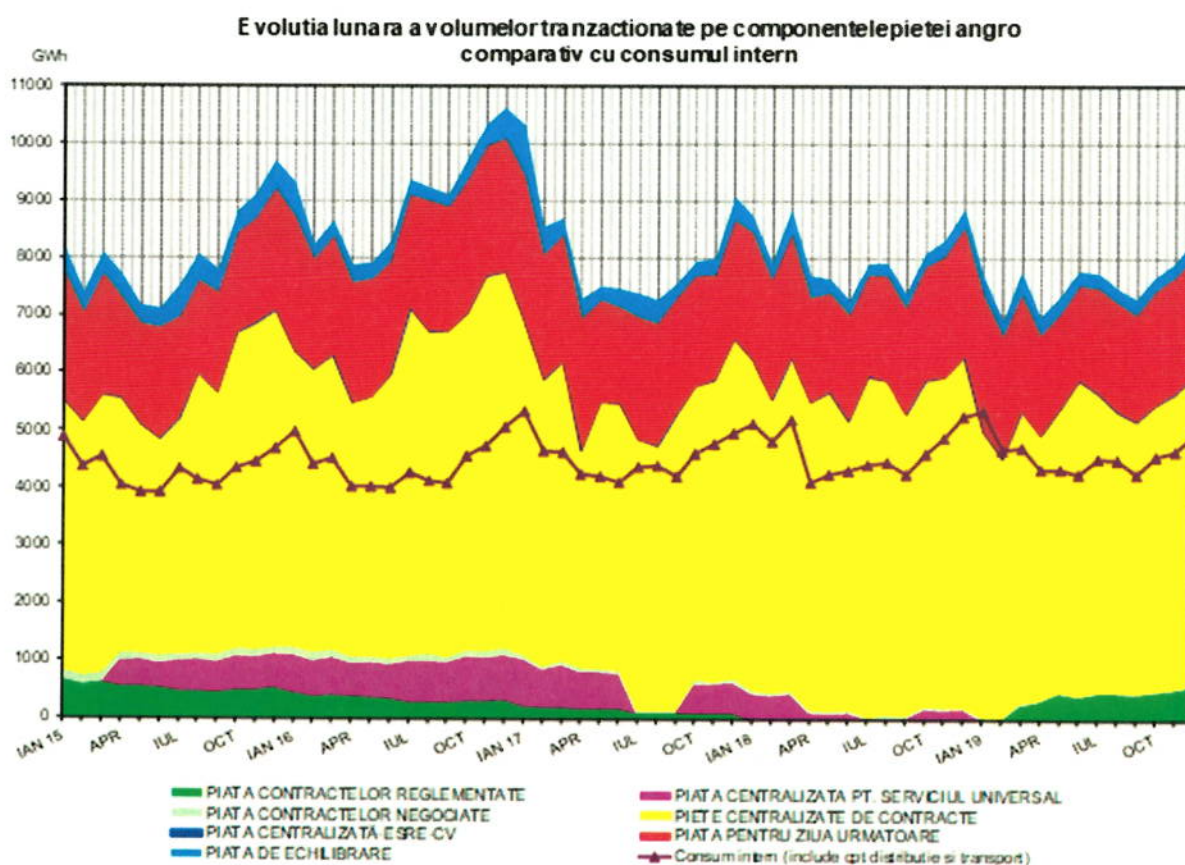
The monthly evolution of these volumes in absolute figures and the average prices achieved on the said components of the wholesale markets can be accessed on the ANRE website, in the section of the Monthly Reports regarding the results of the electricity market monitoring.

Components of the wholesale market	2015 (GWh)	2016 (GWh)	2017 (GWh)	2018 (GWh)	2019 (GWh)	Evolution compared to 2018 - % -	Share from the internal demand 2019 - % -
Market of regulated contracts	6,413	4,152	1,741	-	4,317	-	7.8
Market of directly negotiated contracts	1,509	1,283	616	438	268	▼38.8	0.5
Centralized markets of bilateral contracts, of which	56,717	65,337	59,829	67,005	59,799	▼10.8	108.4
PCCB-LE	31,407	21,729	22,821	22,736	18,907	▼16.8	34.3
PCCB-NC	7,915	12,718	11,474	15,273	15,832	▲3.7	28.7
PC-OTC	17,394	30,890	25,534	28,996	25,060	▼13.6	45.4
PCE-ESRE-CV	-	-	-	-	0.8	-	0.001
Centralized market for the universal service	4,592	8,046	5,601	2,208	612	▼72.3	1.1
Day-ahead market	22,496	25,810	24,716	23,541	23,133	▼1.7	41.9
Intra-day market	76	131	152	159	375	▲135.9	0.7
Balancing market	4,861	4,001	4,497	3,305	3,280	▼0.8	5.9

Export*	10,504	8,587	6,548	5,479	3,543	▼ 35.3	6.4

Source: The monthly reports of the participants to the electricity wholesale market, Opcom SA and CNTEE Transelectrica SA – ANRE processing -

\* The amount corresponding to export contracts in 2019 includes both the amounts exported by the suppliers/ traders, as well as the export completed by means of CNTEE Transelectrica, in its capacity of transfer agent for the coupled DAM and PI



Source: The monthly reports of the participants to the electricity wholesale market, Opcom SA and CNTEE Transelectrica SA – ANRE processing -

In year 2019 it has been predominant the delivery of the power traded on the centralized markets of bilateral contracts for electricity, organized at OPCOM level (PC-OTC, PCCB-LE and PCCB-NC), which ensures mainly the delivery of the power corresponding to the transactions by contracts concluded for the medium or long term, following by DAM in case of transaction with short-term delivery. At the same time, the volume of electricity delivered under negotiated bilateral contracts has been in a continuous decrease, reaching in 2019 the lowest share reported to the internal demand (approx. 0.5%), being given the amounts in progress under contracts concluded by producers and competitive suppliers before the entry into force of the Law.

Another specific aspect of year 2019 is the modification of the regulatory framework applicable to the suppliers of last resort imposed by the implementation of the provisions of the GEO no.

2018/114, that provided the introduction of some regulated tariffs for the electricity sold to household customers starting from the month of March 2019. Following the changes brought by this legal act, the suppliers of last resort have concluded regulated contracts with the producers of electricity for the acquisition of electricity intended for the coverage of the demand of household customers, contracts under which the volume of delivered electricity registered a share of approx. 7.8% of the internal demand. In this context, it is noticed the significant reduction of the volumes of electricity delivered in year 2019 based on the transactions performed by PCSU compared to the previous year (by approx. 72.3%).

It is found as well that the reduction by approx. 0.8% of the volume of electricity traded on the balancing market compared to 2018, but with the maintenance at the same share from the internal demand record in the previous year as well (approx. 5.9%) under the conditions in which the internal demand as well has registered a decrease by approx. 1.04% compared to year 2018.

Starting from the month of September 2019 it has become functional the centralized market for electricity from renewable sources supported by green certificates (PCE-ESRE-CV) that registered, nevertheless, the lowest share among all of the segments of the wholesale market by reference to the internal demand (approx. 0.001%).

It results from the presented data that PCCB-NC remained at values close to those of 2018, recording a slight increase in the volumes delivered, while PCCB-LE and PC-OTC recorded significant reductions of these volumes.

The electricity market for large end customers continues to be inactive, until the end of year 2019 being submitted only one starting bid, the trading of which has been nevertheless cancelled after the stage of public negotiation.

Even though the PI continues to record a reduced share by reference to the internal demand, in 2019 it has recorded a significant increase in the traded volume compared to 2018 (by approx. 136%). Starting from 3 p.m. CET on the trading day 19.11.2019, the PI from Romanian functions in a coupled regime with the markets from the other 20 countries of the EU taking part in the SIDC European project, known before as XBID, following the implementation of the provisions of the CACM Regulation and the documents subsequent to it, elaborated by the national regulatory authorities and ACER.

As regards the cross-border commercial activity presented in the following table, it results that in 2019, compared to the previous year, it has decreased on the export segment (by approx. 35%) and it has increased significantly on the electricity import segment (by approx. 74%).

Export/ import transactions	2016	2017	2018	2019
Export				
Volume (GWh)	8,587	6,548	5,479	3,543
Average price (RON/MWh)	155.58	189.7	193.66	195.60
of which, by coupled DAM*				
Volume (GWh)	717	804	1,399	990
Average price (RON/MWh)	143.57	178.25	180.23	179.13
of which, by coupled PI*				



Volume (GWh)	-	-	-	2.76
Average price (RON/MWh)	-	-	-	200.68
Import				
Volume (GWh)	3,570	3,654	2,934	5,052
Average price (RON/MWh)	149.81	242.53	248.66	273.32
of which, by coupled DAM*				
Volume (GWh)	2,249	2,031	1,123	1,733
Average price (RON/MWh)	150.82	252.70	253.40	285.58
of which, by coupled PI*				
Volume (GWh)	-	-	-	3.34
Average price (RON/MWh)	-	-	-	213.11

Source: The monthly reports of the participants to the electricity wholesale market, OPCOM SA and CNTEE Transelectrica SA – ANRE processing -

\* The amount corresponding to the import/ export contracts in year 2019 includes both the imported/ exported amounts of suppliers/ traders, as well as the import/ export performed by means of CNTEE Transelectrica, in its capacity of transfer agent for the coupled DAM and the coupled PI.

Overall, it can be found that Romania has changed its position in the region, becoming net importer in 2019, as it results from the analysis of export-import balance values, presented hereinafter.

BALANCE (Export Import)	2016	2017	2018	2019
Volume (GWh)	5,017	2,894	2,545	-1,509

Source: The monthly reports of the participants to the electricity wholesale market, OPCOM SA and CNTEE Transelectrica SA – ANRE processing -

For a comparative analysis with the previous year's values, they are presented hereinafter the annual average prices by components of the wholesale market:

Average prices by components of the wholesale market	2019 -RON/MWh-	2018 -RON/MWh-	Evolution in 2019 compared to 2018 - % -
Market of regulated contracts	180.84	-	-
Market of directly negotiated contracts	179.70	161.29	▲ 11.4
Centralized market of bilateral contracts, of which:	240.00	199.06	▲ 20.6
PCCB-LE	237.30	187.97	▲ 26.2
PCCB-NC	232.95	205.62	▲ 13.3
PC-OTC	246.49	204.30	▲ 20.7
PCE-ESRE-CV	253.30	-	-
Centralized market for the universal service	287.92	238.98	▲ 20.5
Day-ahead market*	238.80	216.16	▲ 10.5
Intra-day market**	178.84	105.89	▲ 68.9

Balancing market***	605.54	401.67	▲50.8
Export****	195.60	193.66	▲1.0

\* the annual average price is calculated as the arithmetic mean of the hourly close out prices of the market and it is published by Opcom SA.

\*\* the annual average price is calculated on the basis of the volume and the annual traded value published by Opcom SA.

\*\*\* the annual average price is calculated as the arithmetic mean of the monthly average deficit prices.

\*\*\*\* the annual average price reflects the information related to the export performed by the suppliers/traders and the information related to the export performed by means of the CNTEE Transelectrica SA, in its capacity of transfer agents for the coupled DAM and coupled PI.

Source: The monthly reports of the participants to the electricity wholesale market, Opcom SA and CNTEE Transelectrica SA – ANRE processing -

Regarding the presented average prices on the electricity wholesale market, we mention the following:

- the average prices do not include the VAT, excise duties or other fees, and they have been determined by weighing the prices with the amounts delivered on a monthly basis corresponding to the sale transactions reported every month by the participants to the markets, with the previously mentioned exceptions;
- all of the prices include the TG component of the transmission tariff (for the centralized markets it is included by the bidders in the price).

The comparative analysis of the annual average prices of delivery resulted from the transactions concluded by components of the wholesale market in 2019, compared to the preceding year, reveals the increase in the annual average prices for all of the components of the wholesale market; we recall shortly the elements that characterize the market context:

- the reintroduction of the regulated tariffs for the electricity sold to household customers, as well as of the regulated contracts concluded by the suppliers of last resort with the electricity producers for the acquisition of electricity intended for the coverage of the demand of household customers starting from the date of 1 March 2019;
- the decrease in the generation of the electricity in 2019 compared to the generation of the preceding year;
- the reestablishment of the rule according to which green certificates are granted according to the achieved generation, without limiting to the amount of electricity per hour notified by the TSO
- the obsolete generation technology, with high generation costs and low efficiencies of some groups, the existence of some generation capacities with the life span to the limit or exceeded;
- the regional situation characterized by weather conditions similar to those from Romania;
- the reduced hydraulicity on the Danube and the rivers characterized by debits that are significantly lowers than the multi-annual average values, registered mainly in the second part of the year;
- the average air temperature recorded in Romania in year 2019, according to the results of the processing of the daily information sent by CNTEE Transelectrica SA has been on ascending trend, higher by 0.50C than the average air temperature recorded in 2018, being itself considered to be the third hottest year registered in Romania since 1901 to the present time;
- a decrease in the internal demand year-wide, compared to the previous year;
- numerous scheduled or accidental unavailability of some important dispatchable units;

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- the absence of an offer for sale from the electricity producers, based on hydrocarbons and the reduction in the offer of the other producers following the obligations resulted from the regulated contracts;
  - the increase in the amounts tendered at acquisition, respectively in the availability of the participants to purchase power at high and very high prices.

In the second part of the year, some of these market conditions led to the registration of a long-term power shortage and a lack of sale offer for all of the components of the wholesale market.

### **Characterization of the PAN activity of the main categories of participants**

Following the influence factors mentioned, the volume of the supplies of electricity corresponding to the contracts implemented on the competitive market decreased by 4% in 2019, compared to 2018.

It is noted the maintenance of the majority share of the supplies under contracts traded on PC-OTC, in parallel with the reduction of the share of PCCB-LE and the increase of the PCCB-NC. Thus, the final structure of the activity on the centralized markets of contracts in year 2019 is the following: 26% of the volumes have been delivered on the PCCB-NC, 32% on the PCCB-LE, and the rest of 42% on PC-OTC.

The volumes of the supplies of electricity carried out under export contracts are dropping compared to the monthly volumes delivered in 2018, while the volumes of the supplies of electricity carried out under import contracts increased significantly compared to the previous year.

It is noted the different monthly evolution of the imported volumes compared to the exported volumes. The significant increase in the imported volumes in the month of January and the second semester, in correlation with the decrease in the volumes exported in these months have led to the registration of some significant variations of the export-import balance, being registered an import balance in the specified period, with significant values in the period between August and October 2019.

Overall, the supplies corresponding to the sales of the dispatchable producers on the competitive market represented in 2019 an amount of almost 62.1TWh, traded at the annual average price of 225.30RON/MWh; compared to the values of year 2018, it is noticed a decrease by 5.3% in the amounts of electricity sold and an increase by 13% in the annual average price.

Most part of the respective amount was sold on the centralized markets of bilateral contracts (approx. 35.9TWh), and from that amount, the predominant part was the sale to the suppliers of electricity (33.2TWh at the average price of 228.31 RON/MWh). Large amounts have been sold as well by means of the short-term markets (DAM and PI) – approx. 16.7TWh at the annual average price of 227.44 RON/MWh.

Compared to the previous year, the structure of sale of dispatchable producers continued to change, through the reintroduction of the regulated market (where they have been sold approx. 4.3TWh at the average price of 180.84 RON/MWh) and through the increase of the amount traded on the short-term supply markets DAM and PI to the detriment of the PCSU, who registered for the second year consecutively a sharp drop (approx. 75%), respectively of the centralized markets with on-time delivery – PCCB with a decrease of 18%.

The lowest annual average price obtained by the suppliers through the sale is registered for the sales contracts on the PCCB-NC (256.11 RON/MWh), and the highest annual average price is registered on the PCCB-LE (263.23 RON/MWh). It is noticed the fact that the average price on the PCSU (269.36 RON/MWh) has registered in 2019 as well some values that are higher than those registered on the other centralized markets of contracts administered by Opcom SA.

In 2019, the annual average price at which the bound suppliers of last resort have purchased the electricity from the markets of the type of PCCB (254.91 RON/MWh) is lower than that at which they have purchased the electricity from the DAM (289.47 RON/MWh), both acquisitions being completed at prices above the annual average price at which they have purchased the electricity under regulated prices (180.84 RON/MWh).

The distribution operators have purchased 5.7TWh of electricity only by means of the competitive market, mainly by means of the existing products on the PCCB-LE (30.9%), from the DAM (26.7%), followed by the purchased from the PCCB-NC (25.8%) and PC-OTC. As regards their activity on the centralized markets, they are noticed the following:

- certain distribution operators active on the PCCB-LE in year 2018 have diminished their acquisition from this marketing, turning in 2019 towards the acquisition from the PCCB-NC and PC-OTC; if in 2018, out of the 4 operators active on the PC-OTC, only one has had a consistent activity, in 2019, three more operators jointed that operator;
- out of the 5 distribution operators who have registered a consistent activity on the PCCB-NC in year 2018, only one has maintained the quantitative amount at values similar to the previous year, the other turning to the other PC-OTC; in exchange, they have intensified their activity on the PCCB-NC other 3 operators who have diminished the acquisition from the PCCB-LE;
- in year 2019 the total amount purchased from the PCCB-LE has recorded a decrease of 36%, the amount purchased from the PC-OTC increased by 318%, while the amount purchased from the PCCB-NC decreased slightly (approx. 1.9%);
- if in 2018 the average prices of acquisition from the PCCB-NC and the PC-OTC have been, in general, higher than the prices of acquisition from the PCCB-LE, this tendency was not maintained in 2019, a part of the operators purchasing from the PCCB-LE power at prices above those from the PCCB-NC and PC-OTC;
- all of the distribution operators have been active on the DAM in 2019, similarly to 2018, three of them increasing their acquisition from the DAM compared to the previous year with shares comprised between 7.3% and 15.8%; the total amount purchased from the DAM increased to 26.7% of the total in 2019, compared to 23.6% in the previous year;
- for all of the distribution operators, with a single exception, the average prices of acquisition on the DAM have been higher than the average price of acquisition on PCCB-type of markets.

### **Evolution of the centralized market with continuous double negotiation of bilateral electricity contracts - PC-OTC**

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Started in the month of May 2014, the PC-OTC has been in 2019 as well the most important among the components of the wholesale electricity market, the electricity supplied on this market having a market share of 45.4% of the internal demand and representing approx. 25.5% of the total supplies of power corresponding to the sale transactions from the wholesale market.

The annual amount supplied under the sale-purchase contracts concluded on the PC-OTC was 25.06TWh, at the annual average price of 246.49 RON/MWh. The amounts delivered monthly varied between a minimum of 1.68TWh (35.9% of the internal demand) in the month of February 2019 and a maximum of 2.68TWh (63.1% of the internal demand) in the month of June 2019. Monthly average prices varied between 221.05 RON/MWh (in the month of June) – 263.05 RON/MWh (in the month of January).

The sales of the suppliers on this market in 2019 represented approx. 67% of the entire amount supplied, at the annual average price of 256.78 RON/MWh, while the producers have sold approx. 33% of the total supplies on this market, at the annual average price of 225.94 RON/MWh. The data on the supplied amounts and the related prices have been obtained on the basis of the monthly reports of the participants to the market and it refers to the electricity supplied in the reporting month, following the transactions concluded on the PC-OTC.

The HHI concentration indicator calculated by Opcom SA according to the volumes contracted for supply in the months of year 2019, has registered monthly values between 572 – 1,244 on sale, values indicating a market within the limits that separate non-concentrated markets from those with a moderate concentration degree, and between 434 – 615 on purchase, values indicating a non-concentrated market.

The C3 concentration indicator has steadily recorded values under 30% on sale, except for the month of June 2019 when it was recorded the value of 32.37% and values comprised between 29.86% and 50.97% on sale, the latter being characteristic for a moderately concentrated market.

As regards trading on the PC-OTC in year 2019, the activity of the participants on this market diminished compared to the previous year, being registered a decrease of the number of traded contracts from 4,976 to 3,882.

From the brief analysis of the information comprised in the monthly reports of Opcom SA with regards to the supervision of the administered markets, it results that:

- compared to the previous year, the traded volume in 2019 decreased by 34%, and the weighted average trading price increased by approx. 19.3%, respectively from 225.90 RON/MWh in 2018 to 269.41% RON/MWh in 2019;
- the monthly average price of the same product varies according to the trading month and the specificity of each traded product;
- there have been traded significant amounts by means of the instruments specific to the standard products with a band delivery profile for the monthly, quarterly, half-yearly and yearly contracts (92.7% of the traded amount in 2019);
- it has been concluded a significant number of transactions between the participants who are members of some groups of companies; in case of one of the groups, both the supplier of last resort, as well as the concessionaire distribution operator have concluded some contracts with the companies of the group.

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Opcom SA calculates and publishes on a daily basis the baseline prices for each product of the PC-OTC, determined as an arithmetic mean of the PC-OTC participants' proposals.

The average trading prices, calculated as weighted means of the prices with the amounts of electricity traded by means of the specific instruments (standard products) that can be traded on the PC-OTC for each delivery profile (band, void, peak), are calculated and published daily by Opcom SA on own website in the section of Transactions-Results.

In the section of the Centralized market with continuous double negotiation PC-OTC, Opcom SA publishes as well daily information on the traded products and the aggregated data, synthesis data and statistics, as well as data/ information published in accordance with the provisions of art. 26 of the PC-OTC Regulation, in year 2019 being published complete information about 544 transactions with the variation of the close out price higher by 10%, and about 1 transaction with amounts above 50MW/products. In 2019 they have been registered maximum variations of the trading prices with values comprised between -47% (in the month of December) and 88% (in the month of January).

#### **Evolution of the centralized market of bilateral electricity contracts, with the three trading methods – PCCB-LE, PCCB-NC and PCCB-PC**

In year 2019, the amount of electricity supplied under the contracts concluded on the PCCB-LE was 18.91TWh, down by 16.8% compared to year 2018 and a market share of 34.3% of the internal demand, while the annual average price for the total amount supplied increased by approx. 26.2% compared to the same period of comparison.

During year 2019, the sales of the suppliers on this market represented approx. 7.3% of the entire amount delivered, at the annual average price of 263.23 RON/MWh, while the dispatchable producers have delivered approx. 92.7% of the total traded amount at sale, at the annual average price of 235.24 RON/MWh.

As regards the trading activity carried out in 2019, it has diminished significantly compared to 2018, being registered a decrease by approx. 29.5% of the volume of electricity tendered for trading (both for sale and purchase) and by approx. 41.5% of the traded volume of electricity. At the same time, the weighted average price of trade recorded an increase by approx. 23.6% compared to the previous year: from 234.28 RON/MWh in 2018 to 289.54 RON/MWh in 2019.

The number of participants registered on the PCCB-LE in year 2019 was above 264, the minimum number being registered in September and December 2019, and the maximum number (270 participants) in the month of January, values under those registered in year 2018, when the minimum number of participants was equal to 283.

If in 2018, the most active participant in terms of intention to sell was the producer CE Oltenia SA, in 2019, SPEEH Hidroelectrica SA joined CE Oltenia SA, the two of them occupying alternatively the position of the producer who has offered the highest volumes intended for sale in 8 months of year 2019.

With regard to the concluded sale transactions, the producer SPEEH Hidroelectrica SA stood out, holding the position of first seller (with shares that varied between 41.85% in the month of February 2019 and 90.2% in the month of December).

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From the analysis of the purchase offers, it results that in 9 of the 12 months of the year, the most interested in the acquisition of power on this market have been, alternatively, 1 of the 8 concessionaire DO and 1 FC without managing nevertheless to materialize their intentions for purchase, except for a single month in which the FC with the highest offer for purchase has registered as well the highest trading share.

The HHI concentration indicator, calculated by Opcom SA on the basis of the volumes traded by the participants, has registered monthly values between 1,602 – 8,219 for sale, indicating a highly concentrated market, and between 929-4,900 for purchase, covering the entire range from non-concentrated markets to highly concentrated markets, and the C3 concentration indicator on the purchase side has registered values between 40.16% and 100%, and on the sale side between 57.94% and 100%.

The supplies of electricity corresponding to the contracts traded on the CMBC-CN have registered in year 2019 a share of approx. 28.7% of the internal demand, representing approx. 16.6% of the total supplies of electricity from the wholesale market.

The power supplied by the supplier in 2019, under sale contracts concluded on the PCCB-NC, represented approx. 36.7% of the total, at the annual average price of 256.11 RON/MWh, while the dispatchable producers have supplied for sale approx. 63.3% of the total amount supplied, at the annual average price of 219.54 RON/MWh.

As regards the trading on the PCCB-NC in 2019, the number of registered participants increased from 172 in March to 190 in October, and the number of traded contracts in 2019 was equal to 35,231 (with a minimum of 108 in the month of February and a maximum of 7,300 in the month of October). In this context, it must be mentioned that, starting from the date of 05.06.2019, according to the changes to the ANRE Presidential Order no. 2019/50, the average power per hour of the standard products traded on the PCCB-NC is 0.1MW.

The analysis of the data on the traded volumes indicates a substantial decrease by approx. 55% of the annual volume traded in 2019, compared to the one traded in the previous year. The volumes traded on a monthly basis varied between 0.17TWh (in February 2019) and 1.58TWh (in November 2019), values net lower than the monthly maximum recorded in the previous two years, of 4.83TWh (in May 2018). The weighted average trading price registered an increase by approx. 21.4%, compared to the previous year: from 228.76 RON/MWh to 277.69 RON/MWh in 2019. As in the case of PC-OTC, on the PCCB-NC as well there have been traded significant amounts by means of the instruments specific to standard products with a supply provide in bank for the monthly, quarterly, half-yearly and yearly contracts (96.8% of the amount traded in 2019).

The trading data is the data presented in the monthly reports of Opcom SA for the supervision of the operation of the administered markets.

The centralized market for electricity from renewable sources supported by green certificates – PCE-ESRE-CV

Also within Opcom, starting from the month of September 2019, it has become functional the centralized market for electricity from renewable sources supported by green certificates (PCE-ESRE-CV), on which it was registered nevertheless an extremely reduced activity.

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Thus, in year 2019, the supplies of the producers on this market represented approx. 0.001% of the internal demand (0.8GWh).

As regards the trading on the PCE-ESRE-CV, from the short analysis of the information comprised in the monthly reports of Opcom SA for the supervision of the administered markets, they are noticed the following:

- The number of participants registered as sellers varied between (in September) and 51 (in December), and the number of those registered as buyers between 13 (in October) and 20 (in December);
- it has been traded an amount of 120GWh, for a weighted average price of 261.20 RON/MWh, for which they have been attributed a number of 291,196 CV;
- the HHI concentration indicator, calculated by Opcom SA based on the volumes traded by the participants, has registered monthly values between 2,385 – 2,975 for sale and between 2,436 – 5,071 for purchase, indicating a highly concentrated market on both sides of the trading register.

### **Evolution of the Day-Ahead Market – DAM**

The volume of electricity traded on the DAM dropped by approx. 1.7% compared to the previous year. The monthly share of the transactions carried out on the DAM of the internal demand varied between 37.8% (May 2019) and 45.7% (February 2019), year-wide being registered a slight decrease compared to year 2018 (41.9% compared to 42.2%).

The average close out price of the DAM (calculated as the arithmetic mean of the daily close out prices of the market) increased by approx. 10.5% compared to the average of year 2018.

Variations from one month to another of the monthly average price established on the DAM existed on both ways. The minimum value of the period was achieved in the month of March 2019 (182.78 RON/MWh), and the maximum value in the month of January 2019 (352.19 RON/MWh), the annual average price calculated as arithmetic mean of the daily average prices registered being in 2019 of 238.80 RON/MWh.

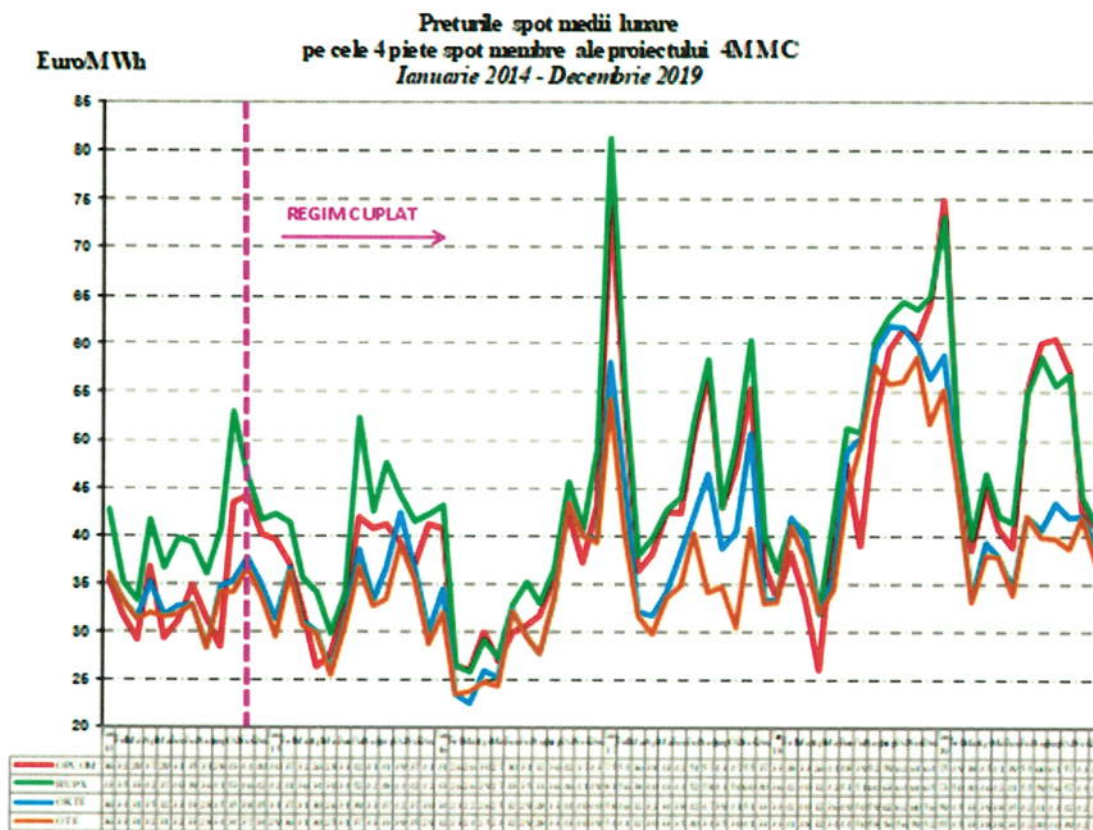
The monthly evolution of the average price and the volume traded on the DAM in the period 2006-2019 is presented in the monthly report regarding the results of the electricity market monitoring published on the ANRE website.

Starting from 19 November 2014, the DAM from Romania functions in a coupled regime with the spot markets from Hungary, Slovakia, and the Czech Republic, in the 4M MC project, for the purpose of the harmonization of the European national markets and the creation of the European internal market of electricity. The coupled functioning relies on the coupling algorithm recommended by ACER (Euphemia), which pursues the maximization of the social wellbeing at level of the entire area of the coupled markets.

The coordinated calculus of the cross-border allocation capacity is under the governance of the transmission and system operators of the 4 countries, in accordance with the European legislation, and the allocation model used is the model of implicit allocation on the DAM of the available capacity of interconnection.



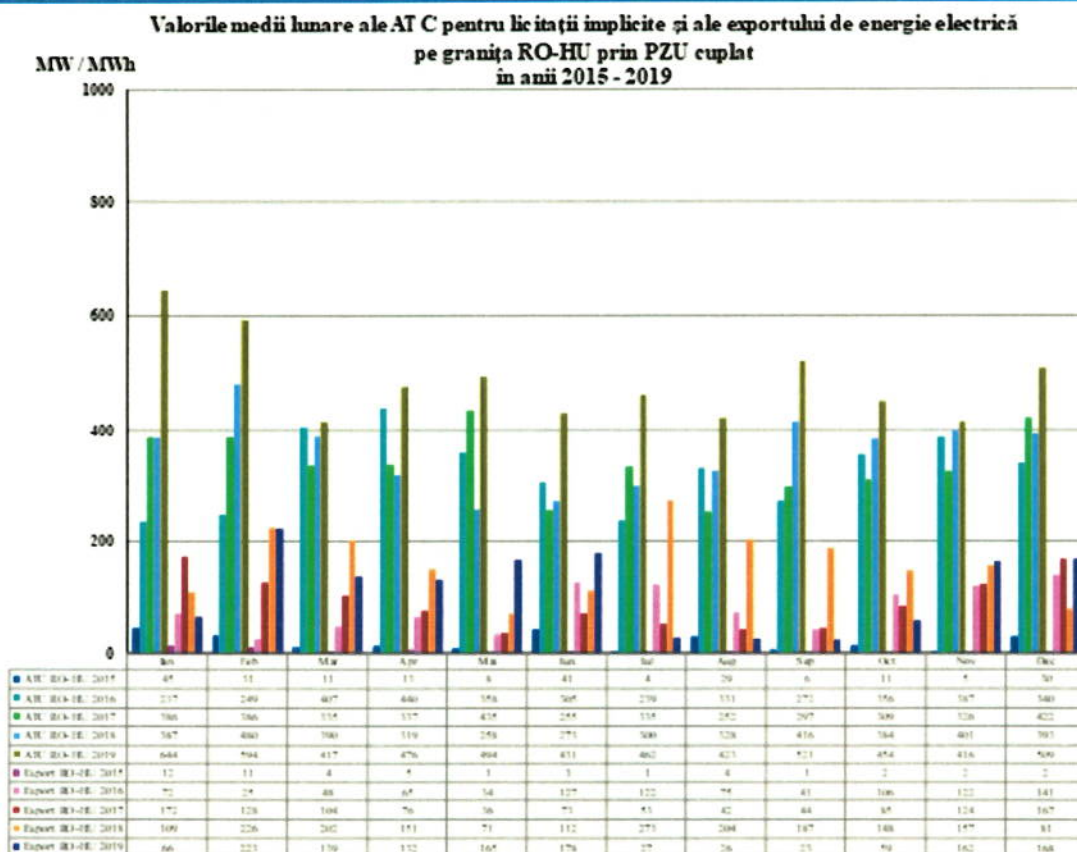
In the following chart they are presented the monthly average spot prices of the 4 day-ahead markets involved in the 4M MC coupling mechanism starting from 1 January 2014, before and after the commencement of the operation in a coupled regime.



Source: Information published by OPCOM SA – ANRE processing –

To better respond to the purpose for which it was implemented the coupling mechanism of the DAM, respectively the transfer of power at the level and in the way determined by the known conditions of the generation and the demand and according to the prices from the coupled markets, from 1 January 2016 the transmission operators from Romania and Hungary, CNTEE Transelectrica Sa and Mavir Zrt, following the recommendations of the regulatory authorities from the two states, ANRE and MEKH have agreed with reservation of a share from the capacity of interconnection for the allocation on the DAM. The same rule is adopted as well for the allocation of the interconnection capacity on the border with Bulgaria.

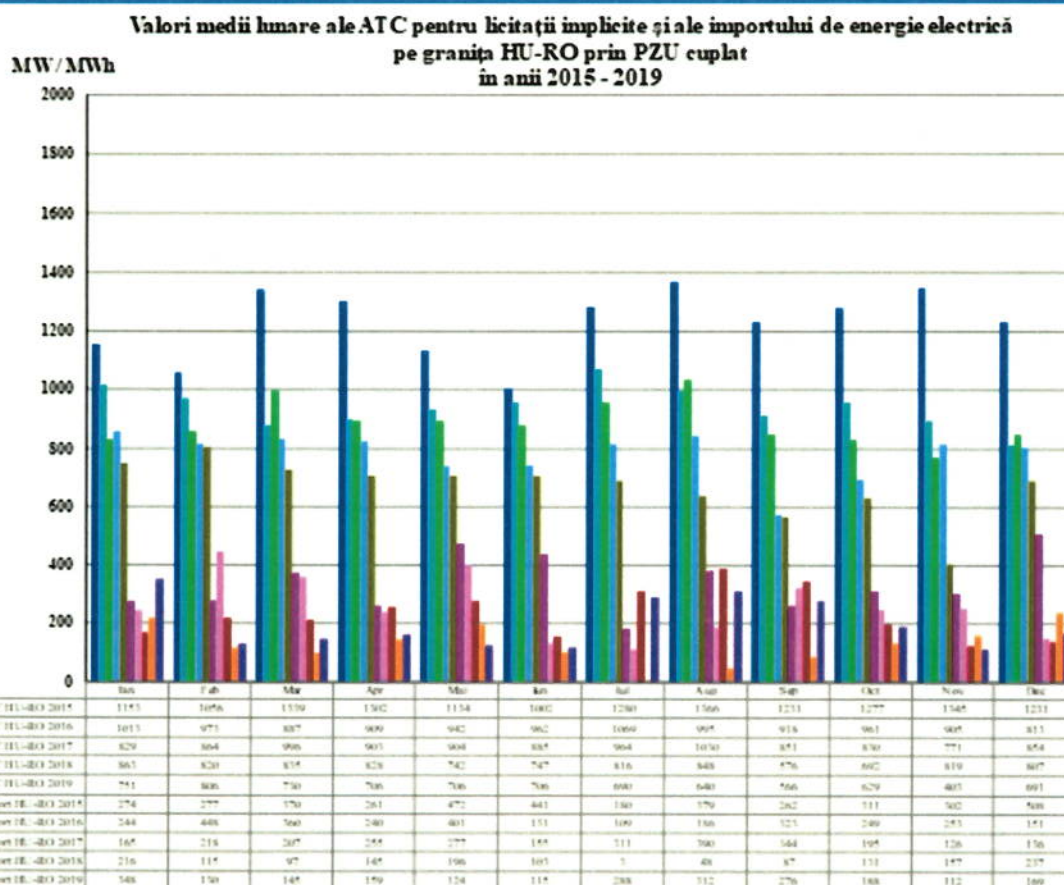
In the following chart they are presented the monthly average values of the transmission capacity available per hour for the export on the DAM and the export of electricity carried out through the coupled DAM, determined as the arithmetic mean of the flows per hour, achieved in the period 2015 - 2019.



Source: Monthly report of OPCOM SA – ANRE processing -

Starting from 2016 they have been registered annual increases in the ATC for the export on the DAM. In year 2019 it was registered an increase by approx. 35% of the ATC and decrease by approx. 29% of the flows of electricity exported on the RO-HU border through the coupling mechanism, compared to year 2018.

As regards the allocation of the ATC for the implicit tenders on the direction of the import on the Hungarian border, after the application of the “netting” principle, they have resulted for year 2019 lower values of the ATC for the coupled DAM. In the following chart they are presented the monthly average values of the transmission capacity available per hour for the import on the DAM and the import of electricity performed through the coupled DAM, determined as the arithmetic mean of the hourly flows, in the period 2015-2019.



Source: Monthly reports of Opcom SA – ANRE processing

The allocated ATC for the import on the DAM diminished by approx. 14.6% compared to 2018, and the flow of electricity imported through the coupled DAM increased by 54.5%.

The alternatively increasing evolution registered by the PIP DAM Romania in year 2019 is reflected as well by the evolution of the exported and imported flows on the RO-HU border through the coupling mechanism. If in the period between February and June 2019 they were predominant the export flows, from July the evolution of the flows reversed, in the period between July and October 2019 being registered mainly import flows. It must be noticed as well that in the period July-October 2019, PIP DAM registered the highest monthly average values between the 4 member states of the 4M MC market.

Even though there have been some trading opportunities, reflected in the differences of price between the two areas, in many time slots it has not been possible to perform larger cross-border exchanges because of the values established for the hourly ATC on the two directions (export/import). In the following chart it is presented the monthly record of the number of time slots in which it has not been possible to perform larger exchanges on the two directions, being given the insufficient values of the allocated ATC (the exchanged flow has been equal to the allocated ATC per hour, and the difference between PIP DAM from Romania and PIP DAM from Hungary has been different from zero).

Month	No. of intervals with insufficient ATC DAM export (RO - HU)	No. of intervals with insufficient ATC DAM import (HU - RO)
January	31	85
February	112	6
March	139	12
April	116	21
May	103	6
June	178	8
July	5	37
August	9	81
September	7	125
October	10	32
November	153	26
December	117	55
<b>Total year 2019</b>	<b>980</b>	<b>494</b>

Source: Daily data published by Opcom SA – ANRE processing -

The hourly evolution of the difference between the close out prices of the coupled DAM on the Romanian territory, respectively the Hungarian territory, correlated with the cross-border flows resulted on the Romanian-Hungarian border, on both directions, for year 2019 is presented in the monthly report regarding the resulting of the electricity market monitoring, published on the ANRE website.

The price established on the DAM in year 2019 integrates with sufficient accuracy the available information regarding the level of the resources and the necessary electricity corresponding to the moment, the changes in the legal framework and the special events with an impact on the power sector, presenting at the same time, the specific high volatility.

The HHI concentration indicator has had values that indicate the lack of concentration on the acquisition, with monthly values between 375 and 687. As regards the sales, the monthly values of the HHI have been between 597 and 1,044, being recorded 3 months of moderate market concentration, respectively February, June and October 2019, in the other months the values indicating a lack of concentration of the market.

### **Intra-day Market – IM**

The IM is a volunteer market that provides the participants with standard trading tools, designed to facilitate the adjustment of the contract portfolio as close as possible to the moment of delivery of electricity and a better management of the potential imbalances, contributing as such to a balance between the generation and the demand.

After the entry into force of the Regulation (EU) 2015/1222 of the Commission from 24 July 2015 for the establishment of some guidelines on capacity allocation and congestion management (CACM Regulation), it was started the elaboration and the approval by all of the regulatory

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authorities or by ACER of the documents subsequent to it, aimed to allow the unique coupling through the price of the day-ahead markets and the correlation through the continuous trading of the intra-day markets.

The new trading rules of the IM are compliant with the legislation in the field of the EU (Regulation (EU) 2015/1222 of the Commission from 24 July 2015 for the establishment of some guidelines on capacity allocation and congestion management – CACM Regulation), respectively with the subsequent secondary legislation approved by ACER decisions (the ACER decisions elaborated according to the CACM Regulation no. 05/14.11.2017 – for the enforcement of the provisions of art. 54 – the maximum and minimum settlement prices harmonized for all of the bidding areas taking part in the unique coupling of the intra-day market, no. 4/24.04.2018 – for the enforcement of the provisions of art. 59 – definition of the opening and closing hours of the cross-zonal gates for the intraday market, no. 8/26.07.2018 – for the enforcement of the provisions of art. 37 – adoption of the methodology and the common set of requirements for the price coupling algorithm and the correlation algorithm by continuous trading).

Thus, if until the delivery day of 19.11.2019, inclusively, the IM from Romania has functioned independently from the intra-day markets from other countries of the European Union (EU), starting from 3 P.M. CET of the trading day 19.11.2019, the IM from Romania functions in a coupled regime with the markets from the other 20 EU countries taking part in the SIDC European Project, formerly known as XBID.

The volume of electricity traded in 2019 on the IM was equal to 375GWh, in growth by approx. 135.9% compared to the previous year. The volumes traded on a monthly basis have registered an average of 31.2GWh, between a minimum of 16.6GWh (in July 2019) and a maximum of 59.3GWh (in December 2019).

Of a total of 152 license holders registered year-wide, this being the maximum number registered in the month of November, in average, 66 participants have concluded every month sales or purchases representing 46% of the total registered participants who have been active on this market.

The weighted average price at level of year 2019 was 178.84 RON/MWh, in growth by 68.9% compared to the price of 2018. In terms of value, the transactions represented approx. 67.1 million RON, an increase by approx. 298.3% compared to the value of 2018 of this market. The IM was used insufficiently by the participants to the market, situation not characteristic to the markets where electricity is generated from renewable sources in growth. Once with the start of the operation in a coupled regime in the SIDC project, it is noticed an increase in the volume of transactions, from a daily average of approx. 928MWh traded in the period of operation in a local regime prior to the coupling – January – 19 November 2019, at a daily average mean of approx. 1,791MWh traded in a coupled regime in the period between 20 November and December 2019.

### **Balancing Market – BM**

At the beginning of the month of December 2019, on the balancing market (BM) they were registered 111 participants, holding 215 dispatchable units in commercial operation.

Also, on the BM there were operational 67 Balancing Parties (BP) of which 4 belonged to CNTEE TRANSELECTRICA SA. The transmission and system operator used distinct PRE for the

compensation of the unscheduled exchanges with the neighbouring countries, the acquisition of the power for the consumption of own station, a transfer agent for the DAM, respectively IM coupled markets. To minimize the costs of acquisition for the coverage of the losses in RET, CNTEE TRANSELECTRICA SA is part of the PRE CIGA ENERGY.

In the following table they are compared the annual values from the past 3 years of the C1 and HHI concentration indicators, determined on the basis of the power effectively delivered by the producers on the BM, for each type of adjustment and sense.

Year	Type of adjustment	Adjustment sense	2019	2018	2017
C1 (%)	Secondary adjustment	Increase	68	70	58
		Decrease	67	70	58
	Fast tertiary adjustment	Increase	59	73	82
		Decrease	38	39	42
	Slow tertiary adjustment	Increase	57	52	34
		Decrease	85	73	39
C3 (%)	Secondary adjustment	Increase	99	97	98
		Decrease	99	97	98
	Fast tertiary adjustment	Increase	88	87	94
		Decrease	97	94	99
	Slow tertiary adjustment	Increase	100	94	80
		Decrease	100*	97	83
HHI	Secondary adjustment	Increase	5.372	5.443	4.687
		Decrease	5.316	5.470	4.706
	Fast tertiary adjustment	Increase	4.171	5.513	6.811
		Decrease	3.293	3.265	3.488
	Slow tertiary adjustment	Increase	4.255	3.627	2.369
		Decrease	7.461	5.747	2.928

\*the C3 value is 99.76%, rounded to 100%

Source: Monthly reports of CNTEE Transelectrica SA – ANRE processing -

The annual value of the concentration indicators indicates the fact that the EM remains in 2019 as well a highly concentrated market, on all of the types of adjustment, both at increase, as well as at decrease. The participants to the EM who have registered markets share above 20% year-wide for the power effectively delivered, have been HIDROELECTRICA (at both increases and decreases on the secondary adjustment and fast tertiary adjustment), COMPLEXUL ENERGETIC OLTENIA (at both increases and decreases on all of the types of adjustments), ROMGAZ (at increases on slow tertiary adjustment) and OMV PETROM (at decreases on the fast tertiary adjustment).

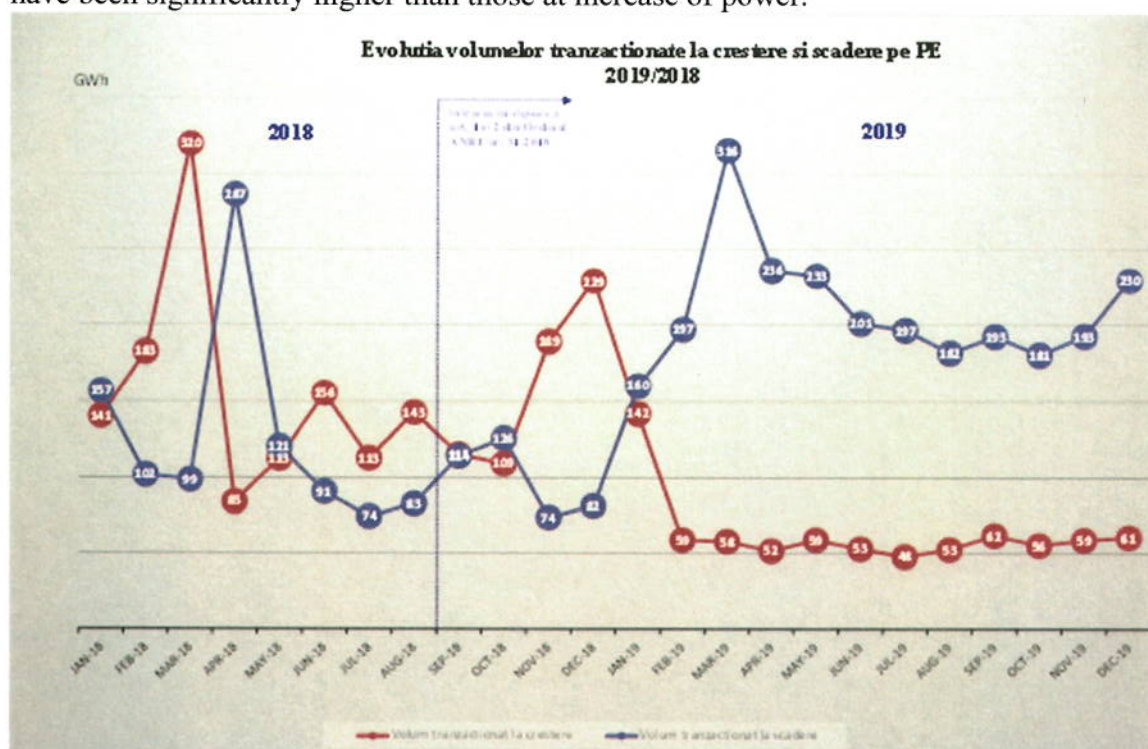
Out of these, they stood out as dominant participants (with annual market shares exceeding the value of 50%): HIDROELECTRICA with annual shares of 67.8% / 66.95% at increases/ decreases on the secondary adjustment and 59% at increases on the fast tertiary adjustment and COMPLEXUL ENERGETIC OLTENIA with annual shares of 56.8% / 85.46% at increases/ decreases on slow tertiary adjustment. Values close to the level of 40% have been registered by the same participants, COMPLEXUL ENERGETIC OLTENIA and HIDROELECTRICA at decrease on the fast tertiary adjustment (38% and 36.58%).

The monthly volumes registered on the EM (the amounts between the volumes at increase and those at decrease) have varied in 2019 between maximum 374GWh in the month of March and minimum 235GWh in the month of August, the maximum and minimum values being registered

in almost the same periods as those from 2018 (July and March 2018). The monthly variations of the registered volumes have been lower in 2019 compared to 2018 in 10 out of 12 months being exceeded the level of 300GWh. Overall, the size of the EM at level of year 2019 has slightly decreased (by approx. 0.8%) compared to the one of the previous year and a lot lower (with more than 27%) than the one registered in 2017.

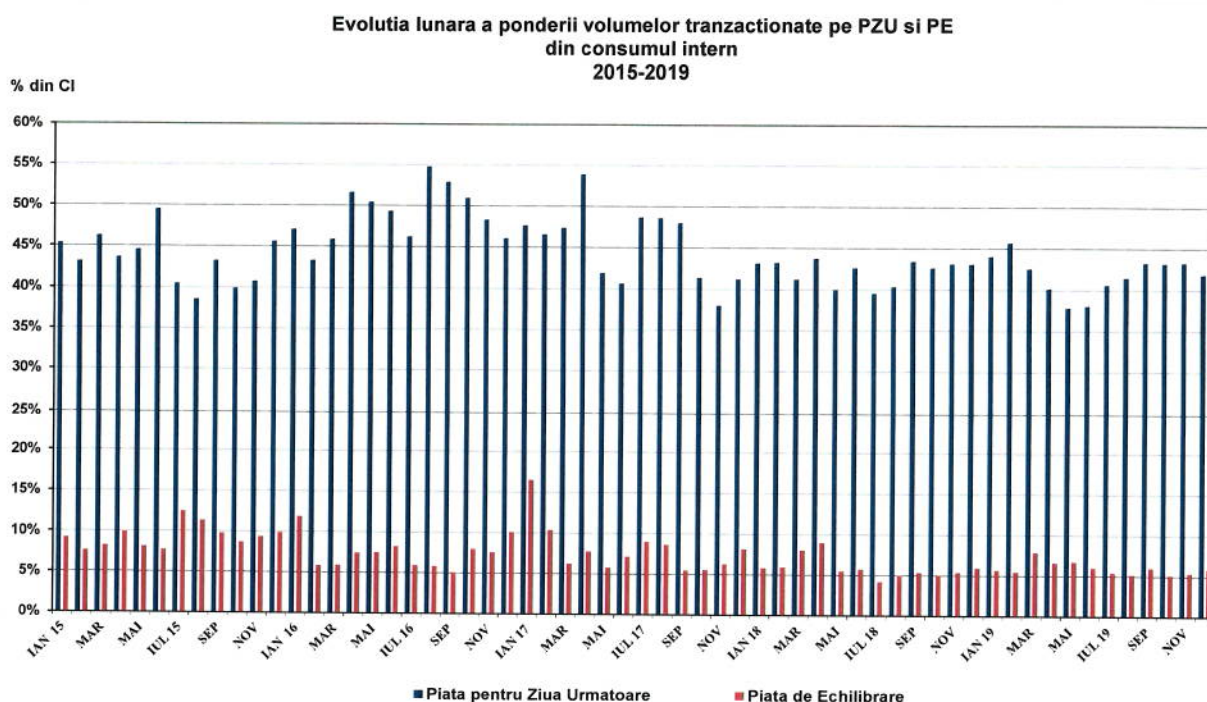
In year 2019, the total volume of the power traded at increase of power decreased a lot compared to the volume registered in 2018 (by 60%), and the one at decrease of power, increased by approx. 78% compared to the similar one from the year of comparison.

We present in the following chart the evolution of the volumes traded at increase and those traded at decrease, compared by month for years 2018-2019. It is noticed that starting from the month of April 2019, the volume of the selections at increase of power has had quasi-consistent values month by month, being at the same time a lot lower compared to the similar period of 2018. Also, after a strong variation in the first quarter of 2019, the volume of the selections at decrease of power has had high values, but comprised in a range of reduced dimensions (181-236GWh). Overall, in each month of the year (except for the month of January 2019), the volumes at decrease have been significantly higher than those at increase of power.



Source: The monthly reports of OPCOM SA and CNTEE Transelectrica SA – ANRE processing -

The share of the monthly volumes traded on the EM from the internal demand (calculated as difference between the power delivered in the network and the export-import commercial balance) varied between 5-8%, in 9 out of 12 months varying between 5-6%. We present in the following chart the evolution of this indicator in case of EM and DAM for a period of 5 years.



Source: The monthly reports of OPCOM SA and CNTEE Transelectrica SA- ANRE processing -

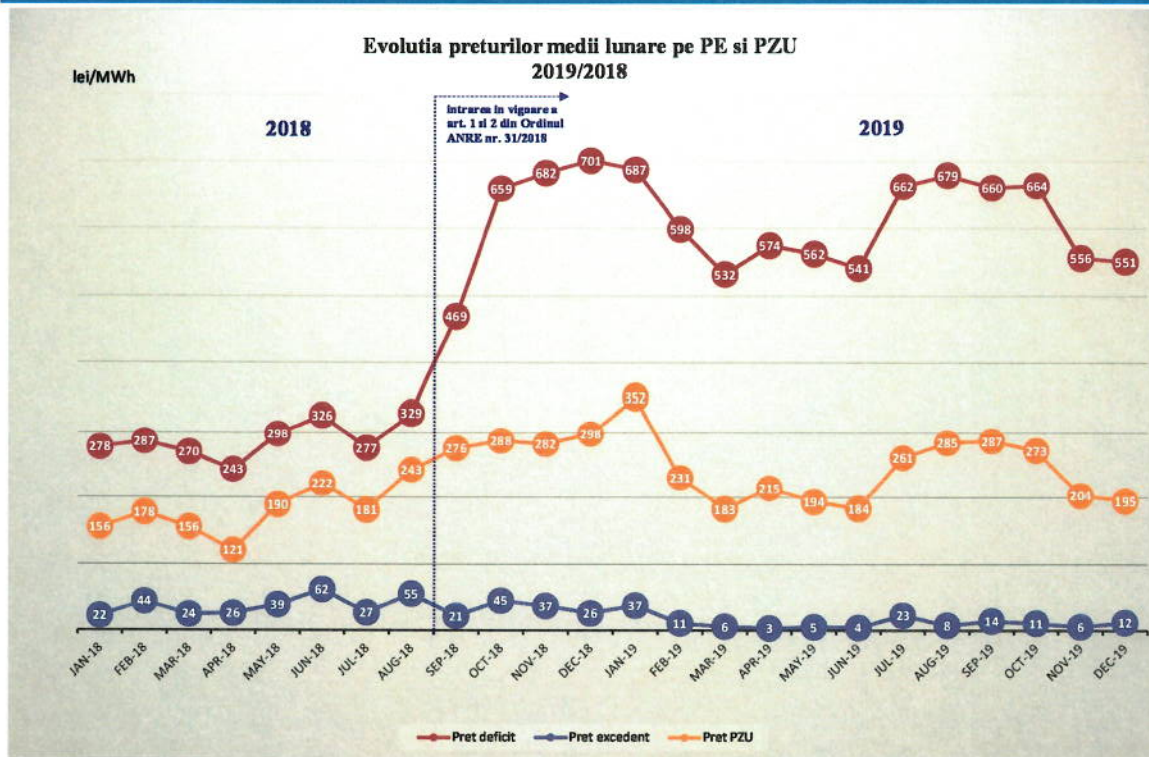
As regards the settlement prices of the imbalances registered by the PREs (deficit and surplus) in year 2019, there have been registered annual average values of 605.54 RON/MWh in case of the deficit price and 11.67 RON/MWh in case of the surplus price. The specified values are calculated as the arithmetic mean of the registered hourly prices.

After the significant increase from the past 3 months of year 2018, the monthly average deficit prices have started to decrease gradually in the period January-March 2019, following then a curve similar to the one described by the monthly average price on the DAM, without dropping nevertheless under the price of 532 RON/MWh (registered in the month of March, that represented as well the monthly minimum of 2019).

The monthly average surplus price following a reverse evolution to the deficit plus, namely a decrease compared to the values registered in 2018, maintaining in 10 out of 12 months in the range between 3 and 12 RON/MWh, with a peak in January 2019 (37 RON/MWh) and another peak in July 2019 (23 RON/MWh).

In the following chart, we present the described evolution of the two monthly average settlement prices of the PRE imbalances in correlation with the monthly average price registered on the DAM in the period 2018-2019.





Source: The monthly reports of OPCOM SA and CNTEE Transelectrica SA – the ANRE processing -

The differences between the monthly average deficit price and the surplus price have been year-wide in the range of 526-671 RON/MWh. In the periods characterized by unfavourable conditions in meteorological or hydrological terms, that determined deficient generations of electricity, the producers have tendered higher prices for the available offer at increase on the EM, reaching frequently the maximum price allowed on this market. In case of offers effectively available at increase of power on the EM, on most of the days of the year, the highest weighted average prices have been applied by COMPLEXUL ENERGETIC HUNEDOARA. A major impact on the values of the deficit/ surplus prices is held by the margin price corresponding to the secondary adjustment, which at increase, is on the upper part of the price scale, and at decrease it is the minimum price of 0.1 RON/MWh. Other causes that determined the producers to submit offers at increase with high prices have been as well the reduced availabilities on the ground of the problems faced by the producers of electricity in thermo-electric plants.

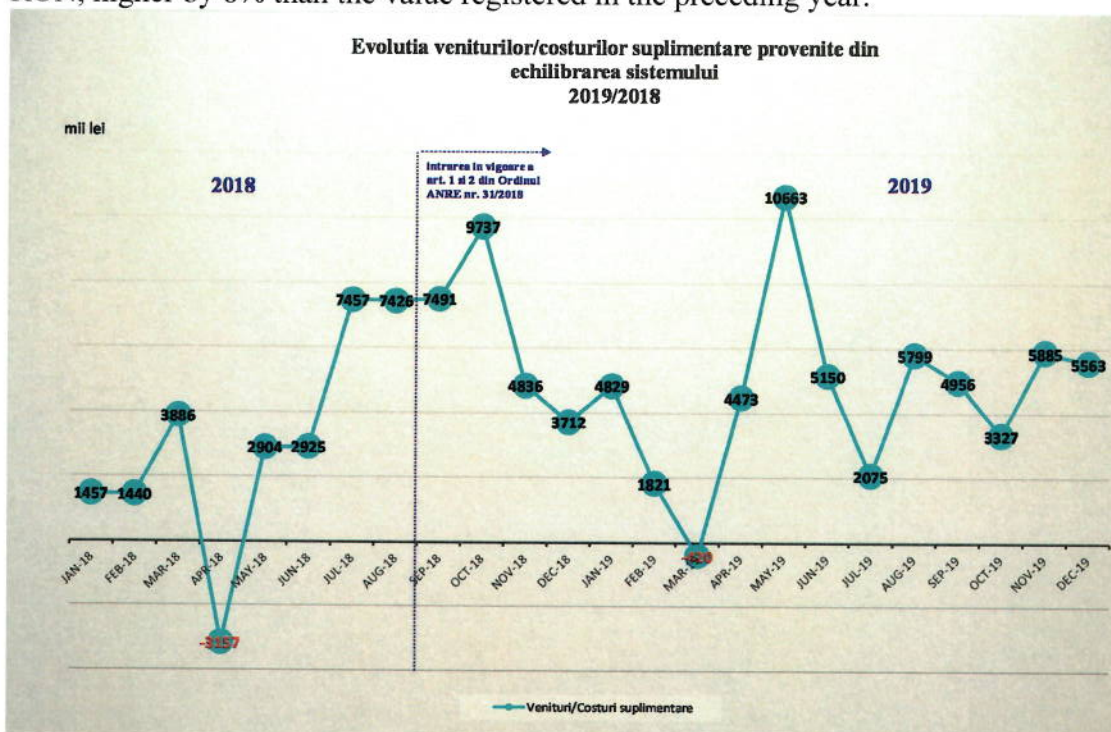
According to the provisions of the ANRE order no. 2018/31, CNTEE TRANSELECTRICA SA publishes on its own website, in the chapter Transparency/ Balancing and STS, the fixed and daily offers, the transactions engaged and the final one of each participant on the EM, for each range of dispatching. At the same location they are published the power reductions on the EM at the dispatchable units that benefit from dispatching with priority, the reasons of the reduction and the name of the producer who has been given the order for reduction.

The changes in the regulatory framework according to which the green certificates are granted according to the generation from renewable sources, without limitation to the amount of electricity per hour notified to CNTEE TRANSELECTRICA SA have led to a systematic increase in the generated power compared to the notified one, the wind power producers no longer being interested in a notification as close as possible to reality.

Thus, on the ground of the previously mentioned legislative changes, the injection in the network of an amount of power from wind sources which is above the notified one, in correlation with the rules of priority in dispatching given the wind power producers, has resulted in the issuance of some provisions for the reduction of power on the EM applied to the producers from hydro and thermal sources, that led to the additional decrease of the amounts of electricity delivered by them in the network.

Nevertheless, the imbalances at NSP level registered in the months of 2019 have been in general lower than those of the similar period of year 2018 and 2017. One of the explanations might be the increase in the deficit prices on the EM, in the context of the changes to the regulatory framework. These prices, with a strong penalizing character, have been one of the reasons for which the participants tried to find a balance as much as possible on the markets prior to the EM, even though the increase in the amount of electricity purchased from the import. The respective behaviour generated a decrease of the volume of selections at decrease and increase on the RTL and a reduction of the number of start-ups of the thermo-power groups and implicitly, of the costs generated by them.

The monthly additional value from the period 2018-2019, resulted from the redistribution of the additional revenues/ costs originating from the balancing of the system has had in 11 of the 12 months of each year, positive values with the meaning of revenue (rights to collect). In the following chart it is presented the monthly evolution of these values. At level of the entire year 2019, the cumulative additional value represented an additional revenue of approx. 54 million RON, higher by 8% than the value registered in the preceding year.



Source: Monthly data published by OPCOM SA – ANRE processing -

Monthly additional revenues, respectively costs, resulted from the balancing of the system are reallocated to each PRE (less the PREs Unscheduled Exchanges and Transfer Agent DAM and IM belonging to CNTEE Transelectrica SA), depending on the contribution to the reduction or the worsening of the system imbalance.

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## Market of system technological services

The participants to the BM who have supplied in 2019 at least one type of system technological service (STS) have been the qualified producers BEPCO, COMPLEXUL ENERGETIC HUNEDOARA, COMPLEXUL ENERGETIC OLTENIA, ELECTROCENTALE BUCUREȘTI, ELECTRO ENERGY SUD, ELECTROCENTRALE GALAȚI, HIDROELECTRICA, ROMGAZ, OMV PETROM, VEOLIA ENERGIE IAȘI, VEOLIA ENERGIE PRAHOVA.

In order to cover the necessary reserve of secondary adjustment of frequency-power (SR) and reserve of power corresponding to the fast tertiary adjustment (FTR) and slow tertiary adjustment (STR), established by the UNO-DEN for the purpose to maintain the safety level in the operation of the NPS, CNTEE TRANSELECTRICA SA has purchased reserves of adjustment, both based on regulated contracts – for a part of the amount of the necessary FTR, as well as by organizing monthly, weekly or shorter tenders, depending on the needs. The regulated amount in case of FTR represented 60% of the total amount purchased on this type of reserve.

The coverage of the necessary reserve established by UNO-DEN with volumes contracted with the STS suppliers was different from one month to another, depending on the type of reserve. Thus, if for the FTR the necessary has been covered entirely every month, in case of the SR the coverage has been 100% in only 4 out of the 12 months, and in case of the FTR in 8 of the 12 months. In order to cover as much as possible, the established necessary, CNTEE TRANSELECTRICA SA organized as well some additional tenders on shorter period of one week, in certain cases not receiving nevertheless any offer from the participants.

In the month of April 2019, on the ground of some high prices of acquisition, CNTEE TRANSELECTRICA SA has assessed technically the possibility of the safe operation of the NPS under the conditions of the reduction of the necessary SR in certain time slots, by waiving the organization of additional rounds of tenders. Because the EM has supplied sufficient resources, this has been possible without endangering the safe operation of the NPS.

In the month of 2019, CNTEE TRANSELECTRICA SA solicited at the ANRE to be diminished the necessary amount for the period between July and September 2019 by 100 hMW/h in case of RS for all of the time slots and by 200 hMW/h in the time slots 7-23 for the FTR, on the ground of the completion of the maintenance period of unit 2 of NUCLEARELECTRICA, of the use of the reserves mainly at decrease on the EM, as well as of the high hydraulicity registered on the request date.

Being given the provisions of the GEO no. 26/2018, on the adoption of some measures for the safety of the supply of electricity that set up the obligation of COMPLEXUL ENERGETIC HUNEDOARA to supply STS at a value of the electric power of at least 400MW, the ANRE issued the decision no. 2018/2047 on the acquisition of the STR supplied by the involved producer for the period between 1 January and 31 December 2019 at the regulated price of 17.11 RON/hMW. Also, another decision no. 2018/1911 was issued by the ANRE for the approval of the regulated price of 14.50 RON/hMW intended for the acquisition of the STR from the producer ELECTROCENTRALE GALAȚI, with groups operating on heating oil – alternative fuel – for the first quarter of year 2019.

Except for the months of January, July, November and December 2019, there have been some participants who have ceded a part of the amounts contracted on different types of reserve to other

participants, most of the times – to HIDROELECTRICA, joined sporadically by ELECTROCENTRALE GALAȚI and VEOLIA ENERGIE PRAHOVA. We mention that the data supplied with regard to the contracted amounts include the ceded amounts.

In terms of quantity, the acquisition of reserves decreased in 2019 compared to 2018 on all of the types of reserves: by 6.5% in case of SR, by 4% in case of FTR and by 2% in case of STR.

In 2019, HIDROELECTRICA and COMPLEXUL ENERGETIC OLTENIA have determined together the close out price at the monthly tenders for SA in approximately 63% of the time slots and approx. 74% of the time slots at the weekly tenders. In case of the tenders organized for the acquisition of the FTR, the two producers determined the close-out price at the monthly tenders in 30% of the time slots of the year, while at the weekly tenders for the same type of reserve HIDROELECTRICA determined the close-out price in approx. 50% of the time slots. For the STR, ELECTROCENTRALE GALAȚI established the close-out price in 42% of the time slots from 2019 within the monthly tenders, and COMPLEXUL ENERGETIC HUNEDOARA in 30% of the slots at the weekly tenders.

The monthly average prices at which it was purchased the SR in competitive regime in 2019 were 80 RON/hMW or very close to this maximum price. In case FTR, after in January the majority of the monthly average prices was comprised in the range of 50-63 RON/hMW, being registered as well a maximum of 80 RON/hMW, starting from February until the end of 2019, the individual monthly average prices varied between 40-50 RON/hMW. At the tenders organized for the acquisition of the STR they resulted individual monthly average prices in the range of 7-14 RON/hMW, with a maximum of 17 RON/hMW in the month of July obtained by COMPLEXUL ENERGETIC HUNEDOARA.

Details regarding the tenders organized by CNTEE TRANSELECTRICA SA are published on its website, in the section Electricity market/ Market of system technological services/ Info.

On the competitive component, as well as in the preceding year, it has been dominant the acquisition from the producer HIDROELECTRICA for the SR (70%) and FTR (83%) while in case of the slow tertiary adjustment reserve, the producer with the highest market share (50%) has been ELECTROCENTRALE GALAȚI. An important share on the STR is held as well by ROMGAZ, who has registered 39% of the entire amount contracted throughout the year on this type of reserve.

In the following table they are presented the concentration indicators that characterize the STS market at level of year 2019, calculated on the basis of the data reported monthly by CNTEE TRANSELECTRICA SA, related to the amounts contracted on each type of reserve, at level of the entire market and detailed in regulated regime by market mechanisms as well (taking into consideration the disposals of amounts).

Year 2019		Secondary reserve	Fast tertiary reserve	Slow tertiary reserve
Regulated component	Contracted amount (h*MW)	-	-	3,767,850
	C1 (%)	-	-	93
	C3 (%)	-	-	100
	Contracted amount	3,814,718	5,712,382	2,628,000

	(h*MW)			
Competitive component	C1 (%)	70.6	83	50.3
	C3 (%)	99.2	93.8	96.8
	HHI	5,761	6,966	4,161

Source: The monthly reports of CNTEE Transelectrica SA – ANRE processing -

It is found, this year too, a high degree of concentration on all of the types of reserves of adjustment, under the conditions of the participation with offers of a reduced number of qualified producers. Also, the monthly volumes tendered at the tenders organized for the SR and FTR have been lower compared to the previous year.

In the capacity of participant to the electricity wholesale market, CNTEE TRANSELECTRICA SA has purchased in 2019 the necessary amounts to cover the losses of electricity in the own electricity networks, both on the centralized markets of bilateral contracts administered by OPCOM, by transactions concluded with the producers (COMPLEXUL ENERGETIC OLTENIA, HIDROELECTRICA, NUCLEARELECTRICA) and the suppliers of electricity (EFT FURNIZARE, ENERGY DISTRIBUTION SERVICES, ENTREX SERVICES, GEN-I trgovanje in prodaja elektricne energije, MONSSON TRADING, NEXT ENERGY PARTNERS), as well as on the DAM, IM and EM.

The transmission and system operator has purchased in 2019 from the PCCB-LE an amount of approx. 380GWh (more by 6% than in 2018) at an average price of 266.67 RON/MWh, higher with approx. 64 RON/MWh compared to the price registered in the previous year. From the PCCB-NC it has purchased 153GWh (in a slight decrease compared to 2018), at a weighted average price of almost 289 RON/ MWh, higher with 68 RON/MWh compared to the average price registered in 2018.

The most significant source of power for the coverage of the network losses was nevertheless the DAM, with a purchase of more than 400.5GWh at an annual average price of 254 RON/MWh, amount in decrease by 12% compared to year 2018, but more expensive with 25 RON/MWh compared to 2018.

Overall, the acquisition of CNTEE TRANSELECTRICA SA from the centralized markets has been more reduced compared to that of 2018, but the price paid year-wide has been higher, recording an increase from 215.26 RON/MWh in 2018 to 262.27 RON/MWh in 2019, in the context in which the prices on the centralized markets have increase. It must be noticed as well that this year, the balance of the imbalance registered by the transmission and system operators decreased significantly, representing only 36% of the balance of the imbalance resulted in 2018, materialized through the purchase of power from the EM.

### **Allocation of capacities on interconnection lines**

The allocation of capacities on the interconnection lines of the NPS with the neighbouring power systems is carried out in view of performing the import/ export transactions and the electricity transit. On the Romanian borders with Hungary, Bulgaria and Serbia the capacities are allotted through market mechanisms, bilaterally coordinated on both directions, for 100% of the allocation capacity, through long-term, daily and intraday tenders.

On the Hungarian and Bulgarian borders, the tenders for the long-term (annual and monthly) allocation are organized explicitly by Joint Allocation Office (JAO), the platform for unique allocation dedicated to the transmission and system operators from the EU member states who operate in accordance with the European legislation in the field, and which is held by 25 transmission and system operators from 22 European countries, including Romania. The results of the tenders are available on the website [www.jao.eu](http://www.jao.eu).

On the same borders, starting from 20 November 2019, the tenders on the time intraday time horizon are implicit and performed by means of the SIDC solution, for the introduction of the cross-zonal trading, for the purpose to increase the trading efficiency on this time horizon at PAN-European level.

The SIDC solution used for the intraday coupling relies on a common IT system, with the trading order register, the capacity management module and the unique cross-border transfer module for the countries that adhered to this solution. This allows the correlation between the orders introduced by the participants to the market for the continuous correlation in a bidding area, and the orders introduced similarly by the participants to the market from any other bidding area within the project, as long as there is an available interconnection capacity.

The tenders for the allocation of the capacity on the daily time horizon in case of the Hungarian border are carried out through the 4M MC price coupling mechanism and they are implicit, while on the Bulgarian border they are explicit, organized by the Romanian TSO (similar to the preceding year).

On the Romanian-Serbian border the capacity allocation is explicit on all of time horizons. While long-term and intraday tenders are performed by CNTEE TRANSELECTRICA SA, daily tenders are organized by EMS (the Serbian TSO).

On the Ukrainian border, the allocation of interconnection capacities is carried out by explicit tenders only on the long term, the use of these capacities being conditional upon the written consent of Ukrenergo (the TSO from Ukraine), and the on the Moldavian border, the expert of electricity can be done as consumption island, with the consent of the zonal distributor

Border	Long-term tenders	Daily tenders	Intraday tenders
RO - HU	JAO	4M MC (implicit tenders)	TEL* 01.01-19.11.2019 From 20.11.2019 – SIDC (implicit tenders)
RO - RS	TEL*	EMS	TEL*
RO - BG	JAO	TEL	From 20.11.2019 – SIDC (implicit tenders)
RO - UA	TEL	---	---

\*CNTEE TRANSELECTRICA SA

Source: Data published by CNTEE Transelectrica SA

On the Hungarian, Bulgarian and Serbian borders it has been used in 2019 as well the UIOSI principle (“use it or sell it”), based on which the interconnection capacity corresponding to the physical rights of transmission not nominated for the following day is returned to the TSO in exchange of a remuneration. The tenders organized by Transelectrica are performed using the DAMAS platform, the trading currency being EUR. Also, on these borders, the notification of the physical rights of transmission is made in accordance with the nomination principle of the type

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*m:n* for all of the time horizons, and for the daily and intra-daily allocation it is applied the “netting” principle. In case of the Hungarian and Bulgarian borders, the capacity tendered at the monthly tenders organized by JAO is calculated taking into account the reservation of a percentage from the cross-border capacity for the daily tenders; thus, the capacity for monthly tenders is calculated as 80% of the minimum available capacities of the sub-periods of each month.

While the capacity tendered annually on the Hungarian border (both directions) remained at the level offered for the tender of 2018 (350MW), on the Bulgarian borders it has increased with 50MW, reaching to 150MW on both directions, and on the Serbian border it has increased with 50MW on the import direction, recording 200MW on both directions.

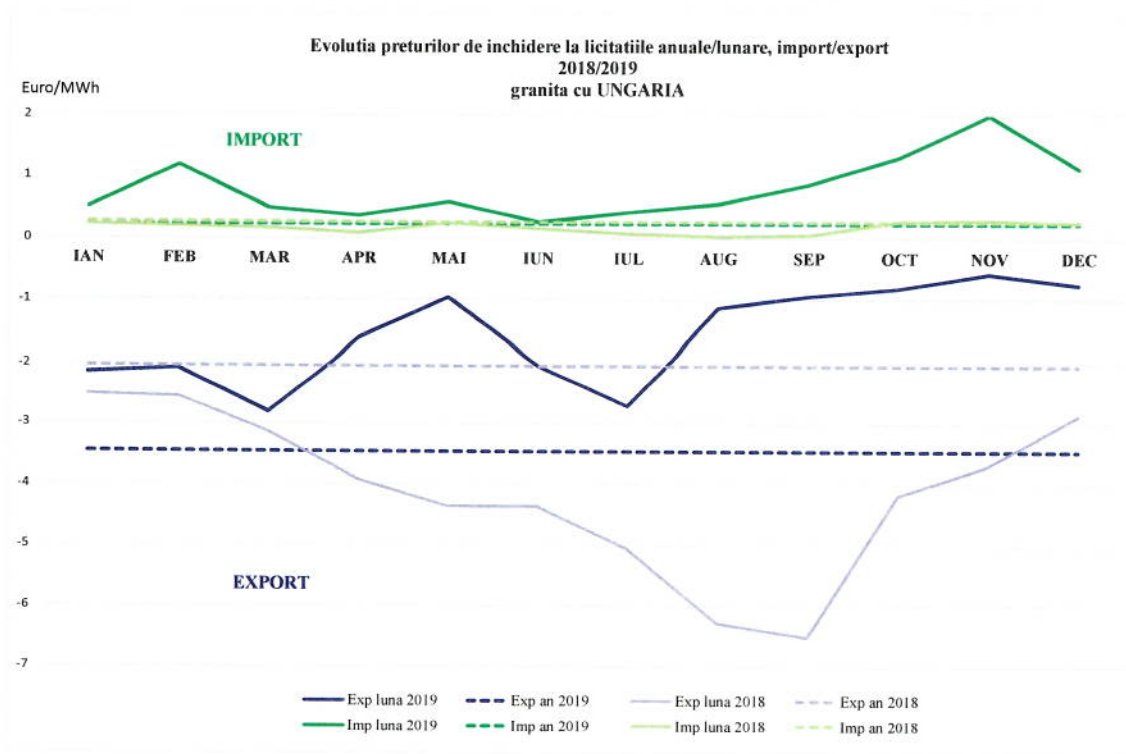
The capacity solicited by the participants at the annual tender for 2019 increased compared to the values solicited in year 2018 on all of the borders and directions. The highest increase has been registered on the Bulgarian border, where the participants have solicited 150% more capacity than in 2018 at export and double at import, reaching to solicit 835MW at export and 943MW at import, compared to the 150MW put out to tender. Significant increases have been registered as well on the Serbian border (with 80% at import and 20% at export), with solicited capacities of 804MW at export and 668 at import, compared to the 200MW offered by the TSOs. Even though in case of the Hungarian border the increases compared to 2018 have been of 9% at export and 40% at import, the amount of the capacities solicited by the participants has been approx. 7 times higher than the one put out to tender (2418MW at import, respectively 2352MW at export compared to the 350MW offered at the tender for this time horizon).

The degree of use of the total rights of capacity, indicator expressed by the ratio between the power corresponding to the notified commercial exchanges and the power corresponding to the total rights of capacity earned, has been calculated at level of each month for each border and direction. The annual average value expressed as a percentage and calculated as a mean of the monthly values on the border and direction, has been the highest on the Ukrainian border at import (31%), the entire period between August-December 2019 being characterized by very high values (for instance in December 81%, the highest monthly percentage among all of the borders and months of the year).

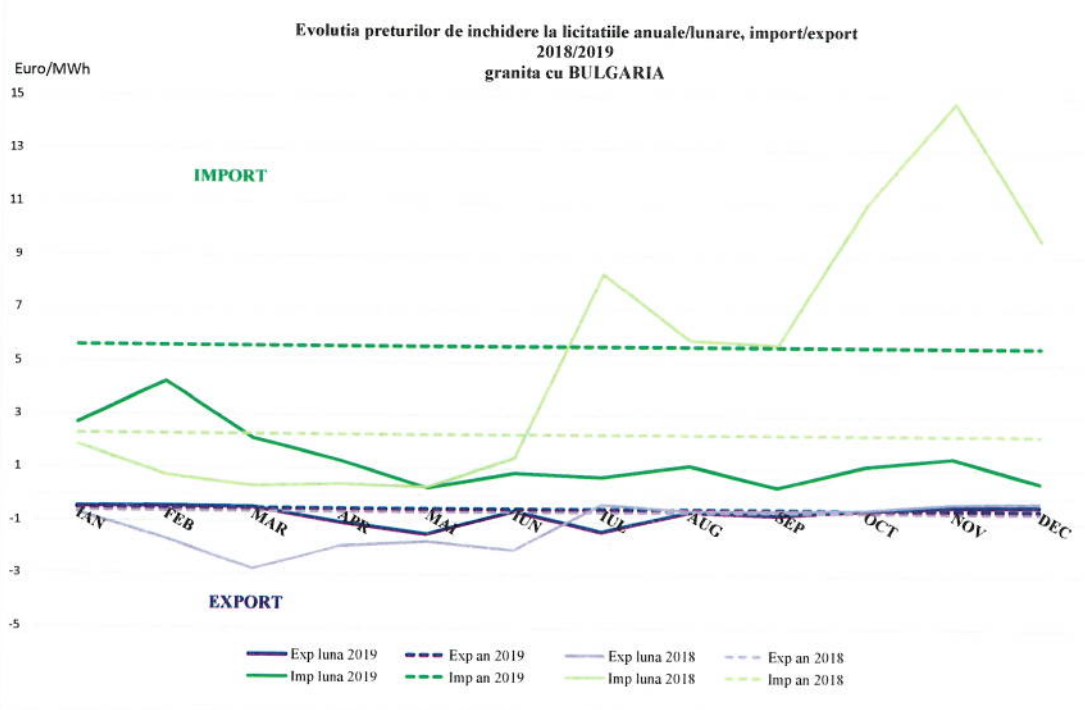
Other values of interest have been at export on the Serbian border (27.71% with an intensification of the use in the period between April and June), at import on the Hungarian border (26.95%, monthly values relatively constant throughout the year) and at import on Bulgarian border (24.91% with high percentage values in January-February and August-October). Compared to the preceding year, in 2019 the use of capacity rights has been higher on the import direction than the export direction on the Hungarian border.

Overall, the degree of use has been low, lower even than that of 2018, which shows that many participants have won at the tenders their rights of capacity on different time horizons, but they have not completed commercial exchanges to the extent of the capacities earned.

In the following charts they are presented the prices resulted in 2019 at the long-term (annual and monthly) tenders organized for the allocation of the capacity on both directions on the Romanian borders with Hungary, Bulgaria and Serbia, by comparison with the values resulted from the tenders of year 2018.

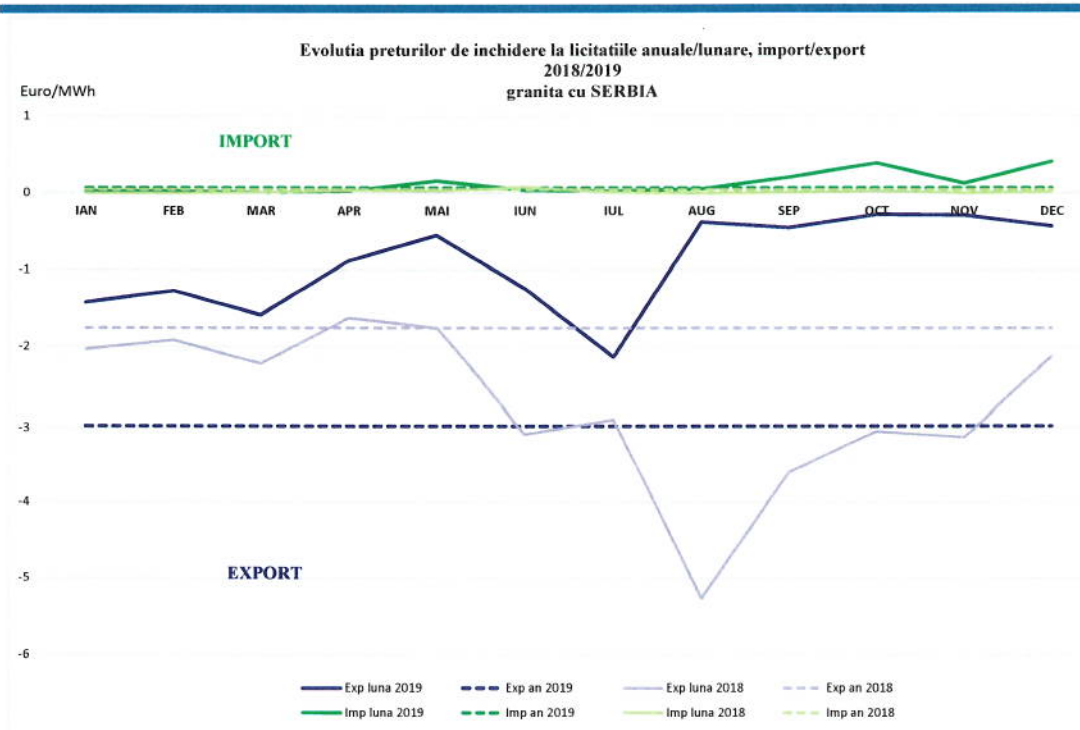


Source: The monthly reports of CNTEE Transelectrica SA – ANRE processing -



Source: The monthly reports of CNTEE Transelectrica SA – ANRE processing -





Source: The monthly reports of CNTEE Transelectrica SA – ANRE processing –

The highest prices at the long-term tenders in 2019 have been registered on the Hungarian and Serbian border, the export direction, the prices resulted from the monthly tenders not exceeding nevertheless, the price resulted at the annual tender for 2019. The variation throughout the year of the prices at the monthly tenders on both borders has been seasonal, with a tendency of increase in the month of April-May, then a peak during the summer months followed by a sharp drop maintained until the end of the year when the interest of the participants moved towards the import. Thus, starting from the month of August 2019, while the prices at the monthly tenders drop at export towards Hungary and Serbia, there is an increase in the prices at the monthly tenders on the import direction, especially the import from Hungary. In case of the Bulgarian border, the prices with significant values have been those of import, the monthly prices remaining under the price of the annual tender.

It is noticed the fact that, compared to the preceding year, when the monthly prices on all of the borders and directions have followed curves that sometimes exceeded a lot the price resulted at the annual tender, which demonstrates some changes in the trading intentions during the year, in 2019 the prices at the monthly tenders have recorded, in most of the cases, values under those of the prices of the annual tenders. The recorded evolution might indicate that the market opportunities forecast at the beginning of the year by the participants did not become true during the year as well, the market context changing reversely than it was forecast.

The revenues registered in year 2019 by CNTEE TRANSELECTRICA SA from the allocation of the capacities on the interconnection lines of the NSP with the neighbouring power systems, on all of the time horizons, have exceeded the value of 84 million RON, being higher with 3% than the revenues of the preceding year. The recorded values resulted after subtracting the remuneration corresponding to the returns of capacity from long-term tenders and the one corresponding to the

application of the Use It Or Sell It principle (UIOSI) for the capacities won at the long-term tenders, but not nominated, in case of their reallocation for the daily tenders. In terms of borders, the highest annual values of the revenues obtained from the tenders on all of the time horizons have been those obtained from the export to Hungary and Serbia and the import from Bulgaria.

### Use of revenues from the allocation of the interconnection capacities in the period July – 31 December 2019 1

In accordance with the provisions of art. 19 para. (2) and (3) of the *Regulation* (EU) 2019/943 OF THE EUROPEAN PARLIAMENT AND THE COUNCIL from 5 June 2019 on the internal market of electricity (*Regulation*), the revenues resulted from the allocation of the interconnection capacities are used by the transmission and system operator for the following purposes:

- to ensure the real availability of the allotted capacity, including the compensation for firmness;
- to maintain or increase the cross-zonal capacities through the optimization of the use of the existing interconnection capacities through coordinated measures of remediation, if applicable, or the coverage of the costs generated by the investments in the network that are relevant for the reduction of the congestion of the interconnection capacities;
- as revenues that must be taken into consideration by the regulatory authorities when it is approved the calculation methodology of the network tariffs or when they establish the network tariffs, or in both cases, if the objectives related to the priorities set out at letters a) and b) (para. 2 of the Regulation) have been fulfilled adequately

The Romanian transmission and system operator, CNTEE Transelectrica S.A., is responsible for the management of the revenues from congestions, resulted from the allocation of the interconnection capacity between Romania and Serbia, Hungary, Bulgaria, Ukraine and Moldova, obtained through annual, monthly and daily tenders.

Every year, CNTEE Transelectrica S.A. sends to the ANRE the monitoring of the value of the revenues obtained from the tenders organized for the allocation of the interconnection capacities on the borders. The mentioned revenues, obtained in the period between 1 July – 30 December 2019 are presented in the following table.

Interconexiunea	Iul	Aug	Sep	Oct	Nov	Dec	Cumulat sem II 2019
Romania - Serbia*	1.776.321,34	998.466,60	1.150.752,97	1.118.346,56	1.102.814,91	1.214.873,37	7.361.576
Serbia - Romania*	56.185,46	72.931,59	120.293,16	248.505,30	153.856,81	394.506,35	1.046.279
Romania - Bulgaria*	525.015,95	310.849,35	475.357,94	401.923,12	381.227,36	513.786,23	2.608.160
Bulgaria - Romania*	1.696.674,82	2.060.631,23	1.953.076,37	2.115.670,71	1.957.504,34	1.752.234,69	11.535.792
Romania - Ungaria*	2.467.088,37	2.202.392,21	2.227.096,71	2.200.514,56	2.231.611,62	2.332.475,78	13.661.179
Ungaria - Romania*	389.712,80	728.404,12	1.033.395,22	475.158,13	704.756,95	798.122,77	4.129.550
Romania - Ucraina	3.170,63	454,27	0,00	15.532,80	12.008,56	37.206,21	68.372
Ucraina - Romania	114.142,69	38.158,85	170,16	372.029,84	520.999,78	752.982,87	1.798.484
Romania - Moldova	0,00	0	0	0	0	0	0
Moldova - Romania	0,00	0	0	0	0	0	0
<b>T O T A L</b>	<b>7.028.312,05</b>	<b>6.412.288,23</b>	<b>6.960.142,54</b>	<b>6.947.681,02</b>	<b>7.064.780,33</b>	<b>7.796.188,26</b>	<b>42.209.392,44</b>

\* The revenues obtained from the allocation of the interconnection capacities of the NPS with the neighbouring electro-power systems include the revenues from the daily and intra-daily tenders on the borders with Hungary, Bulgaria and Serbia, as well as the revenues obtained from the congestions resulted from the coupling through the price of the day-ahead markets of Romania, Czech Republic, Slovakia and Hungary (4M MC project).

The analysis of the collected amounts indicates that approx. 38.71% of the revenues come from the export capacity tenders and approx. 43.85% for import. The distribution on the border indicates that 42.15% of the revenues come from the capacity allotted between Romania and Hungary,

19.92% of the capacity allocation tenders between Romanian and Serbia and 33.51% from capacity allocation tenders between Romania and Bulgaria. Only 4.42% of the revenues come from capacity allocation tenders between Romania and Ukraine.

In the period comprised between 1 July and 30 December 2019, CNTEE Transelectrica S.A. registered revenues from congestions in a total value of RON 42,209,797 representing at an average RON/EUR exchange rate of 4.8406, the amount of EUR 8,719,951.

At the establishment of the tariff for the transmission service approved for the period between 1 July and 31 December 2019, within the regulated revenue they have been used revenues from congestions in value of RON 2,905,915 (EUR 600,321), forecast value. The close-out adjustment of the period 1 July – 31 December 2019 will be taken into consideration in the tariff applicable in year 2021.

Taking into account the provisions of the national legislation, these amounts are included in the gross annual profit obtained by the company and they have been reduced through the allocation of the profit by destinations, in accordance with the provisions of the *Government Ordinance no. 64/2001 on the distribution of the profit to national companies, national enterprises and commercial companies partially or fully state-owned, as well as to the autonomous administrations*, as further amended and completed. Thus, after applying the 16% corporate tax and the 5% legal reserve, the amounts remained and deposited in the period between 1 July and 31 December 2019 in the prescribed account was RON 31,364,498 (EUR 6,479,465).

The total revenues transferred in the separate account in the period 1 January 2013 – 31 December 2019, after applying the corporate tax and the legal reserve, amount to RON 371,549,337 or EUR 76,756,877.

From these revenues, in the period 1 July – 30 December 2019 it has been used the amount of RON 35,179,479 (EUR 7,267,586) for the maintenance or increase of liquid assets through investments in the networks, in accordance with the Regulation, detailed by works in the following table:

Project name
400kV OEL of interconnection Reșița (Romania) – Pancevo (Serbia)
The switch to the voltage of 400kV of the axis Porțile de Fier – Reșița – Timișoara – Săcălaz – Arad – Stage I: - 400kV OEL s.c. Porțile de Fier – (Anina) – Reșița (Project no. 26) + extension of the station of Porțile de Fier (project no. 382) + Station of Reșița
The switch to the 400kV voltage of the axis Porțile de Fier – Reșița – Timișoara – Săcălaz – Arad Stage II: 400kV OEL d.c. Reșița – Timișoara – Săcălaz (project no. 500) + 400kV station of Timișoara (project no. 235) + 100kV station of Timișoara
400kV OEL d.c. (1 c.e.) Gutinaș – Smârdan
Extension of the 400kV station of Cernavodă, stage II: connection of new lines
400kV OEL of Suceava – Bălți, for the part of the Project from the Romanian territory
400kV OEL of s.c. Oradea Sud – Nădab – Bekescsaba, final stage: section between the pillars 1-42 (48) of the 400kV OEL of Oradea Sud - Nădab

We mention that the ANRE has verified if these investment projects lead to an increase in the interconnection capacity.

On the elaboration date of the present report, it remained at the disposal of CNTEE Transelectrica S.A. the amount of RON 179,587,083 (EUR 37,100,170), deposited in the prescribed account, to be used in accordance with the provisions of the Regulation, according to the following table:

	1 July – 31 December 2019	
	RON	EUR
<b>Revenues from the allocation of the capacity of interconnection (account 704.05), of which:</b>	<b>42,209,797</b>	<b>8,719,951</b>
<i>Revenues used in the calculation of the transmission tariff</i>	-2,905,915	-600,321
<b>Revenues to be distributed</b>	<b>39,303,882</b>	<b>8,119,630</b>
Legal reserves 5%	1,965,194	405,982
Tax 16%	5,974,190	1,234,184
<b>Revenues transferred in a separate account</b>	<b>31,364,498</b>	<b>6,479,465</b>
Initial balance	183,402,065	37,888,292
Revenues transferred in a separate account	31,364,498	6,479,465
Payments made	35,179,480	7,267,587
<b><i>Final balance = Initial balance + Transferred revenues – Payments made</i></b>	<b>179,587,083</b>	<b>37,100,170</b>

### 3.2.2. Retail electricity market

During 2019, on the retail electricity market, there have been active 93 holders of licenses for the activity of supply of electricity, of which 5 are suppliers assigned by the ANRE as bound suppliers of last resort, and other 23 hold as well a license for the commercial operation of the capacities of generation of electricity as dispatchable units.

At level of the entire year, the demand for electricity of the end customers has registered 49.5TWh, with 1% under the level of the demand from 2018, the decreased being determined by the reduction of the non-household (industrial) demand supplied in a competitive regime with approx. 730GWh, under the conditions in which the ratio between the household demand and the non-household final demand is close to those registered in the preceding years (26%/ 74%).

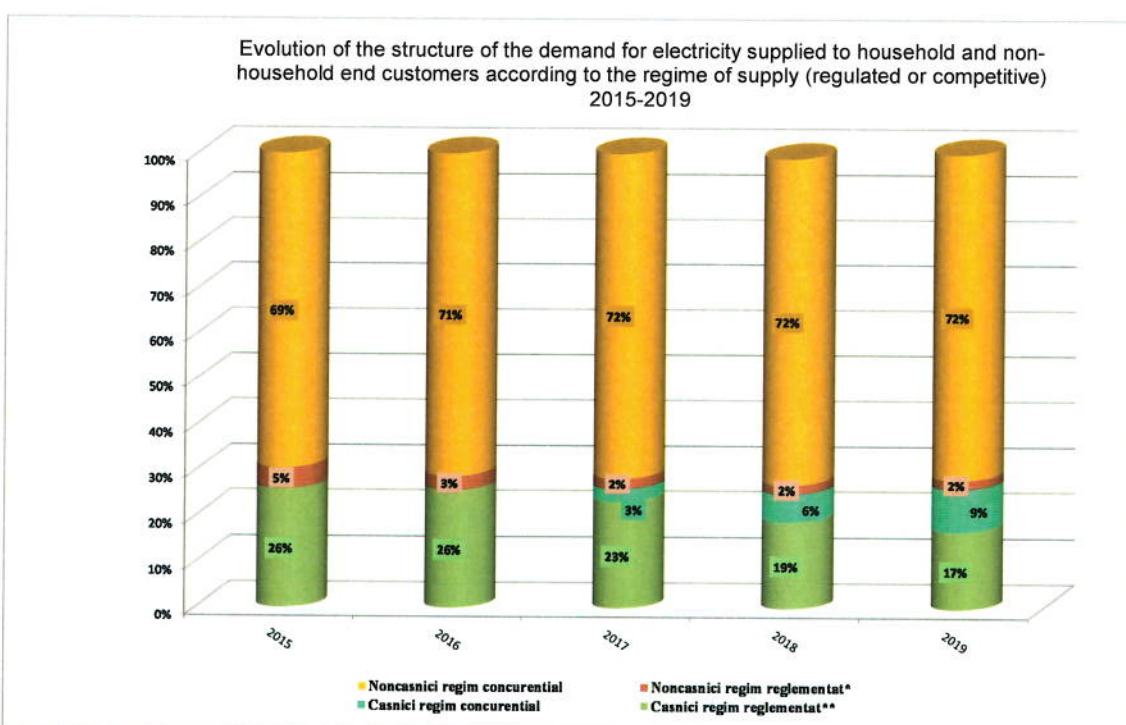
While 2018 has been characterized by a sharp increase in the dimension of the segment of supply in competitive regime for the supply of household customers, having as consequence the doubling of the amount of electricity supplied to household customers in a competitive regime compared to the one from 2017 following the completion of the de-regulatory process, 2019 has been characterized by a slowed down increase in the competitive segment.

Thus, following the legislative changes occurred once with the entry into force of the provisions of the GEO 2018/114, the applicable regulatory framework suffered significant changes, applicable from the month of March 2019, with effects on the electricity market for end customers served by suppliers of last resort, namely the return to the tariff system/ regulated prices for the power sold to household customers, established by ANRE and applied by the suppliers of last resort to the customers who do not wish to benefit from price in a competitive regime.

Even if, once with the reintroduction of the regulated tariffs, the rate of increase of the monthly average number of demand facilities corresponding to household customers who have migrated from the regulated market to the competitive market registered in 2019 slowed down compared to the preceding year, a significant number of household customers has chosen further to conclude contracts for supply at competitive prices, following the specific tenders dedicated to this market segment, promoted by the suppliers. The process of change has been carried out both by

negotiating a competitive contract with the supplier of last resort that ensures to the household customers the service of supply in a regulated regime, as well as by choosing another competitive supplier. The slow-down of this increase has been determined as well by the number of those who have opted for the return to regulated conditions of supply, as permitted through the adopted regulatory framework. Thus, at a household consumption of 12.98TWh, of sizes close to the one registered in year 2018, the electricity intended for the competitive segment increased from 3.12TWh in 2017 to 4.58TWh in year 2019, mostly through the migration from the regulated segment, being with almost 50% higher compared to 2018 and 3,3 times higher than in 2017.

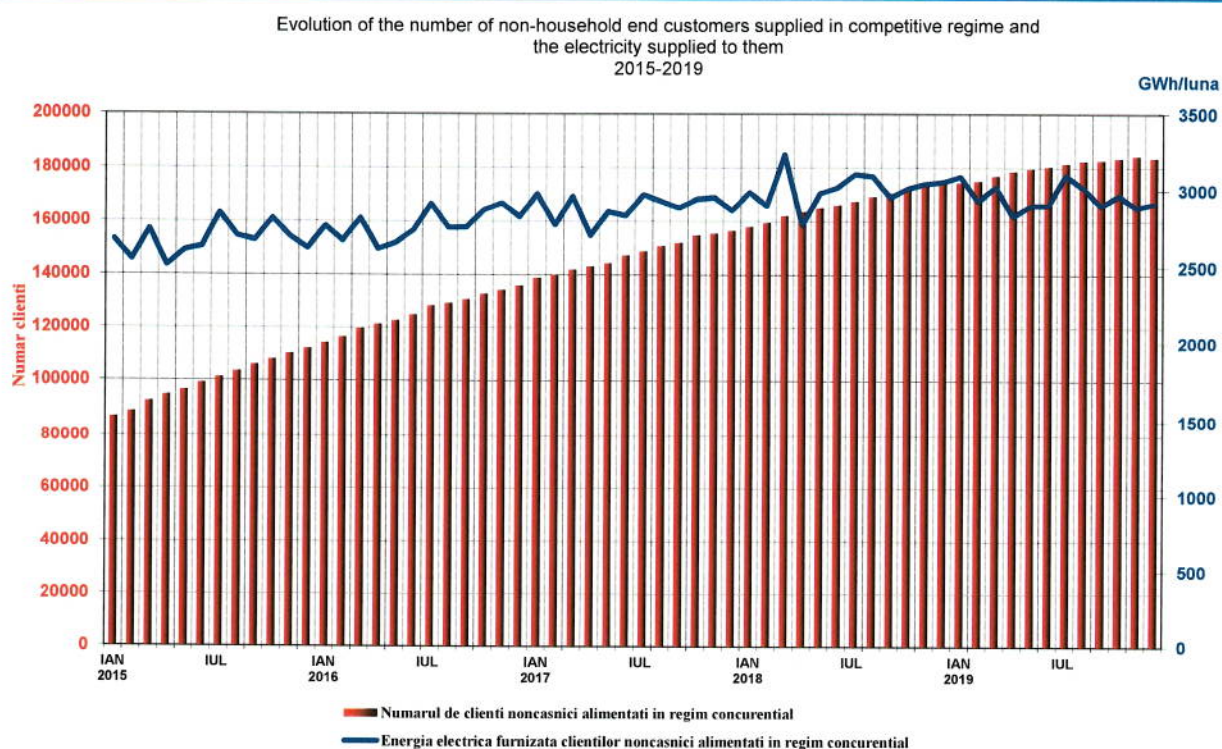
The following chart presents the dynamics of the structure of the final consumption of electricity by categories of customers and regime of supply, in the past 5 years. The calculation has been made on the basis of the data collected on the basis of the regulatory framework in force from the active suppliers on the retail electricity market. We mention that the data on the demand of household customers who have migrated from the regulated markets to the competitive market has been reported separately starting from 1 January 2017, in the period 2015-2016, this component not having significant dimensions.



\* non-household customers supplied in SU, UI regime, inactive \*\* household customers supplied in SU regime

Source: The monthly reports of the suppliers - ANRE processing -

In the following chart we present the evolution of the number of non-household customers supplied in competitive regime and the related demand, for the period between 2015 and 2019.



Source: Monthly reports of the suppliers – ANRE processing -

Similarly to the evolution of household customers, also in case of non-household customers who have exercised the right to choose the competitive conditions with regard to the supply of power, it is noticed an increase in the number, but the curve is flatter in 2019 compared to 2018 and it corresponds to a smaller demand.

The values of the concentration indicators for the period between 2015 and 2019, calculated at level of the competitive segment, highlight the existence of a non-concentrated market at level of each year, determined by the high number of active suppliers and their division as market power.

Year	C1	HHI
2015	15%	548
2016	16%	572
2017	12%	573
2018	10%	551
2019	11%	627

Source: Monthly reports of the suppliers – ANRE processing –

We mention that the graphical representation of the market shares of the active suppliers on the retail electricity market are presented every month on the ANRE website in the Monthly reports on the results of the electricity market monitoring and they comprise cumulatively at level of period, both the hierarchy of the suppliers in terms of market share calculated according to the power supplied to the end customers on the entire market, as well as separately on the regulated component, respectively competitive component.

In year 2019, a number of 6 active suppliers (the 5 suppliers of last resort who have been joined by the competitive supplier MET ROMANIA ENERGY) have had market shares above the level of 5% of the total amount of electricity supplied to non-household and household end customers.

The hierarchy of the preceding year maintained, the highest share (18.69%) being registered by ELECTRICA FURNIZARE, followed by ENEL ENERGIE MUNTENIA (10.56%) and E.ON ENERGIE ROMANIA (9.79%).

As regards the supply on the competitive segment, the first 4 places in terms of market share have been occupied by the same suppliers as in 2018: ELECTRICA FURNIZARE occupied the first place (10.94%) followed by the members of the group ENEL - ENEL ENERGIE MUNTENIA (9.98%), ENEL ENERGIE (9.08%) and E.ON ENERGIE ROMANIA (8.68%). Also on the competitive segment, in 2019 market shares above 5% have been registered as well by the suppliers MET ROMANIA ENERGY (7.24%), CEZ VÂNZARE (6.53%), GETICA 95 COM (5.97%), TINMAR ENERGY (5.44%) and ALRO (5.11%). It must be noticed that out of the 9 suppliers with market shares above 5% on the competitive segment, 5 are bound suppliers of last resort, and 3 have obtained, for 2019, the statute of optional supplier of last resort.

The following tables present the data specific to non-household end customers, respectively household customers in competitive regime, according to the consumption bands established by Regulation (EU) 2016/1952 of the European Parliament and the Council from 26 October 2016 on the European statistics related to the prices for natural gas and electricity and for the repeal of Directive 2008/92/EC, being compared to the same type of data related to year 2018.

The average price of sale for each consumption band results from dividing the total value of the revenues of the suppliers from the sales to a certain category of customers (including the consideration of the services ensured by the transmission, distribution, system services, imbalances, PRE aggregated taxes, measuring) to the total amount of electricity sold on the said consumption band. The data presented in the following tables is the data transmitted to EUROSTAT. The prices do not contain VAT, excise duties or other fees. We mention that there can be certain differences from the annual data published in the Report regarding the results of the electricity market monitoring in the month of December 2019, determined by the adjustments made after the publication by certain economic operators.

Consumption bands of non-household customers	2019			2018		
	Annual consumption (GWh)	Average price (RON/MWh)	No. of customers	Annual consumption (GWh)	Average price (RON/MWh)	No. of customers
IA	1,808	453.85	136,243	1,431	395.02	128,506
IB	4,634	443.99	42,535	4,581	379.31	41,702
IC	3,764	396.67	3,449	3,591	334.55	3,575
ID	8,139	367.34	1,486	8,289	308.84	1,571
IE	4,814	345.86	135	4,936	285.97	135
IF	2,648	339.48	30	3,130	273.98	33
IG	9,779	279.07	27	10,299	239.72	40
Total	35,586	355.59	183,905	36,256	297.94	175,562

Source: The half-yearly reports of the suppliers according to the ANRE Order no. 33/2013 – ANRE processing –

In case of non-household end customers, the annual total consumption diminished compared to the previous year, while the total number of customers supplied competitively increased compared

to the same period of analysis, following the increase in the number of end customers from the categories of smaller specific consumption (IA and IB). The annual average prices registered in 2019 increased compared to 2018 for all of the consumption bands, with values comprised between 39-65 RON/MWh, the highest increase being for the IB and IF bands. The electricity supplied includes as well the self-supply of dispatchable producers to other demand facilities for which the annual consumption exceeds 200 GWh.

Consumption bands of household customers	2019			2018		
	Annual consumption (GWh)	Average price (RON/MWh)	No. of customers	Annual consumption (GWh)	Average price (RON/MWh)	No. of customers
DA	1,572	484.61	1,434,246	1,002	407.64	1,083,458
DB	1,471	503.92	811,959	965	408.59	690,161
DC	808	500.76	264,996	565	400.13	237,655
DD	537	502.25	104,997	422	393.19	102,750
DE	188	490.69	12,543	162	384.18	13,448
Total	4,576	495.99	2,628,741	3,116	403.39	2,127,472

Source: The half-yearly reports of the suppliers according to the ANRE Order no. 33/2013 – ANRE processing –

The number of household customers to whom it will be supplied at the end of 2019 electricity under competitive conditions has been with more than 23% higher than the number corresponding to year 2018, while the consumption compared to the same period of comparison increased with 46.8%. The increases in the number of household customers supplied in competitive regime have occurred mainly on the categories DA (70% of the total of those who migrated to the competitive market) and DB (24% of the total). The comparison between the average prices by consumption bands from the two years indicates an increase in the price of the power for all of the categories analysed, with values comprised between 77 RON/MWh and 109 RON/MWh, the lowest increase being for the customers from the DA band.

It must be noticed that on the competitive segment, the bound suppliers of last resort supply the largest part of the end customers: 89% of non-household end customers and 93.5% of household customers, the migration on the competitive market taking place without the change of the supplier for 93% of the end customers.

The indicators of structure at level of the consumption bands indicate a reduced degree of concentration in case of large non-household end customers with competitive supply, with annual consumptions being classified in the IC-IF categories, while for the IA, IB and IG the concentration level is moderate, somehow similar to the situation of year 2018. In case of household customers supplied competitively, the degree of concentration is high both overall, as well as for each consumption band, the highest concentration being for the category of customers DA (C1-49%, C3-91%).

### **The electricity market for end customers served by the suppliers of last resort (SLR)**

On the electricity market for end customers served by the suppliers of last resort (SLR) they have been active 5 bound SLR (bound SLR) and 11 optional SLR (optional SLR), from whom it is collected mainly the information with regard to the number of demand facilities served, the



average prices of acquisition of electricity from the wholesale market, the amounts of electricity sold to end customers and the average price of sale.

## Bound SLR

### Number of demand facilities served by bound SLR

In the month of December 2019 in case of bound SLR it was maintained the tendency of decrease of the number of demand facilities served compared to December 2018, being registered with 390,900 less demand facilities, of which 99.65% represent demand facilities of household customers and 0.35% represent demand facilities of non-household customers. This evolution is the consequence of the campaigns initiated by the active suppliers from the competitive market in view of attracting customers from the regulated market.

The presented data refers to the number of demand facilities corresponding to each type of client, and it is the data reported by the bound SLR for the month of December 2019, respectively 2018.

Bound SLR Type of customer	CEZ Vânzare	E.ON Energie România	Electrica Furnizare	ENEL Energie	ENEL Energie Muntenia	TOTAL bound SLR 2019	TOTAL bound SLR 2018
Household	894,010	1,141,109	3,159,278	426,105	479,100	6,099,602	6,489,134
% household customer from the total end customers	99.27%	98.73%	96.20%	94.33%	97.32%	97.06%	97.21%
Non-household customers in regime of SU	875	133	28,468	1,088	668	31,232	31,328
Inactive	5,727	14,492	96,485	24,253	12,296	153,253	153,528
Non-household customers taken over in UI regime	0	0	0	289	220	509	1,506
Non-household	6,602	14,625	124,953	25,630	13,184	184,994	186,362
% non-household customers from the total end customers	0.73%	1.27%	3.80%	5.67%	2.68%	2.94%	2.79%
Total end customers	900,612	1,155,734	3,284,231	451,735	492,284	6,284,596	6,675,496

Source: The monthly reports of the bound suppliers of last resort – ANRE processing -

### The average price of acquisition of electricity supplied by the bound SLR

The amounts of electricity purchased to be delivered to end customers during 2019, respectively the average prices of acquisition by types of markets/ contracts and types of end customers for each bound SLS and per total, are presented in the following tables.

Type of transaction	Type of customer	[MU]	Household customers	Non-household customers in SU regime	Inactive customers	Non-household customers in UI regime	Total non-household customers	TOTAL customers
regulated contract purchase	amount	[GWh]	4.316,70	0,00	0,00	0,00	0,00	4.316,699
	value	[thousand RON]	780.647,75	0,00	0,00	0,00	0,00	780.647,75
	Pmed	[RON/MWh]	180,84	0,00	0,00	0,00	0,00	180,84
PCC purchase (incl neg.)	amount	[GWh]	3.028,171	94,107	616,623	16,901	727,632	3.755,802
	value	[thousand RON]	788.216,58	23.424,66	157.164,20	4.605,35	185.194,22	973.410,80
	Pmed	[RON/MWh]	260,29	248,92	254,91	272,48	254,54	259,18

PCSU+prosum. purchase	amount	[GWh]	607,338	5,316	0,025	0,000	5,342	612,680
	value	[thousand RON]	174.824,28	1.557,37	5,61	0,00	1.562,98	176.387,26
	Pmed	[RON/MWh]	287,85	292,93	223,24	0,00	292,61	287,89
DAM+IM purchase	amount	[GWh]	1.158,790	35,349	141,612	10,303	187,264	1.346,054
	value	[thousand RON]	339.252,76	9.718,88	38.681,42	2.696,12	51.096,42	390.349,19
	Pmed	[RON/MWh]	292,76	274,94	273,15	261,67	272,86	290,00
DAM+IM sale	amount	[GWh]	-627,125	-5,849	-23,657	-0,748	-30,253	-657,378
	value	[thousand RON]	-133.590,74	-1.000,77	-4.129,88	-133,14	-5.263,79	-138.854,54
	Pmed	[RON/MWh]	213,02	171,11	174,58	178,06	173,99	211,22
Activity on the EM*	amount	[GWh]	-80,421	5,092	98,425	9,512	113,029	32,608
	value	[thousand RON]	28.953,15	3.105,50	48.026,62	4.073,98	55.206,11	84.159,25
Net acquisition	amount	[GWh]	8.403,45	134,02	833,03	35,97	1.003,01	9.406,47
	value	[thousand RON]	1.978.303,78	36.805,66	239.747,97	11.242,31	287.795,93	2.266.099,72
	Pmed	[RON/MWh]	235,42	274,64	287,80	312,55	286,93	240,91

\* the activity on the EM is reflected by the algebraic sum of the amounts, respectively of the values corresponding to positive and negative imbalances allocated by the bound SLR on different categories of end customers

Source: The monthly reports of the bound suppliers of last resort – ANRE processing

Type of transaction	Bound SLR Type Indic	[MU]	CEZ Vanzare	E.ON Energie România	Electrica Furnizare	ENEL Energie	ENEL Energie Muntenia	TOTAL bound SLR 2019	TOTAL bound SLR 2018
regulated contract purchase	amount	[GWh]	782,98	1.128,04	1.506,43	370,45	528,80	4.316,70	0,00
	value	[thousand RON]	151.988,94	225.251,38	247.867,25	68.558,27	86.981,91	780.647,75	0,00
	Pmed	[RON/MWh]	194,12	199,68	164,54	185,07	164,49	180,84	0,00
PCC purchase (incl neg.)	amount	[GWh]	223,55	205,79	2.409,82	357,78	558,86	3.755,80	6.506,72
	value	[thousand RON]	58.864,95	60.795,61	605.058,22	95.820,64	152.871,38	973.410,80	1.414.916,18
	Pmed	[RON/MWh]	263,31	295,43	251,08	267,82	273,54	259,18	217,45
PCSU+prosum. purchase	amount	[GWh]	114,97	65,04	303,08	71,27	58,32	612,68	2.208,02
	value	[thousand RON]	32.227,58	17.881,13	87.665,16	21.877,89	16.735,50	176.387,26	527.669,44
	Pmed	[RON/MWh]	280,31	274,93	289,25	306,97	286,97	287,89	238,98
DAM+IM purchase	amount	[GWh]	125,73	104,47	702,73	179,31	233,81	1.346,05	2.277,78
	value	[thousand RON]	37.795,19	35.503,67	205.644,99	48.573,27	62.832,07	390.349,19	577.353,43
	Pmed	[RON/MWh]	300,60	339,84	292,64	270,89	268,73	290,00	253,47
DAM+IM sale	amount	[GWh]	-149,184	-127,333	-132,902	-119,325	-128,634	-657,378	-261,158
	value	[thousand RON]	-31.689,90	-22.608,96	-23.318,50	-28.669,46	-32.567,72	-138.854,54	-46.373,826
	Pmed	[RON/MWh]	212,42	177,56	175,46	240,26	253,18	211,22	177,57
Activity on the EM*	amount	[GWh]	-9,60	-8,83	73,91	0,15	-23,01	32,61	-81,14
	value	[thousand RON]	5.106,13	5.310,59	57.504,25	9.720,16	6.518,12	84.159,25	48.417,44
	amount	[GWh]	1.088,46	1.367,17	4.863,06	859,63	1.228,14	9.406,47	10.650,21

Net acquisition	value	[thousand RON]	254.292,9	322.133,4	1.180.421,4	215.880,8	293.371,3	2.266.099,7	2.521.974,4
	Pmed	[RON/MWh]	233,63	235,62	242,73	251,13	238,87	240,91	236,80

\* the activity on the EM is reflected by the algebraic sum of the amounts, respectively of the values corresponding to positive and negative imbalances allocated by the bound SLR on different categories of end customers

Source: The monthly reports of the bound suppliers of last resort – ANRE processing

Analysing the presented data, it results the following:

- the average price of net acquisition increased in 2019 with approx. 1.73% (4.11 RON/MWh) compared to 2018;
- even though compared to 2018, in 2019 they have been registered significant increases in the average price of acquisition on all of the components of the wholesale market (20.20 RON/MWh – in case of PCC, 36.53% RON/MWh – in case of DAM + EM), they have been set off by the average price of acquisition under regulated contracts significantly lower, contracts by means of which it was purchased 45.89% of the total amount of electricity prescribed to end customers from the regulated market;
- the introduction of the regulated contracts starting from 1 March 2019 resulted in a reduction of the activity on the DAM+IM of the bound SLR, in the meaning of the reduction of the amount of electricity bought on these markets in year 2019 compared to 2018 with approx. 40.9%, in the context in which the average prices of acquisition increased with 36.5 RON/MWh (14.41%);
- in year 2019 it was registered a decrease with 11.68% of the total amount of electricity purchased to cover the demand of end customers from the regulated market compared to year 2018;
- the implementation of the provisions of the GEO no. 114/2018 led to a decreased interest of the bound SLR to participate in the tenders organized by OPCOM on the PCSU throughout the year 2019, being registered the participation of a single SLR in the tender from January 2019, only for a single traded tool. In this context, the amount of electricity purchased on the PCSU with delivery in 2019 was 612.68GWh, dropping to 27.75% compared to year 2018.

### Sale of electricity to end customers served by the bound SLR

In the following table they are presented the sales of electricity of each bound SLR corresponding to the two categories of end customers and per total, with the indication of the amounts sold and the average price of return resulted.

SLR Type of customers	Type of indicator	[MU]	CEZ Vanzare	E.ON Energie România	Electrica Furnizare	ENEL Energie	ENEL Energie Muntenia	TOTAL bound SLR 2019	TOTAL bound SLR 2018
household	amount	[GWh]	1.049,57	1.306,54	4.321,92	713,74	1.011,66	8.403,43	9.656,82
	value	[thousand RON]	510.170,61	638.304,53	2.009.710,14	327.585,99	421.404,33	3.907.175,59	4.543.139
	Pmed	[RON/MWh]	486,08	488,54	465,00	458,97	416,55	464,95	470,46
non-household	amount	[GWh]	38,89	60,63	541,18	145,89	216,47	1.003,05	993,4
	value	[thousand RON]	20.498,02	32.851,40	266.388,09	75.475,00	102.120,65	497.333,16	482.510

	Pmed	[RON/MWh]	527,10	541,83	492,24	517,35	471,76	495,82	485,72
Total customers	amount	[GWh]	1.088,46	1.367,17	4.863,09	859,63	1.228,13	9.406,48	10.650,21
	value	[thousand RON]	530.668,63	671.155,93	2.276.098,23	403.060,99	523.524,97	4.404.508,75	5.025.649
	Pmed	[RON/MWh]	487,54	490,91	468,03	468,88	426,28	468,24	471,88

Note: The prices do not include the VAT, excise duties or other fees.

Source: The monthly reports of the bound suppliers of last resort – ANRE processing

In correlation with the decrease of the average number of demand facilities supplied by the bound SLR, it is found a decrease in the consumption of electricity in 2019 compared to 2018, with 1243.75 GWh. For household customers the average price of sale of electricity recorded a decrease with 5.5 RON/MWh, result of the introduction of the regulated tariffs.

## Optional SLR

### Number of demand facilities served by the optional SLR

In the month of December 2019, the optional SLR served 316 demand facilities of the household customers and did not have in their portfolio non-household customers in SU regime or taken over in UI regime.

### Average price of acquisition of electricity supplied by the optional SLR

The net acquisition of electricity intended for the coverage of the demand of end customers served by the optional SLR amounted to 0.23GWh, not significant compared to the one achieved by the bound SLR, following the small number of household customers served. The average price of acquisition was 243.95 RON/MWh.

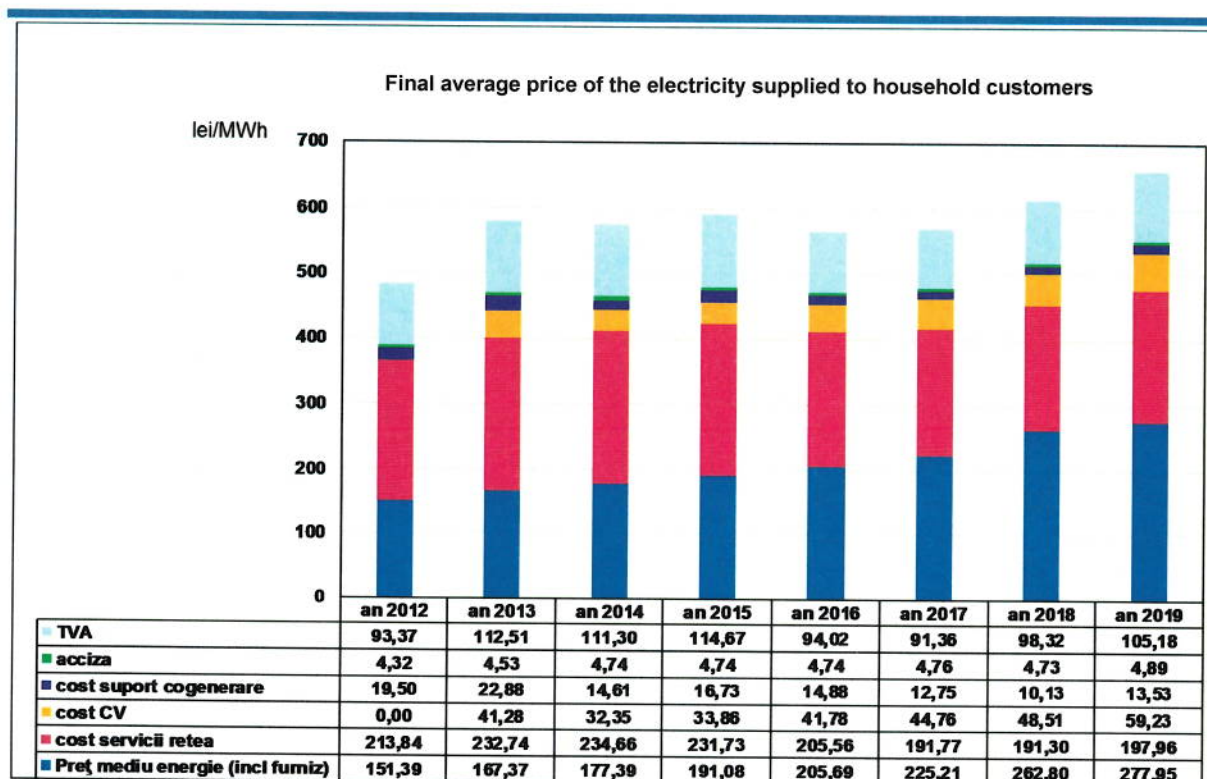
### Sale of electricity to the end customers served by the optional SLR

In 2019, the optional SLR sold to household end customers an amount of electricity of 0.23GWh, for an average price of 424.15 RON/MWh.

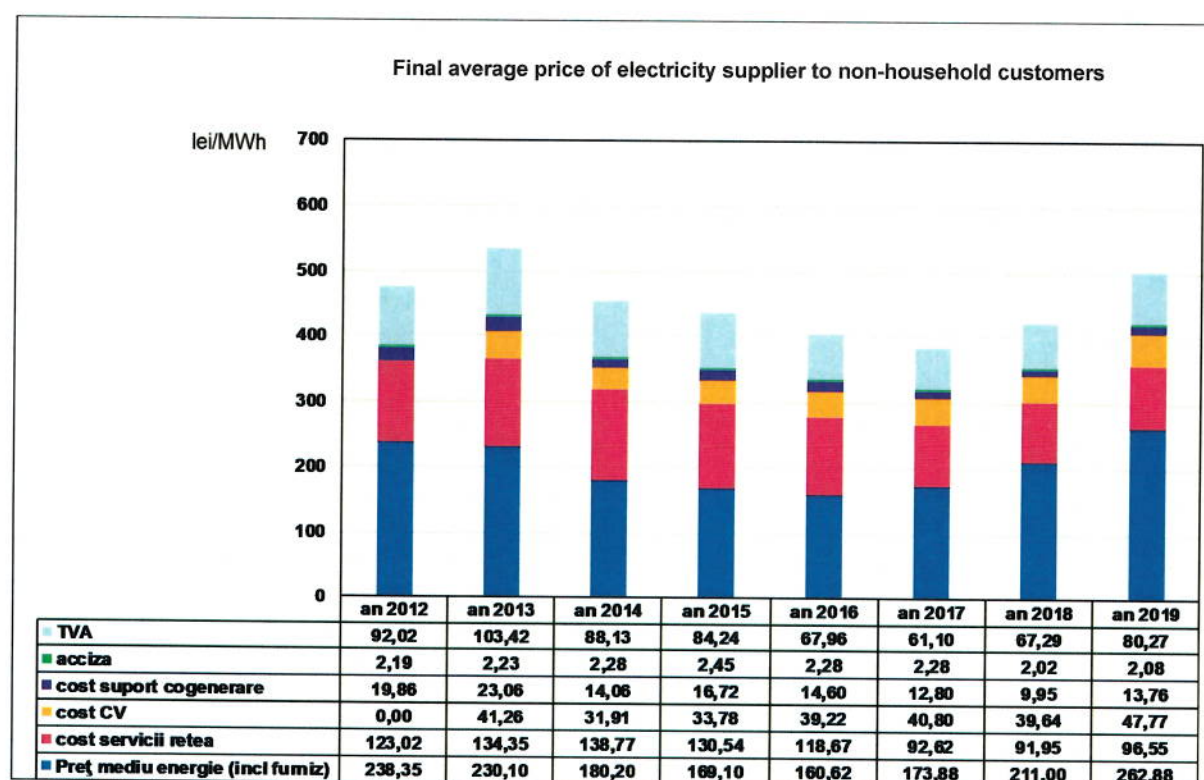
### Evolution of the average sale price of electricity to end customers

In this section it is presented the processing of data collected by the ANRE in accordance with the provisions of the Regulation (EU) 2016/1952 of the European Parliament and the Council from 26 October 2016 on the European statistics on the prices for natural gas and electricity, data which is sent as well to EUROSTAT in an aggregate manner, half-yearly.

In the following charts it is presented the evolution of the components of the average sale price of electricity supplied to household and non-household end customers, both from the regulated market, as well as from the competitive market, in the period between 2012 and 2019.



Source: Half-yearly reports of the suppliers – ANRE processing



Source: Half-yearly reports of the suppliers – ANRE processing

The average price for the sale of power to end customers, excluding the fees and the VAT, has registered an increase in year 2019 compared to the previous year with 14.17% (48.39 RON/MWh). In case of non-household customers, the increase has been of 18.65%, and in case

of household customers the increase has been of 4.8%, as it results from the following table. This evolution has been determined by the prices for which they have been concluded the transactions on the centralized markets of contracts and the DAM.

Type of customer	YEAR 2018			YEAR 2019		
	Pmed_ach&furn	Pmed (no fees and VAT)	Pmed (no fees and VAT)	Pmed_ach&furn	Pmed (no fees and VAT)	Pmed (no fees and VAT)
	RON/MWh	RON/MWh	RON/MWh	RON/MWh	RON/MWh	RON/MWh
household – competitive market	207.52	403.39	556.35	301.10	495.99	682.99
household – regulated market	280.62	470.45	634.89	265.35	464.98	645.55
Household	262.80	454.10	615.74	277.95	475.91	658.74
Non-household competitive market –	208.68	297.94	415.6	261.44	355.59	498.35
Non-household regulated market –	310.68	485.73	649.77	314.12	495.84	680.30
Non-household	211.40	302.94	421.84	262.88	359.43	503.34
Total customers competitive market –	208.59	306.28	426.74	265.96	371.58	519.39
Total customers regulated market –	283.43	471.88	636.28	270.55	468.27	549.25
Total customers	224.53	341.55	474.37	266.83	389.94	544.04

For household customers it is noticed a slight decrease of the share of the average price of acquisition, including the service of supply, in the total average price of sale, from 42.7% as it was in 2018 to 42.2% in year 2019. In case of non-household customers, the share of the average price of acquisition, including the service of supply, in the average final price of sale increased in 2019 to 52.2% compared to 50.1% as it was in year 2018.

At the same time, in year 2019 it has been registered an increase in the final average price of sale (with fees and VAT) of the electricity invoiced to household customers, as well as to non-household customers, following the changes occurred on the power market, such as: the implementation of the provisions of the GEO 2018/114, the increase in the tariffs of the network services, the modification in the previous years of the regulatory framework specific to the trading of green certificates (CV deferred at trading).

<b>Retail market indicators (household customers)</b>	<b>2019</b>	<b>2018</b>
Demand of electricity (TWh)	12.99	12.77
Number of costumers	8728456	8616606
Number of registered suppliers	50	54
Number of active suppliers	50	54
Market share of the first 3 suppliers by metering points (%)	83.38	83.55
Number of suppliers with the market share >5%	4	4
Change of supplier (by metering points) (%)	2.38	2.44

Legal time of change of the supplier	15	15
Average time of change of the supplier	15	15
Consumers with regulated prices (bound SLR)	6099602	6489134
HHI by metering points	2807	2824

<b>Retail market indicators (non-household customers)</b>	<b>2019</b>	<b>2018</b>
Demand of electricity (TWh)	36.59	37.25
Number of customers	184994	186362
Number of registered suppliers	75	84
Number of active suppliers	75	84
Number of suppliers with the market share >5%	7	8
Change of supplier (by eligible volumes) (%)	16.97	22.11
Legal time of change of the supplier	15	15
Average time of change of the supplier	15	15
Consumers with regulated prices	184994	186362
HHI by volumes	769	730

#### 4. MONITORING THE SAFEGUARD MEASURES

In accordance with the provisions of art. 24 of *Law no. 2012/123 on natural gas and electricity as further amended and completed*, in case of some unexpected crises on the power market and in case they are threatened the physical safety or the security of the persons, devices or plants, or the integrity of the system, the transmission and system operator proposes to the ANRE and the ministry of resort the adoption of some safety measures. The measures taken in these situations must affect as little as possible the good operation of the European domestic market and limit strictly to the remediation of the crisis that generated the situations. The enforcement of these measures is made under a Government decision, initiated by the ministry of resort.

#### 5. COSTUMER PROTECTION AND DISPUTE SETTLEMENT

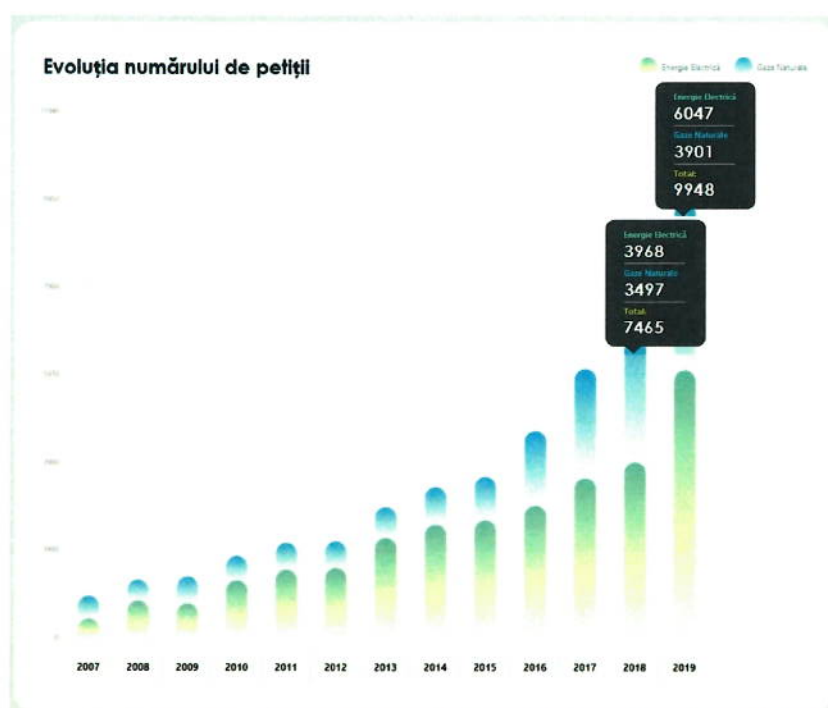
The analysis and the formulation of the answers with regard to the aspects presented in petitions are made according to the provisions of Government Ordinance no. 27 from 30 January 2002 on the *regulation of the petition settlement activity*, as further amended and completed.

The petition settlement method has been different, according to the approached problems: from written answers comprising clarifications, explanations and referrals to the legislation in force, to verifications on site and complex analyses, to direct discussions with the involved parties.

In case that the problems brought before in the petitions concerned the non-observance of the legal provisions by the participants on the power market, the ANRE sent them some letters of formal notice by which they have been established some measures for compliance with the legal provisions in force and/ or they have been taken the legal measures for the enforcement of some civil sanctions.

Of the total number of petitions, in the electric and thermal power sector they have been registered **6047** petitions formulated by natural and legal persons benefitting from/ soliciting services supplied by economic operators. The evolution of the number of petitions for electricity is presented in the following table:

Line no.	Sector / Year	2015	2016	2017	2018	2019
1	Electricity	2639	2979	3597	3968	6047



The petitions have been transmitted for analysis and settlement to the ANRE address directly, indirectly, forwarded by means of other public institutions.

The situation of the petitions addressed indirectly is presented as follows:

#### RECORD OF PETITIONS FORWARDED BY OTHER PUBLIC INSTITUTIONS TO ANRE

LINE NO.	INSTITUTION	ELECTRICITY
1	Presidential Administration/ Presidency	10
2	Romanian Government, SGG	120
3	Romanian Parliament – Chamber of Deputies	6
4	Romanian Parliament – Senate	13
5	Ministries	117
6	Competition Council	11
7	National Authority for Communication Administration and Regulation (ANCOM)	2
8	National Authority for Costumer Protection (ANPC)	1762



LINE NO.	INSTITUTION	ELECTRICITY
9	National Regulatory Authority for Community Services of Public Utilities (ANRSC)	113
10	Ombudsman	12
11	General Inspectorate for Emergency Situations (ISU)	19
12	Prefectures, County Councils, Town Hall	125
13	Other	32
	<b>Total</b>	<b>2342</b>

For the identification of the main problems presented by the petitioners, the petitions have been classified, in order to identify the legislative provisions that must be modified, as the case may be, and the services supplied to customers have been improved, for the purpose of increasing their satisfaction.

#### MAIN CATEGORIES OF PROBLEMS IDENTIFIED IN THE SETTLED PETITIONS; IN THE ELECTRICITY SECTOR

LINE NO.	MAIN PROBLEMS SIGNALLED	NUMBER OF PETITIONS	[%]
1	Invoicing the electricity on the regulated market	1358	22.46%
2	Contracting electricity on the free market	548	9.06%
3	Invoicing electricity on the free market	515	8.52%
4	Voltage quality	454	7.51%
5	Change of electricity supplier	318	5.26%
6	Contracting electricity on the regulated market	238	3.94%
7	Disconnection/ Termination/ Cancellation/ Notice/ Reconnection	218	3.61%
8	Voltage continuity	204	3.37%
9	Behaviour of anti-competitive suppliers	190	3.14%
10	Compensations of damaged receivers, Damages	157	2.60%

In 2019 it has been registered a single request for the settlement of some disputes born at the conclusion of the contracts for the supply of thermal power, being settled according to the provisions of the procedure.

#### Performance indicators for the activity of supply of electricity

The performance standard for the electricity supply activity, (*Standard*), approved by ANRE Order no. 2017/6, rules the quality of the electricity supply activity establishing:

- provisions related to the quality of the activity of supply;
- performance indicators characterising the quality of the supply;
- the guaranteed levels of the guaranteed performance indicators;

- the indemnities that the suppliers of last resort pay to the end customers who benefit from the universal service, in case of the failure to comply with the guaranteed levels of the performance indicators

The conditions that must be met, as well as the indemnities that the suppliers of last resort have the obligation to pay automatically to the end customers who benefit from the universal service, according to the provisions of the *Standard* are the following:

<b>Line no.</b>	<b>Performance indicator*</b>	<b>Guaranteed level</b>	<b>Indemnity in case the guaranteed level is not achieved</b>
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
1.	The issuance term of the offer for supply	15 working days	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
2.	The time to respond to the complaint of the end customer with regard to the invoice for electricity	5 working days	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
3.	The term for the communication to the network operator of the request for the resumption of the supply of electricity for a demand facility disconnect for non-payment	4 hours	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
4.	The term to respond to the complaints of the end customer regarding the disconnection of the demand facilities for the failure to pay the invoice for electricity	5 working days from the acceptance of the complaint by the supplier	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
5.	The term to settle the request for the modification of the regulated tariff for the supply/ of the complaints related to the modification of the regulated tariff for electricity	10 working days	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
6.	The term to respond to the requests/ complaints of the end customer, other than those treated explicitly in the standard	15 working days, respectively 30 days with the prior information of the end customer within the initial term of 15 working days	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
7.	The terms provided for by the Procedure for granting compensations to household customers for damaged receivers as a consequence of some accidental overvoltage occurred because of the network operator, in force		RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay

8.	The term for the transmission to the network operator of a request/complaint related to the activity and obligations of the network operator, respectively to the end customer of the response received from the network operator	The immediately following working day, from the end customer by electronic mail or telephone.	RON 100.00, to which they are added RON 50.00 for each day of delay, starting from the first day of delay
		3 working days for requests/complaints received from the end customer in writing on paper/ by fax	
		3 working days for the communication to the end customer of the response received from the network operator.	

According to the provisions of the *Standard*, the suppliers of electricity have the obligation to follow a number of 53 indicators, out of which we present below:

- PI1** - number of complaints related to invoicing (this indicator comprises both founded complaints, as well as the unfounded complaints, irrespective whether they involved or not the verification of the data measured by the metering operator (MO));
- PI2** - the number of founded complaints related to invoicing (this indicator comprises all of the founded complaints, irrespective whether they involved or not the verification of the data measured by the MO);
- PI3** - the number of complaints related to invoicing involving the verification of the measured data;
- PI4** - the number of requests/ complaints received from final clients related to the activity of the network operator (NO);
- PI5** - the number of requests of household customers to receive damages for the deterioration of household receivers as a consequence of some accidental overvoltage in the electric networks of the NO
- PI6** - the number of compensations granted following the non-observance of the terms provided in the Standard;
- PI7** - the number of compensations paid to end customers following the non-observance by the NO of the performance indicators provided in the performance standard for the network service in force.

Following the information transmitted by the suppliers of last resort: CEZ VÂNZARE SA, ELECTRICA FURNIZARE SA, ENEL ENERGIE SA, ENEL ENERGIE MUNTENIA SA and E.ON ENERGIE ROMÂNIA SA, for the activity of supply of electricity performed by them at all of their end customers (beneficiaries of the universal service, inactive, last resort and eligible), in the period 01.01.2019 – 31.12.2019 they have been registered the following values of the above-mentioned performance indicators:

PI	TYPE OF END CUSTOMER	CEZ VÂNZARE	ELECTRICA FURNIZARE	ENEL ENERGIE	ENEL ENERGIE MUNTENIA	E.ON ENERGIE ROMÂNIA	TOTAL
PI1	household	3,624	10,207	5,699	7,364	8,576	35,470
	small non-household	437	722	1,036	765	1,017	3,977
	large non-household	22	30	81	12	0	145
	<b>total</b>	<b>4,083</b>	<b>10,959</b>	<b>6,816</b>	<b>8,141</b>	<b>9,593</b>	<b>39,592</b>
PI2	household	2,027	7,956	3,631	4,655	2,151	20,420
	small non-household	226	496	628	508	373	2,231
	large non-household	5	15	38	7	0	65
	<b>total</b>	<b>2,258</b>	<b>8,467</b>	<b>4,297</b>	<b>5,170</b>	<b>2,524</b>	<b>22,716</b>
PI3	household	3,056	6,482	4,275	5,383	4,852	24,048
	small non-household	337	462	861	610	426	2,696
	large non-household	16	21	69	9	0	115
	<b>total</b>	<b>3,409</b>	<b>6,965</b>	<b>5,205</b>	<b>6,002</b>	<b>5,278</b>	<b>26,859</b>
PI4	household	45,417	10,669	33,787	36,234	19,555	145,662
	small non-household	1,797	745	4,740	3,828	1,892	13,002
	large non-household	50	58	278	246	0	632
	<b>total</b>	<b>47,264</b>	<b>11,472</b>	<b>38,805</b>	<b>40,308</b>	<b>21,447</b>	<b>159,296</b>
PI5	household	482	588	821	944	492	3,327
PI6	household	0	0	2,516	5,461	4	7,981
	small non-household	0	0	45	42	0	87
	large non-household	0	0	0	1	0	1
	<b>total</b>	<b>0</b>	<b>0</b>	<b>2,561</b>	<b>5,504</b>	<b>4</b>	<b>8,069</b>
PI7	household	2,785	12,067	45,931	5,342	24,083	90,208
	small non-household	1,123	1,101	2,968	452	1,715	7,359
	large non-household	221	244	88	20	89	662
	<b>total</b>	<b>4,129</b>	<b>13,412</b>	<b>48,987</b>	<b>5,814</b>	<b>25,887</b>	<b>98,229</b>

It results from the table that the highest number of damages paid to end customers belongs to the suppliers of electricity from the ENEL group, respectively ENEL ENERGIE SA and ENEL ENERGIE MUNTENIA SA.

As regards the situation of the performance indicators achieved by the suppliers of electricity who have concluded contracts of supply with end customers on the competitive market, we mention that it has been analysed the information received from 52 suppliers who have had end customers throughout the year 2019. The values achieved by the suppliers have been centralized and they are presented hereinafter:

	<b>PI values achieved by the competitive suppliers in year 2019</b>			
	<b>household</b>	<b>small non-household</b>	<b>large non-household</b>	<b>total</b>
<b>PI1</b>	5,139	384	99	<b>5,622</b>
<b>PI2</b>	2,235	184	54	<b>2,473</b>
<b>PI3</b>	2,185	215	42	<b>2,442</b>
<b>PI4</b>	8,509	433	331	<b>9,273</b>
<b>PI5</b>	111	not applicable	not applicable	<b>111</b>
<b>PI6</b>	3	0	0	<b>3</b>
<b>PI7</b>	3,206	1,835	1,233	<b>6,274</b>

We mention as well that in accordance with the legal provisions, the damages are paid by the suppliers of last resort to end customers benefitting from the universal service, automatically to household customers and small non-household end customers, respectively at the written request in case of large non-household end customers. In case of contracts for the supply of electricity concluded on the competitive market, the damages are paid by the suppliers according to their clauses.

The performance indicators for the activity of supply of electricity represent the quantitative and qualitative expression of the activity of a supplier of electricity in relation with the customers served, with whom it is in process to conclude a contract or to whom it offers information, model offers or with whom it handles complaints, as well as the manner of mediation of the relation with the network operator, the supplier representing, in most of the cases, the only physical and contractual interface between these two parties: the customer and the network operator, except for the cases provided for by the legal and regulatory framework in force, where the customer chooses to conclude directly the network contract with the network operator.

#### **Comparator of model offers for the supply of electricity**

The ANRE Order no. 189 from 07.11.2018 regarding the obligation of information of end customers through the application “Comparator of model offers for the supply of electricity” introduced the obligation of all of the suppliers of electricity who supply electricity to end customers to enter in the database of the Comparator the model offers published on own web pages.

In 2019, the Comparator has been accessed by a number of 107,810 users of which 79,895 single users, who spent on this application an average time of 3 minutes and 6 seconds.

During 2019, ANRE monitored the compliance with the provisions of the ANRE Order no. 2018/189 through the monitoring of the model offers entered in the application by the suppliers of electricity. The monitoring regarded as well the compliance of the suppliers with the provisions

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of art. 63 of the Regulation for the supply of electricity, approved by ANRE order no. 2014/64, related to model offers.

Thus, they have been carried out 4 monitoring campaigns in the periods: 28.03-04.04.2019, 23.05-30.05.2019, 17.09-24.09.2019 and 12.12-18.12.2019, in each campaign being monitored 77 suppliers who perform the activity of supply of electricity to end customers.

In the monitoring process, ANRE verified:

- the validity of the model offers on the web page of the supplier;
- the validity of the model offers entered in the database of the application;
- the existence of the model offers on the web page of the supplier;
- the introduction of the model offers published on the web page of the supplier in the database of the application;
- the provision by suppliers of model offers at least to household and small non-household end customers;
- the access to the web page of the suppliers.

ANRE has sent by electronic mail some newsletters on the monitoring, to the suppliers where they have been found some irregularities, with the request that they ensure the compliance of model offers with the regulations in force

#### **Activity of dispute/ difference settlement commissions regarding the access to the networks/systems of supply of electricity**

*The Commission* carried out its activity on the basis of the provisions of the *Regulation on the organization and functioning of the dispute/ difference settlement commission regard the access to the networks/ systems in the power sector*, approved by ANRE President Order no. 2014/85.

Throughout the year 2019 they have been received 4 requests for dispute settlement. Following the analysis of the files and the completion of the steps for the settlement of the disputes, *the Commission* has issued in 2019, 2 decision for settlement, that have been signed by the ANRE president, according to the provisions of the said regulation. The other 2 requests have been settled at the beginning of year 2020.

#### **Activity of the commission for the settlement of disputes on the wholesale and retail market occurred between the participants to the electricity market**

The commission carries out its activity on the basis of the provisions of the *Regulation on the organization and functioning of the commission for the settlement of disputes on the wholesale and retail market occurred between the participants to the electricity and natural gas market*, approved by ANRE President Order no. 2013/61. Throughout the year 2019 they have been received 6 requests for dispute settlement on the electricity market. Following the analysis of the files and the completion of the steps for the settlement of the disputes, the *Commission* has rejected 2 files, and it has issued 3 decisions (the last of them was issued in the month of January 2019), and a dispute ended with the parties' understanding before the commencement of the settlement procedure.

In order to empower the suppliers of electricity to inform correctly, completely and precisely their own end customers, the ANRE established a unitary reporting system related to the activity of information of end customers of electricity suppliers, in order to allow a more rigorous monitoring

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of the fulfilment of their obligations of information. This monitoring is carried out on the basis of the **Regulation on the activity of information of end customers of electricity and natural gas, approved by ANRE Order no. 2015/96.**

The information activity provided for by the Regulation is carried out, mainly, through the following methods:

- the creation, maintenance and periodical update of own web page;
- the elaboration and distribution of information materials to the costumers;
- the provision of written replies, on paper or email, or by telephone to the questions of the end customers;
- the publishing in the national and/ or local written mass-media;
- the displaying at the unique points of contact, including at the regional/ local point of information.

The information provided to the customers must be updated, drawn up and presented clearly, precisely, in an accessible and legible manner, it must be unequivocal and easy to read, irrespective of the means by which they are put at disposal. The provisions of the Regulation apply to the activity of supply of electricity in the relation between the holders of the license for the activity of supply and the end customers of electricity, defined according to art. 3 point 13 of Law no. 2012/123 on electricity and natural gas, as further amended and completed.

In 2019 the share of holders of licenses for the activity of supply of electricity who have drawn up and forwarded to the ANRE reports on the activity of information of end customers, according to the model provided for by annex no. 2 of the Regulation has been of 96%.

From the reports received it results that the activity of information of the customers during year 2019 has been carried out as follows:

- The information of the customers by national and/ or local written mass-media has been carried out by 21% of the monitored suppliers. They are exempted from this obligation the suppliers for whom the number of final customers is smaller than 1000 for each month of the calendar year, and from the other 14 bound suppliers, nine have complied with the provisions of the order, that is a share of 64%.
- The information of the customers by means of information materials has been carried out in a share of 68% by the monitored holders of licenses for the activity of supply of electricity;
- The information of the costumers by means of the web page has been carried out by 96% of the monitored suppliers, the rest of 4% having the internet page in construction or incomplete.
- Most common subjects on which the holders of licenses for the supply of electricity have informed their end customers are: prices and types of tariffs applied (12%), metering, invoicing methods, invoice content and payment methods (11%), rights and obligations of end customers (11%), procedure, stages and documents necessary to change the supplier (10%), main legal acts ruling the electricity sector, relevant for end customers (9%), procedure, stages and documents necessary for the contractual dispute settlement process (8%), procedure, stages and documents necessary for the settlement of the complaints of end customers (8%), other information of interest for the end customers, including those related to power efficiency provided for by art. 11 para. (5) letter d) points (ii) and (iii) and letter f of Law no. 2014/121 on power efficiency (7%) and the

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procedure, stages and documents necessary for the settlement/ mediation of contractual disagreements (6%).

- The methods used the most by the suppliers for information purposes have been: the publishing of information on own web page (28%), telephone discussions (26%) and the distribution of information materials to the points of contact with the customers/ information departments (25%).
- The most common subjects discussed by customers on the telephone at the number dedicated to customers have been: information on applied tariffs (price offers for the supply) – 34%, information regarding metering, invoicing, invoice content, means and terms of payment, information related to the procedure, stages and documents necessary to change the supplier – 17%, information on the calculation of the demand for electricity/ update of the demand programme – 10% and information related to the connection/ contracting process: stage of the contracting process, documentation, terms of execution, fees, locations and work schedule, changing/ obtaining the ATR – 8%.

Throughout the year 2019, ANRE has carried out country-wide two campaigns for the education and information of the customers in partnership with the National Association for Customer Protection – INFOCONS:

1. Campaign for education and information on the rights of electricity and natural gas customers – The main subjects approached have been: the right to access the natural gas and electricity networks; the right to solicit the supplier to change and complete the contract for supply and its annexes, when new elements appear or when it considers necessary to detail or supplement certain contractual clauses; the right to solicit the supplier to take measures for the remediation of any defects and problems in the electricity and natural gas networks; the right to benefit from the universal service; the right to receive information on a more efficient use of power; the right to send a complaint to the supplier with regard to the activities carried out by the latter; the right to contact ANRE if they are not content with the reply of the supplier.
2. Campaign for education and information regarding the change of the electricity and natural gas supplier – The main subjects approached have been: the right to choose their supplier of electricity and natural gas without the payment of any fee for the change; the steps to complete in the process of change of the supplier of electricity and natural gas; the right to be informed on the general contracting conditions, the prices and the applicable tariffs, the scheduled interruptions in the supply of electricity and natural gas, etc.

The campaigns have been promoted both by certain Tv and radio channels (TV and radio ads broadcast for free with the consent of the CAN), as well as online (internet, social media), and the distribution of materials on paper has been carried out by means of the points of contact of the institutions of major interest country-wide.



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## 6. NATURAL GAS MARKET

### 6.1. Regulation of natural gas network activities and technical operations

In accordance with the provisions of the *Law no. 2012/123 on electricity and natural gas*, as further amended and completed and *Law no. 2004/238 on oil*, the systems of prices and tariffs on the regulated markets of natural gas are established by the ANRE.

The regulated activities corresponding to the natural gas systems for which the ANRE has issued legal acts and/ or has established regulated tariffs in year 2019 are the following:

- the natural gas transmission,
- the underground storage of natural gas,
- the natural gas distribution,
- the activities related to the operation of the natural gas transmission system

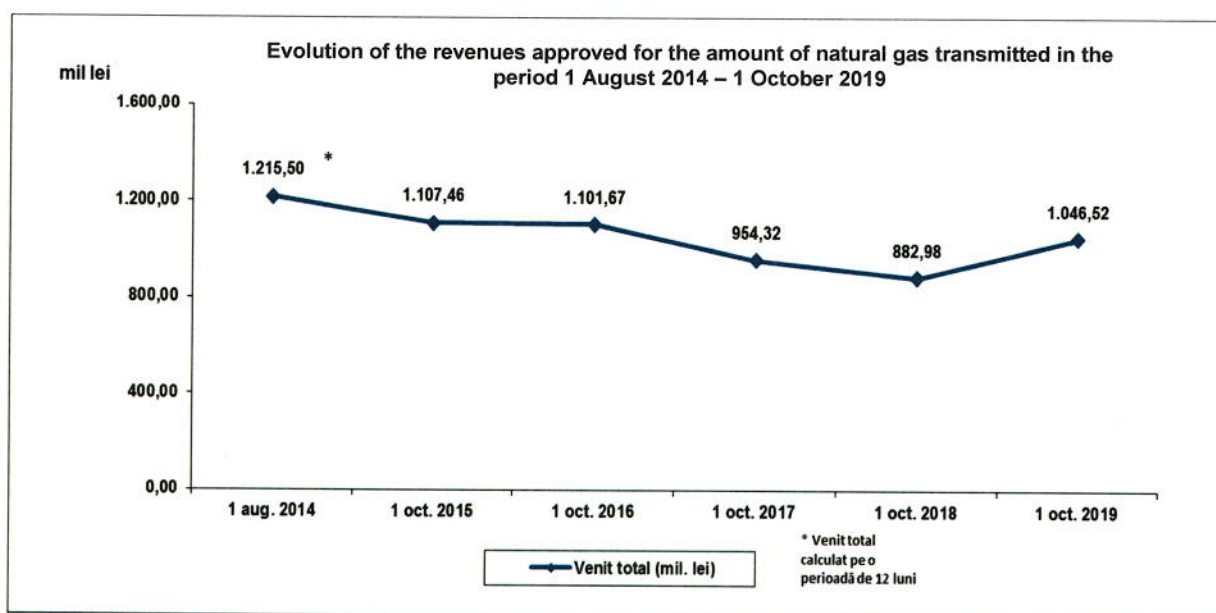
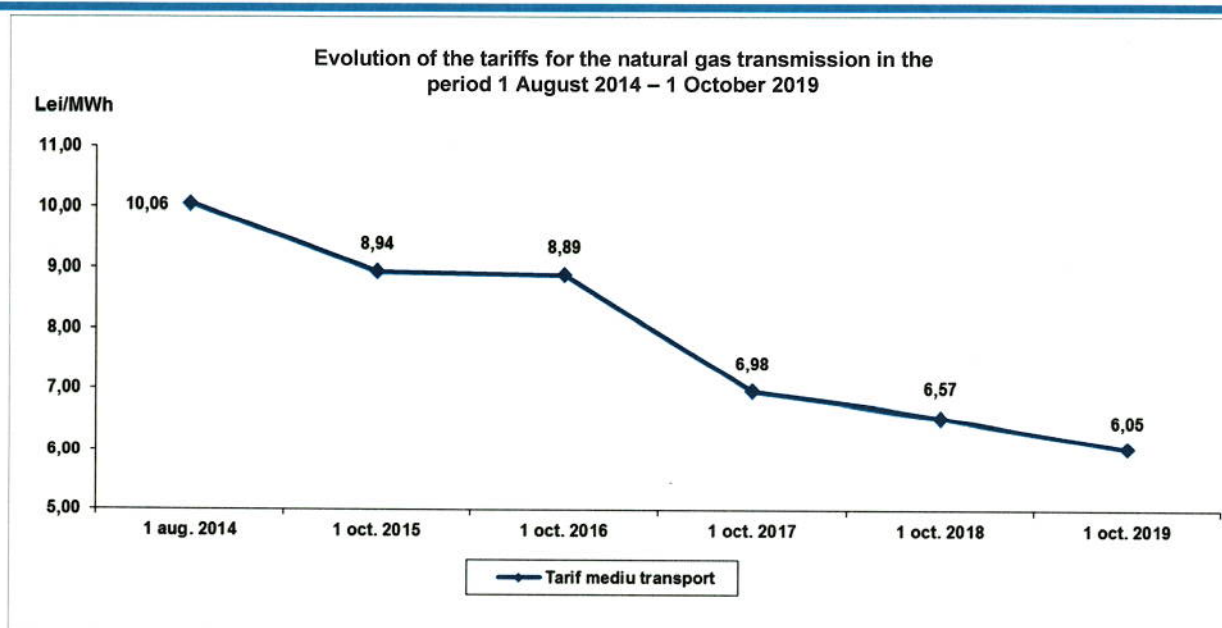
#### Natural gas transmission

On the date of 15 March 2019, for the observance of the provisions of the Regulation (EU) 2017/460 establishing a network code regarding the harmonized tariff structures for the gas transmission, the ANRE has approved through the **Order no. 41**, a new **Methodology for the establishment of the regulated tariffs for the services of natural gas transmission**, which comprises a set of tariffs of “entry/exit” type established for the group of points of entry in the ST where the capacity is reserved, for the group of points of exit from the ST where the capacity is reserved, as well as a volume tariff for the use of the system determined as a tariff of the type of postage stamp. Through this system it is ensured the obtaining of the revenue allowed by the ANRE to a license holder, in view of covering the justified costs as being necessary for the performance of the natural gas transmission during a year of the regulatory period.

The tariffs for the natural gas transmission services through the National Natural Gas Transmission System, less through the transmission pipes of Isaccea – Negru Vodă, applied in the period between 1 October 2019 – 30 September 2020 by SNTGN TRANSGAZ S.A., have been calculated on the basis of the provisions of the new methodology and **approved by ANRE Order no. 64/30.05.2019, being valid until the date of 30 September 2020.**

Thus, the following tariffs have been approved:

- a) the tariffs for the reservation of capacity corresponding to the transmission services, firm and uninterruptible, on the long and short term, broken down by groups of points of entry and exit, including for the points of entry/ exit from the storage, accompanied by the multiplication coefficients, for the first year, 1 October 2019 – 30 September 2020, of the fourth regulatory period;
- b) the volume tariff for the use of the National Transmission System at the value of 1.51 RON/MWh;



### **Tariffs for the natural gas transmission service through the natural gas transmission pipe of Isaccea 2 - Negru Vodă 2**

ANRE has approved by ANRE Order no. 2019/166 the transmission tariffs for the reservation of the transmission capacity on the points of entry/exit in/from the natural gas transmission pipe Isaccea 2 – Negru Vodă 2, for the period 1 October 2019 – 30 September 2020, for the National Company for Natural Gas Transmission TRANSGAZ S.A.

The application of these tariffs has been conditional upon the compliance with the provisions of art. 3 of ANRE President Order no. 2016/34, respectively the conclusion of all of the interconnection agreements with the adjacent transmission system operators.

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The transmission tariffs for the reservation of the transmission capacity in the points of entry/exit in/from the natural gas transmission pipe Isaccea 2 - Negru Vodă 2, provided in the annex to the ANRE Order no. 2019/166, are *capacity reservation tariffs corresponding to the transmission services, firm and uninterruptible, on the long and short term, broken down by groups of virtual points of entry Isaccea 2,3 and virtual points of exit Negru Vodă 2,3 accompanied by the multiplication coefficients, for the first year, 1 October 2019 – 30 September 2020, of the fourth regulatory period.*

### **Tariffs for activities related to the operation of the natural gas transmission system**

In the month of September 2019, through the order no. 187, ANRE has approved the **Methodology for the establishment of the regulated tariffs for the activities related to the operation of the natural gas transmission system.**

Thus, starting from the date of 1 October 2019, the regulated tariffs for the activities related to the natural gas transmission operation are determined by the transmission and system operator based on the provisions of the said methodology.

### **Tariffs for the connection to the natural gas transmission system**

The tariffs for the connection to the natural gas transmission system are calculated by the natural gas transmission system operators according to the provisions of the **Methodology for the calculation of the tariffs corresponding to the connection to the transmission and distribution systems from the natural gas sector**, approved by ANRE Order no. 2018/17, as further amended and completed.

### **Storage**

At the beginning of year 2019, it has been approved by **ANRE President Order no. 2019/14** a new **methodology for the establishment of the regulated tariffs for the underground natural gas storage services**, having as main orientation the cost-plus method, for the purpose of adjusting the regulatory framework to the current method of operation of underground natural gas storage system operators, who use mainly tangible assets leased for the performance of the licensed activity, and the majority costs of whom is constituted of operational costs.

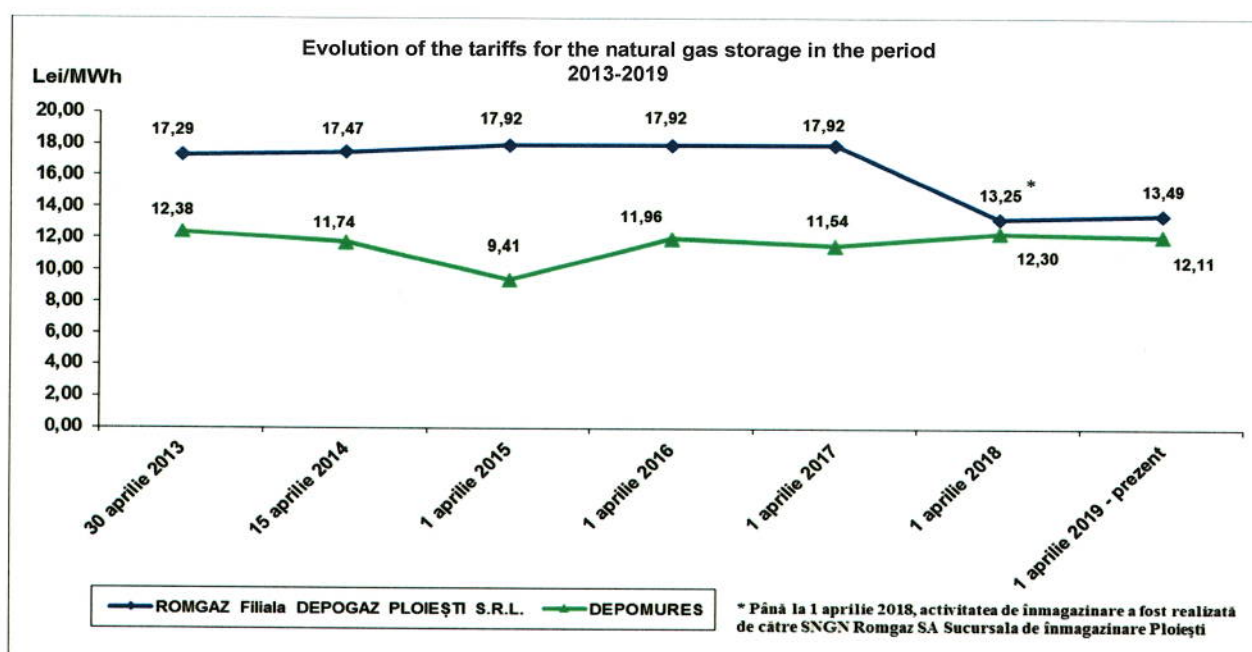
From this point of view, it has been decided to ensure to the operators of underground storage systems a reasonable level of return of the activity, respectively a percentage return rate on the total costs approved. At the same time, it has been decided to grant a return rate and an incentive for tangible and intangible assets commissioned/ received from the date of 1 April 2019, to encourage new investments for an improved operation, increased safety and flexible operation of underground natural gas storage systems, or as a part of a project of common interest at level of the European Union for the development of the natural gas infrastructure.

### **Evolution of storage tariffs**

In the application of the provisions of the new methodology, ANRE has approved through the **ANRE President Order no. 2019/44** the tariffs for the underground storage corresponding to the activity of underground natural gas storage carried out by National Company for Natural Gas Romgaz S.A. – **Subsidiary of Natural Gas Storage DEPOGAZ PLOIEȘTI S.R.L.**, and through the **ANRE President Order no. 2019/45** the tariffs for the underground storage corresponding to the activity of underground natural gas storage carried out by the **Company DEPOMUREȘ S.A. Târgu Mureș.**

Thus, the tariffs for the supply of the underground storage service in the **complete cycle of underground storage comprised between 1 April 2019 – 31 March 2020**, are the following:

Tariff	M.U.	S.N.G.N. Romgaz S.A. – Subsidiary of Natural Gas Storage DEPOGAZ PLOIEȘTI S.R.L.	The company “Depomureș” - S.A. Târgu Mureș
Tariff for capacity reservation corresponding to the services of underground natural gas storage	RON / MWh / annual cycle of underground storage	9.98	5.62
Tariff for natural gas injection	RON / MWh	1.90	6.17
Tariff for natural gas extraction	RON / MWh	1.61	0.32



## Distribution

The tariff system for the **activity of distribution** comprises tariffs differentiated by licensed distribution operators and categories of costumers, established on the basis of the **Methodology for the establishment of the regulated tariffs for the distribution services in the natural gas sector**, approved by ANRE President Order no. 2018/217.

**In year 2019**, the categories of customers for which they have been established in a differentiated manner the tariffs of distribution, the tariff of transit and the tariff of distribution of proximity, have been the following:

1. Customers differentiated according the annual demand for natural gas:

Category of customers	Annual demand for natural gas (MWh)	
	Minimum	Maximum
C.1		≤ 280
C.2	> 280	≤ 2,800
C.3	> 2,800	≤ 28,000
C.4	> 28,000	≤ 280,000
C.5	> 280,000	

2. Customers who benefit from the tariff for proximity distribution – C.6
3. Customers who benefit from the tariff for transit distribution – C.7

### Evolution of distribution tariffs

In accordance with the provisions of the methodology in force a number of 35 operators have submitted to the ANRE the documents that contained the data justifying the regulated revenues, as well as the proposals for tariffs regulated for year 2019, in order to be analysed by the specialty department and to be established the tariffs for the period between 1 July 2019 and 30 June 2020.

Thus, they have been established the regulated tariffs for the supply of the service of regulated natural gas distribution for the economic operators from the natural gas sector through the issuance of the ANRE orders no. 82-117/24.06.2019.

For the two large operators of natural gas distribution, *the company DISTRIGAZ SUD REȚELE S.R.L. and the company DELGAZ GRID S.A.*, starting from the date of 1 July 2019, they came into force the distribution tariffs approved by:

- ANRE Order no. 2019/117 regarding the establishment of the regulated tariffs for the supply of the natural gas distribution service carried out by the company DISTRIGAZ SUD REȚELE S.R.L.

Category of customers	Annual minimum demand MWh	Annual maximum demand MWh	Distribution tariffs RON/MWh
C.1.		≤ 280	31.49
C.2.	> 280	≤ 2,800	29.66
C.3.	> 2,800	≤ 28,000	28.27
C.4.	> 28,000	≤ 280,000	21.78
C.5.	> 280,000		14.74

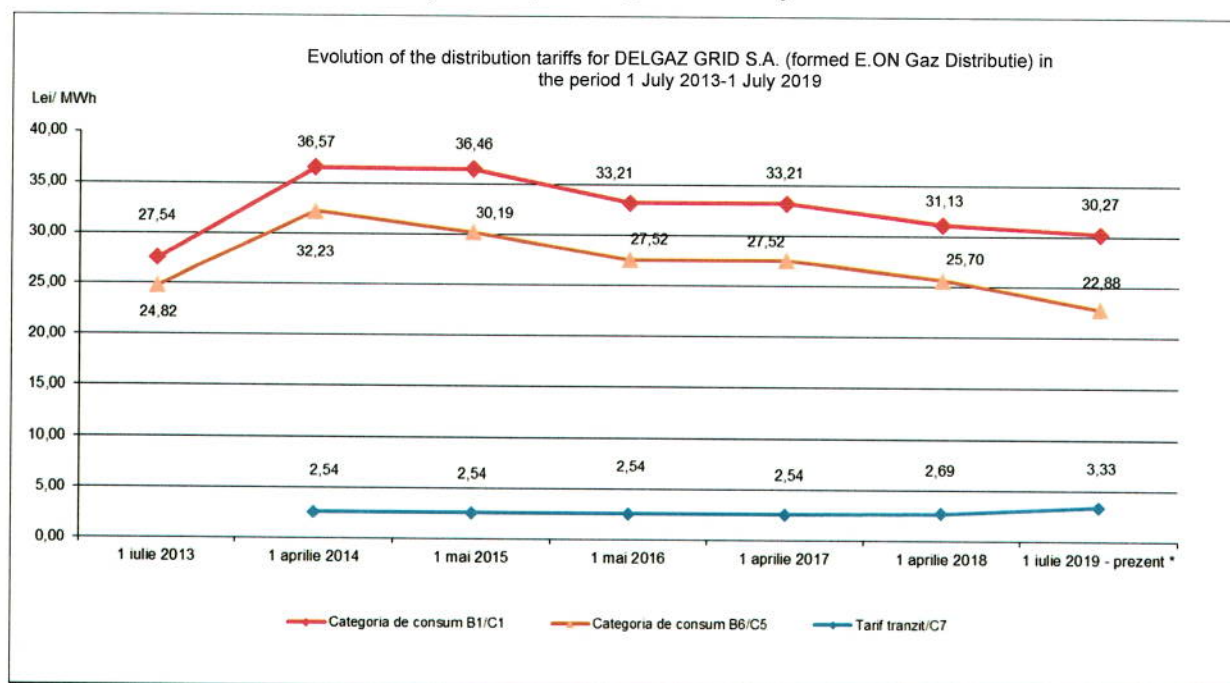
C 6.	Customers who benefit from the proximity distribution tariff	4.00
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- ANRE Order no. 2019/90 on the establishment of the regulated tariffs for the supply of the natural gas distribution service carried out by the company DELGAZ GRID S.A.

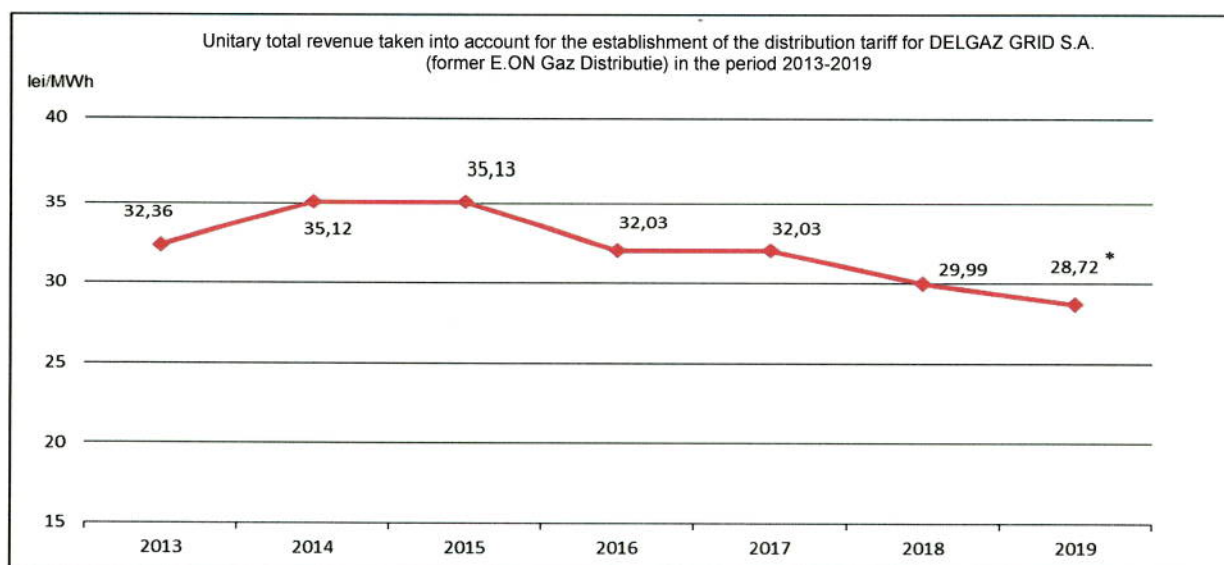
Category of customers	Annual minimum demand MWh	Annual maximum demand MWh	Distribution tariffs RON/MWh
C.1.		≤ 280	30.27
C.2.	> 280	≤ 2,800	28.59
C.3.	> 2,800	≤ 28,000	26.21
C.4.	> 28,000	≤ 280,000	24.23
C.5.	> 280,000		22.88
C.7.	Customers who benefit from the transit distribution tariff*		3.33

\* Transit distribution tariff – tariff for the use of the distribution system of an operator to whom it has been solicited the access or who has approved the access for the purpose of handling the natural gas in view of supplying natural gas to the end customers from own portfolio.

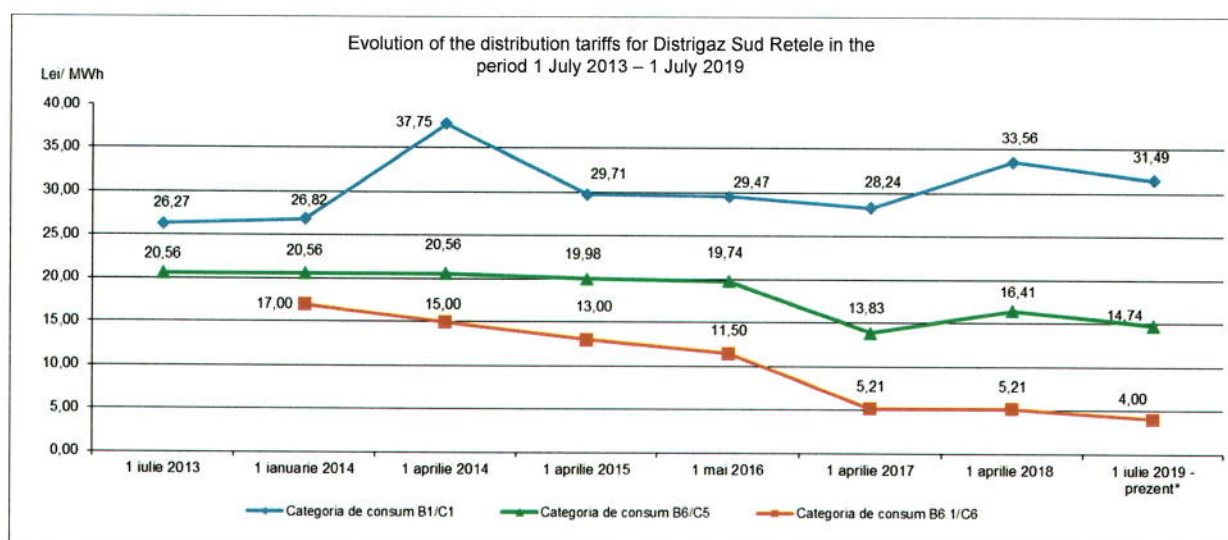
The following charts reflect the evolution in time of the natural gas distribution tariffs and the regulated revenues for the two operators, starting from 1 July 2013 to date.



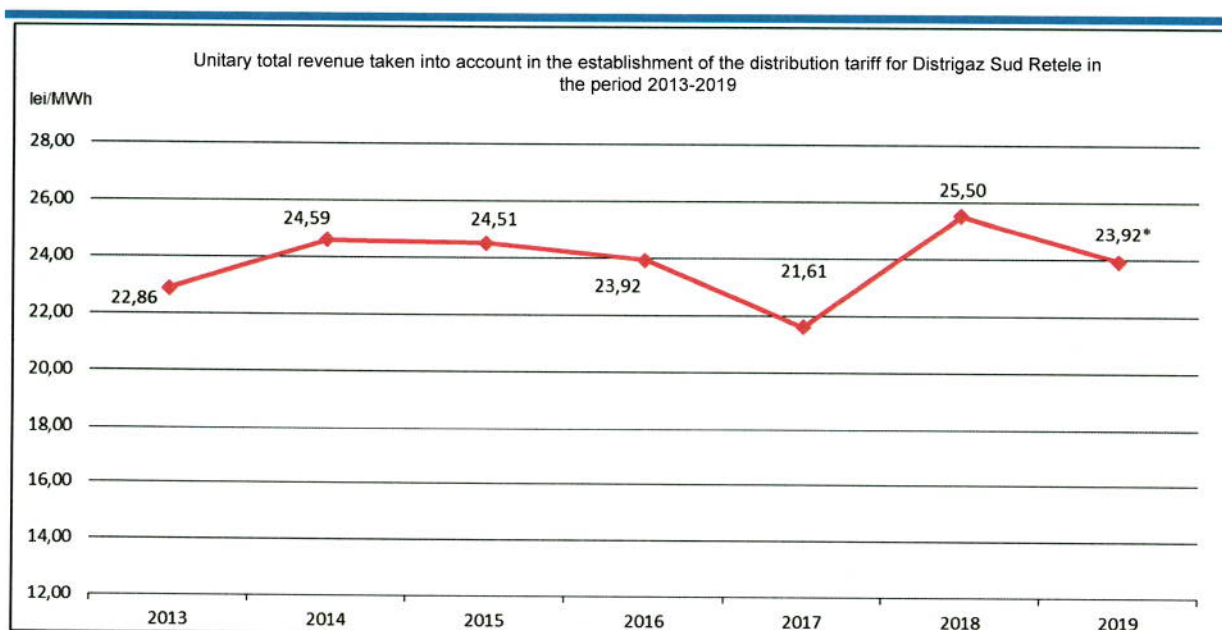
\* Starting from 1 July 2019 they have been modified the categories of customers for whom they are approved the distribution tariffs, so they can get close to the consumption bands provided for by the Regulation (EU) 2016/1952 of the European Parliament and the Council from 26 October 2016 on the European statistics related to the prices of the natural gas



\* Starting from 1 January 2019 the unitary total revenue is changed into unitary adjusted regulated revenue



\* Starting from 1 July 2019 they have been modified the categories of customers for which they are approved the distribution tariffs, so that they can get close to the consumption bands provided for by the Regulation (EU) 2016/1952 of the European Parliament and the Council from 26 October 2016 on the European statistics related to the prices for natural gas



\* Starting from 1 January 2019 the unitary total revenue is changed into unitary adjusted regulated revenue

The balancing actions of the TSOs, according to the Regulation 312 (art. 6 para. (3)) can be: the transactions with standardized short-term products, or the acquisition of balancing services.

In Romania the TSOs perform the balancing by trading the standardized short-term products on the centralized market, therefore there are no balancing services.

### Cross-border aspects

In 2019 it has been approved the **ANRE Order no. 158/28.06.2019** for the amendment of art. 1 of the Methodology for the reservation of the transmission capacity and for the establishment of the tariffs for the transmission of natural gas through the transmission pipes Isaccea - Negru Vodă, approved by ANRE Order no. 2016/34, and for the approval of the Methodology for the reservation of the transmission capacity for the transmission of natural gas through the points located on the natural gas transmission pipe Isaccea 1 - Negru Vodă 1 intended for the transmission of natural gas on the corridor Russian Federation – Bulgaria and for the supply of natural gas to some localities from the Romanian territory; The Order has been elaborated because at the end of year 2018, S.N.T.G.N. "TRANSGAZ" S.A. Mediaș has completed the works of physical connection of the natural gas transmission pipe Isaccea 1 – Negru Vodă 1 to the national system of natural gas transmission, the point Negru Vodă 1 becoming a point of interconnection with a transmission system from an EU member state. The objectives of the changes provided for by the Order are the exclusion of the transmission pipe Isaccea 1 – Negru Vodă 1 from the object of the ANRE Order no. 2016/34 and the elaboration of the methodology for the allocation of the capacity in the points corresponding to the pipe Isaccea 1 – Negru Vodă 1.

### Evolution of the regulatory framework during year 2019

In 2019 ANRE it has been approved by ANRE Order no. 2019/38 the *Procedure regarding the foundation and the criteria for the approval of the investment plans of natural gas transmission*



*and system, distribution and storage operators, as well as of LNG terminals*, that regulate the principles of foundation and the criteria of analysis of the investment plans elaborated by the natural gas system operators, as well as the criteria for the approval of the recognition of the investments made in the tariff. Through the *Procedure* it has been regulated the mandatory structure of the investment works, so that most of the part of the total value of the investment programme represents works on the gas networks. The operators have the legal obligation to establish investment and maintenance programmes founded on analyses and assessments made within the asset management activity, the non-fulfilment of which represents a contravention and it is sanctioned with a fine from the turnover.

In the application of the provisions of art. 151 of Law no. 2012/123 amended by Law no. 2018/167, it has been approved through the ANRE Order no. 2019/37 *the Procedure regarding the take-over of the objectives/ pipes necessary for the connection from the natural gas sector funded in part or in full by the administrative-territorial unit and/ or the solicitors and the recovery by them of the invested amount*. Its purpose has been the regulation of the aspects related to the co-funding of the natural gas systems through the implication of the local public authorities and the users in the extension and development of the networks, as well as the establishment of the manner in which the pipes and/ or the objectives achieved are about to be delivered to the licensed operators.

The monitoring of the investments in the natural gas networks is presented in the Report on the achievement of the performance indicators for the services of natural gas transmission and distribution and the technical state of natural gas networks – 2019 -, published on the ANRE website at: <https://www.anre.ro/ro/gaze-naturale/rapoarte/rapoarte-indicatori-de-performanta>.

#### **Monitoring of the development plan for the national system of natural gas transmission**

The transmission and system operator has obligations with regard to the elaboration of the development and investment plan for ten years, on the basis of the national strategy and the European development plan elaborated by ENTSOG, in accordance with the actual stage and the future evolution of the demand for natural gas and resources, including the imports and exports of natural gas, with the observance of the principles set out in *Directive 2009/73/EC of the European Parliament and the Council from 13 July 2009 on the common rules for the internal market in the natural gas sector and for the repeal of Directive 2003/55/EC*, with the inclusion of the investments corresponding to the projects of common interest. They have a cross-border impact and they benefit from certain facilities, including from funds granted at national and European level.

Transgaz performed an assessment at national level related to the adequacy of the capacities of the transmission system, in accordance with the provisions of art. 8 para. (4) of the Regulation (EC) no. 2019/715 of the European Parliament and the Council from 13 July 2009 on the conditions of access to the networks for the transmission of natural gas and for the repeal of the Regulation (EC) no. 2005/1775. Thus, they have been presented the cross-border major projects and their manner of integration in the European network. The implementation of these projects is decided in correlation with the evolution of the sources of natural gas and the request for consumption.

*The development plan of the national system of natural gas transmission for the period 2019-2028* elaborated by S.N.T.G.N. Transgaz S.A., has been approved by ANRE Decision no. 2080/11.12.2019.

*The development plan of the NTS 2019-2028* has been updated in accordance with the provisions of *Law*, with the inclusion of the investment works regarding the development and modernization of the internal NTS in the period 2019-2028, of the stage of the projects, the values and their commissioning terms, the introduction by Transgaz of a number of 5 new projects, as follows:

- the development/ modernization of the NTS infrastructure in the North-Western region of Romania;
- the increase in the transmission capacity of the interconnection Romanian-Bulgaria on Giurgiu-Ruse direction;
- Eastring–Romania – interconnection project proposed as PCI on the list TYNDP 2018 (Bulgaria-Romania-Hungary-Slovakia);
- data monitoring, control and acquisition system for the stations of cathodic protection corresponding to the NTS;
- SCADA system development for NTS.

The scenarios analysed within *PDSNT 2019-2028* have been correlated with the development scenarios at European and regional level within ENTSOG, in the context of the elaboration of the European development plan of the network for 10 years. The ENTSOG European plan comprised the European projects, some of which have the statute investment projects of common interest (PCI), with an impact on the system interconnection system.

For the period 2019-2028 the value of the major/ strategic projects is 3.7 billion EUR.

The projects of common interest PCI comprised in the Development plan of the European network of natural gas transmission TYNDP 2018 from the list of major/ strategic projects have an estimated total value of approx. 1.52 billion EUR.

According to the data presented by Transgaz, the funding of the major projects with the statute of FID and A non-FID, in an estimated total value of approx. 1.25 billion EUR, will be covered in a rate of 35% from own sources and 65% from attracted sources (non-reimbursable funds and loans).

#### **Stage of major projects of natural gas transmission comprised in the Development plan of NTS 2019-2028**

<b>Project name</b>	<b>Works included</b>	<b>Stage</b>
<i>Development on the Romanian territory of the NTS on the corridor Bulgaria – Romania – Hungary – Austria BRHA – Phase 1</i>	479 km of pipe on the route between Podișor and Recaș, 3 compression stations Podișor, Bibești and Jupa, with the ensuring of the bidirectional flow of natural gas	In course of execution. In 2019 they have been completed the compression stations STC Jupa and TC Podișor.
<i>Development on the Romanian territory of the NTS on the corridor Bulgaria – Romania – Hungary – Austria BRHA – Phase 2</i>	50 km of pipe on the route between Recaș and Horia and the amplification of the capacity of the 3 compression stations Podișor, Bibești and Jupa and of the SMG station of Horia.	The technical documentation for the obtaining of the Building Permit is completed, and the updated Technical Project is in course of endorsement by SNTGN Transgaz SA.
<i>Development of the South Corridor of transmission for the take-over of the natural gas from the shore of the Black Sea, in correlation with the graphics of performance of the off-shore upstream projects</i>	308.3 km pipe on the direction Tuzla – Podișor, connecting the sources of natural gas available on the shore of the Black Sea and the corridor BRHA.	It has been obtained the exhaustive decision for execution. The completion term has been deferred to year 2021, following a delay in obtaining the authorizations and access to the lands.
<i>Interconnection of the NTS with the international transmission pipe of natural gas T1 and reverse flow of Isaccea</i>	Works of interconnection of the NTS to the pipe of international transit T1, in the area of the SMG Isaccea and works of repair on the pipe Cosmești – Onești of 66 km.	Reassessed project, completed technical documentation, issued exhaustive decision, obtained building permit, completion term deferred to year 2020.

	Works of modernization of the stations Silișteea, Onești Șendreni.	
<b><i>Developments in the North-Eastern region of Romania for the improvement of the supply of natural gas and the ensuring of the capacities of transmission to/from the Republic of Moldova.</i></b>		Complete acquisition procedures, contracts for execution concluded for the pipe Onești – Gherăești – Lețcani, Plot 1 and 2 and the two new stations of compression Onești and Gherăești.
<b><i>Amplification of the bidirectional transmission corridor Bulgaria – Romania - Hungary - Austria BRHA phase 3</i></b>	Development of the capacity of transmission on the corridor Onești-Coro-Hățeg-Nădlac according to the volumes of natural gas available on the shore of the Black Sea or from other onshore perimeters and the ensuring of the reversible running on the Romania-Hungary interconnection.	It has been completed the pre-feasibility study.
<b><i>New developments of the NTS for the purpose of the take-over of the gas from the shore of the Black Sea Vadu-T1 by the locality of Grădina, Constanța County</i></b>	25 km pipe from the shore of the Black Sea to the pipe of international transmission T1, with a capacity of transmission of 1.1 billion m <sup>3</sup> /year, according to the “Open-Season” process	Completed technical project, they have been obtained the building permits and the exhaustive decision. The completion term has been deferred for 2021, in correlation with the performance of the offshore projects. Completed process of incremental capacity
<b><i>Interconnection between Romania and Serbia</i></b>	85 km pipe between Recaș–Mokrin and gas metering station. The project has the purpose to facilitate the export of natural gas to Serbia from BRHA	In the procedure for the obtaining of the endorsements and the environmental agreement
<b><i>Modernization of SMG Isaccea 1 and SMG Negru Vodă 1 (FID project).</i></b>	two new gas metering stations in bidirectional regime for SMG Isaccea 1 with the completion term 2020 and SMG Negru Vodă 1 with the completion 2021	SMG Isaccea 1 in execution, to be completed in 2020, and SMG Negru Vodă 1 forecast for 2021, in course of obtaining land and permits
<b><i>Interconnection of the NTS with Ukraine on the direction Gherăești – Siret (LA non-FID project)</i></b>	130 km pipe Gherăești – Siret, a metering station and the amplification of the compression stations of Onești and Gherăești.	Completion term 2022-2024, and for the commissioning and the operation of the system the term is year 2025
<b><i>Development/modernization of the infrastructure of natural gas transmission in the North-Western region of Romania</i></b>	pipe and plants corresponding to the direction Horia-Medieșu Aurit, Sărmășel-Medieșu Aurit and Huedin – Aleșd, a compression station of Medieșu Aurit	The completion term is stages until year 2026
<b><i>Increase in the capacity of natural gas transmission of the interconnection Romania-Bulgaria on Giurgiu-Ruse direction</i></b>	pipe and plants corresponding to Podișor-Giurgiu, undercrossing of Danube and amplification of SMG Giurgiu to Ruse	The estimated term of completion is 2027.
<b><i>Eastring-România</i></b>	bidirectional pipe connecting Slovakia with the Black Sea-Turkey through Hungary, Romania and Bulgaria, according to the completed feasibility study in 2018	Phase 1 – completion term 2025, Phase 2 – completion term 2030
<b><i>Data monitoring, control and acquisition system for the stations</i></b>	acquisition, order and monitoring system for the cathodic protection	Completion term 2023

<i>of cathodic protection corresponding to the NTS</i>	stations	
<b>Development of the SCADA system for the NTS</b>	modernization of the SCADA system in decentralized architecture	Completion term 2023
<b>Modernization of the storage system at the facility of Bilciurești (FID project)</b>	modernization of the facility of Bilciurești, modernization of the station of Butimanu, modernization of 19 injection/ extraction wells, the drilling of 4 new wells, 11 km of pipe between the facility of Bilciurești and SC Butimanu	Completion term 2025 It has been completed the feasibility study and it has been carried out the partial modernization of surface technological plants. Currently, it is in course of execution the building of the drying station.
<b>Increase in the capacity of underground storage at the facility of Ghercești (A non-FID project).</b>	modernization of the storage system of Ghercești, through the station of compression, metering, drying, modernization of 20 wells of injection-extraction and the interconnection with NTS	Completion term 2026 Feasibility study in course of elaboration.
<b>New facility for underground natural gas storage in Fălticeni</b>	transformation into underground facility of the depleted deposits of production Pocoleni, Comănești, Todirești or Devideni, station of compression, metering, drying, injection-extraction wells, and interconnection with NTS.	The estimated term of completion is 2029, with an estimated value of 80 million EUR (A non-FID project). The feasibility study is currently in course of elaboration.
<b>Increase in the capacity of underground storage at the facility of Sărmășel (LA non-FID project).</b>	development of the facility of Sărmășel, increase in the capacity of injection and extraction, increase in the capacity of compression, 46 wells of injection-extraction and the drilling of 15 new wells	Completion term 2024, Completed feasibility study, modernized 6 wells of injection-extraction and t in course of execution 12 wells of injection-extraction.
<b>Storage unit – Depomureș (A non-FID project)</b>	development of the facility by increasing the capacity of storage, the increase in the capacity of injection/ extraction, central station, collecting pipe, surface plants, new wells	Completion term 2021 Completed collecting pipe, surface plants, compression unit, gas drying station

### Monitoring the implementation of annual investment plans of the transmission and system operator

In the following table they are presented in RON the total values of tangible and intangible assets commissioned and registered in the accountancy of the transmission and system operator in year 2019.

Group/ subgroup	Tangible and intangible assets	Investment plan 2019	Investments made in 2019, according to the plan	Investments made in 2019, in addition to the plan	TOTAL investments made in 2019
<b>Group 1</b>	<b>Constructions</b>	363,361,731	23,660,878	4,751,342	28,412,220
Subgroup 1.1	Buildings	2,045,640	407,689	0	407,689
Subgroup 1.3	Collecting and main pipes (including technological plants and the related equipment)	342,405,148	19,619,688	1,906,428	21,526,116
Subgroup 1.7	Other constructions	18,910,943	3,633,501	2,844,914	6,478,415
<b>Group 2</b>	<b>Technological equipment, machines and work equipment</b>	0	4,490	1,366,417	1,370,907
<b>Group 3</b>	<b>Metering, control and adjustment plants and devices</b>	4,292,060	4,549,840	5,488,513	10,038,353
<b>Group 4</b>	<b>Means of transmission</b>	1,445,770	1,445,770	3,483,620	4,929,390
<b>Group 5</b>	<b>Other tangible and intangible assets</b>	25,110,955	11,073,193	358,738	11,431,931

<b>TOTAL, of which:</b>	<b>394,210,516</b>	<b>40,734,171</b>	<b>15,448,630</b>	<b>56,182,801</b>
<b>In the system</b>	<b>365,608,151</b>	<b>23,066,002</b>	<b>10,598,593</b>	<b>33,664,595</b>
<b>In equipment</b>	<b>28,602,365</b>	<b>17,668,170</b>	<b>4,850,037</b>	<b>22,518,207</b>

Thus, the value of the investments made in 2019 by **SNTGN TRANSGAZ SA**, is RON 54,777,361. From this value, the tangible and intangible assets corresponding to the system had the value of RON 33,664,595, representing 61.46% of the total investment made. According to the provisions of art. 37 para. (4) of the *Procedure* approved by ANRE Order no. 2019/38, the degree of achievement of the investment plan corresponding to 2019 will be reviewed after the 8 months of year 2020 in which the operator has the right to recover the investments not made in the preceding year.

From the analysis of the degree of achievement of the annual plan of investments according to the provisions of art. 34 para. (2) of the *Procedure* approved by ANRE Order no. 2019/38, by comparing the achieved value of tangible and intangible assets in the system of **RON 33,664,595** with the scheduled value of these values of **RON 365,608,151**, it resulted a degree of achievement of the investment plan in year 2019 of **9,21%**. The operator has registered delays in the commissioning of the scheduled objectives corresponding to the BRHA project which, in accordance with the information sent by the operator have already been recovered to a large extent in the first months of year 2020. According to the *Procedure*, the operator has the possibility to recover the delayed investments in the last 8 months of year 2020.

For year 2020, SNTGN TRANSGAZ SA has forecast investments in a total value of RON 1.410 billions, including recoveries.

#### **Monitoring the implementation of the annual investment plants of the operators for natural gas storage**

The total value of the investments made in 2019 by DEPOGAZ S.A. is RON 35,388,405. Of this value, the tangible and intangible assets corresponding to the storage system represent 96.45%, respectively RON 34,133,403, the rest representing the acquisition of equipment. By comparing the achieved value of tangible and intangible assets in the system with their scheduled value of RON 34,117,075 it resulted a degree of implementation of the investment plan in 2019 of 100.1%.

The total value of the investments made in 2019 by DEPOMUREŞ SA is RON 1,585,782. Of this value, the tangible and intangible assets corresponding to the system represent 97%, respectively RON 1,538,006, the rest representing the acquisition of equipment.

By comparing the achieved value of tangible and intangible assets in the system with their scheduled value of RON 1,543,698, it resulted a degree of implementation of the investment plan in year 2019 of 96.6%.

For year 2020, DEPOGAZ S.A. forecast investments in a total value of RON 34,120,060, and DEPOMUREŞ SA has no investment (commissioning) scheduled in 2020.

#### **Monitoring the implementation of the annual investment plants for the objectives/ systems of distribution of natural gas**

The value of the investments made (value of fixed assets resulted from the investments made, commissioned and registered in the accountancy) by the distribution system operators, country-wide in 2019 is RON 387.5 million, being recorded an increase with approx. RON 24 million (6%) in the value of investments made in 2018.

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The two operators who distribute natural gas to more than 100,000 users, SC Delgaz Grid SA and SC Distrigaz Sud Rețele SRL, have made in 2019 investments in value of approximately RON 315 million, representing a share of 81,2% of the total value of the investments made in the entire natural gas distribution system country-wide.

The most important types of works made in 2019 aimed to ensure the safe operation of the systems, have been:

- the modernization and the reengineering of the natural gas pipes and connections, of the stations and/ or posts of adjustment/ adjustment-metering, in a total value of approx. RON 137.8 million.
- the periodical replacements of the means of metering that no longer observe the weather conditions, in a total value of approximately RON 42.9 million
- stations for cathodic protection, in a total value of approx. RON 3.8 million.
- SCADA/AMR/GIS equipment, in a total value of approx. RON 16.6 million.
- replacement of the objectives following some incidents and failures, in a total value of approx. RON 4 million.

In terms of structure of the value of the investments made in 2019 by the two large distributors, approximately RON 243,5 million, representing 77,4% of the total, represent the value of the tangible and intangible assets that belong to the system, being observed as such the provisions of art. 22 para. (2) of the *Procedure* approved by the ANRE Order under no. 2019/38, according to which for the DO who distribute natural gas to more than 100,000 customers, the value of the investments that result in tangible and intangible assets belonging to the system in year 2019 must represent at least 70% of the total value of the annual investment plan, share that has been modified to 85% for the investments scheduled starting from year 2020.

In accordance with the provisions of art. 34 para. (2) of the above-mentioned *Procedure*, the operator has the obligation to make every year, from own sources, investments that result in tangible and intangible assets belonging to the system in value of at least 95% of their total value comprised in the annual investment plan approved by ANRE for the respective year. In this respect, following the ANRE analysis, it resulted that out of the 33 operators a number of 17 have fulfilled the imposed percentage, the rest of the operators having the obligation to recover the investments not made in accordance with the provisions of art. 34 para. (4) of the same *Procedure*, respectively in a period of recovery of 8 months. The cumulated value of the investments not made and to be recovered is approximately RON 32.5 million.

Distrigaz Sud Rețele and Delgaz Grid have scheduled for year 2020 investments in a total value of approximately RON 224 million, respectively RON 176 million, representing approx. 46.4%, respectively 36.4% of the total value scheduled for year 2020 by all of the 33 operators of the natural gas distribution system from Romania.

### **Implementation of the network codes and guidelines**

On the date of 15 March 2019, for the observance of the provisions of the Regulation (EU) 2017/460 for the establishment of a network code regarding the harmonized tariff structures for the gas transmission, the ANRE approved by Order no. 41 a new Methodology for the establishment of the tariffs regulated for the natural gas transmission services, which comprises a set of tariffs of “entry/exit” type established for the group of points of entry in the ST in which the capacity is reserved, for the group of point of exit from the ST in which the capacity is reserved, as well as volume tariff for the use of the system determined as a tariff of the type of postage stamp.

For this system it is ensured the obtaining of the revenue allowed by ANRE to a license holder, in view of covering the justified costs as being necessary for the performance of the natural gas transmission activity throughout a year of the regulatory period.

The tariffs for the natural gas transmission services through the National Transmission System of natural gas, less through the transmission pipes of Isaccea – Negru Vodă, applied in the period 1 October 2019 – 30 September 2020 by SNTGN TRANSGAZ S.A., have been calculated on the basis of the provisions of the new methodology and approved by ANRE President Order no. 64/30.05.2019, being valid until the date of 30 September 2020.

### Technical state of the national system of natural gas transmission

The natural gas transmission is ensured by main pipes and connections of supply, in a total length of more than 13,430km, as well as by their corresponding plants and equipment, the connections of supply with natural gas having diameters comprised between 25mm and 1200mm, at pressures comprised between 6bar and 35bar, by which it is ensured the take-over of the natural gas extracted from the generation perimeters or of the imported natural gas and their transport in view delivery to end customers from the internal and external markets of natural gas. As regards the pressure of operation of transit pipes, it is equal to the value of 54bar.

The main components of the National Transmission System (NTS) of natural gas are presented in the following table:

<b>The main components of the NTS of natural gas on 31.12.2019</b>	
▪	13,430 km of main pipes of transmission and connections for the supply of natural gas, of which 369 km represent transit pipes;
▪	1,244 adjustment-metering stations (AMS);
▪	11 physical points of interconnection with other adjacent transmission systems;
▪	7 metering stations of imported natural gas;
▪	58 technological nodes/ tubs command stations (TCS, TN);
▪	7 physical points of entry/exit connected to the storage facilities;
▪	5 gas compression stations (GCS);
▪	1,038 cathodic protection stations (CPS);
▪	902 gas odorizer stations (GOS).

The status of service life of the NTS components, in use on the date of **31.12.2019** is presented in the following table:

Duration of operation	Transmission pipes and supply connections on 31.12.2019 (km.)	Total number of adjustment and metering stations (AMS) on 31.12.2019	Number of adjustment and metering stations placed on the transit pipes (GMS) on 31.12.2019	Number of adjustment and metering stations of imported gas (GMS) on 31.12.2019	Number of cathodic protection systems (CPS) on 31.12.2019	Number of tub command stations (TCS-TN) on 31.12.2019	Number of gas compression stations (GCS) on 31.12.2019
≥ 40 years	7,412.6	150	0	2	73	13	1
30-40 years	1,839.6	60	0	0	20	2	1
20-30 years	1,094.5	254	2	2	54	1	0

10-20 years	2,249.7	570	2	0	560	14	0
5-10 years	679.5	162	0	1	296	3	0
≤ 5 years	153.8	48	0	2	35	25	3
<b>TOTAL</b>	<b>13,430</b>	<b>1,244</b>	<b>4</b>	<b>7</b>	<b>1,038</b>	<b>58</b>	<b>5</b>

The conclusions that can be highlighted from the above table are:

- The national transmission system has registered an increase of 1.82%, by making 233 km, representing new sections of pipes and supply connections;
- There have been commissioned 7 new adjustment-metering stations, their total number reaching as such to 1,244;
- They have been opened 2 new points of interconnection with the neighbouring transmission systems, fact that increases the efficiency of operation of the NTS through the increase in the capacity of import/ export;
- At the same time, in the gas year 2018-2019 they have been commissioned 2 new stations dedicated to metering the amounts of imported natural gas;
- For the purpose of balancing the pressure from the internal network with the pressure from the adjacent systems, but also to increase the amount of natural gas transmitted in internal regime, they have been commissioned 2 new stations of compression;
- S It has been reduced the length of the transit pipes, because the contract corresponding to this type of transmission expired on 31.12.2019 without being extended.

#### Technical state of the natural gas distribution systems

The 33 natural gas distribution operators, holders of the license granted by the ANRE, have held from the date of 31.12.2019 natural gas distribution pipes and their corresponding connections in a total length of more than 56,694 km. Out of these, a share of 64.63% of the total represents polyethylene networks, being those that have developed intensely in the past 20 years.

In the following table it is presented the situation of the duration of operation of the pipes and connections of the natural gas distribution systems, made of polyethylene and steel, at the end of year 2019.

Network age	Objective length OL	Objective length PE	Total objective length	
(years)	(km)	(km)	(km)	(%)
≥40	1,626	0	1,626	2.87
[30;40)	2,197	0	2,197	3.88
[20;30)	11,984	1,222	13,205	23.29
[10;20)	3,891	20,673	24,654	43.49
<10	356	14,655	15,012	26.48
<b>Total</b>	<b>20,054</b>	<b>36,640</b>	<b>56,694</b>	<b>100</b>

Thus, of the total of 56,694 km representing the length of the national distribution system, a share of more than 26% is given by the networks with an age under 10 years, and 43.49% of them have an age between 10 and 20 years. On the other hand, 23.29% represent pipes and connections with the age between 20 and 30 years, while only 6.74% have an age of more than 30 years. By comparison with the preceding gas year, it is noticed the extension of the national natural gas



network with 5,679 km, which represents a significant increase, of approx. 11%.

The share of pipes of polyethylene, respectively of steel, on old sections of the total length of pipes of the natural gas distribution system, is presented in the following table:

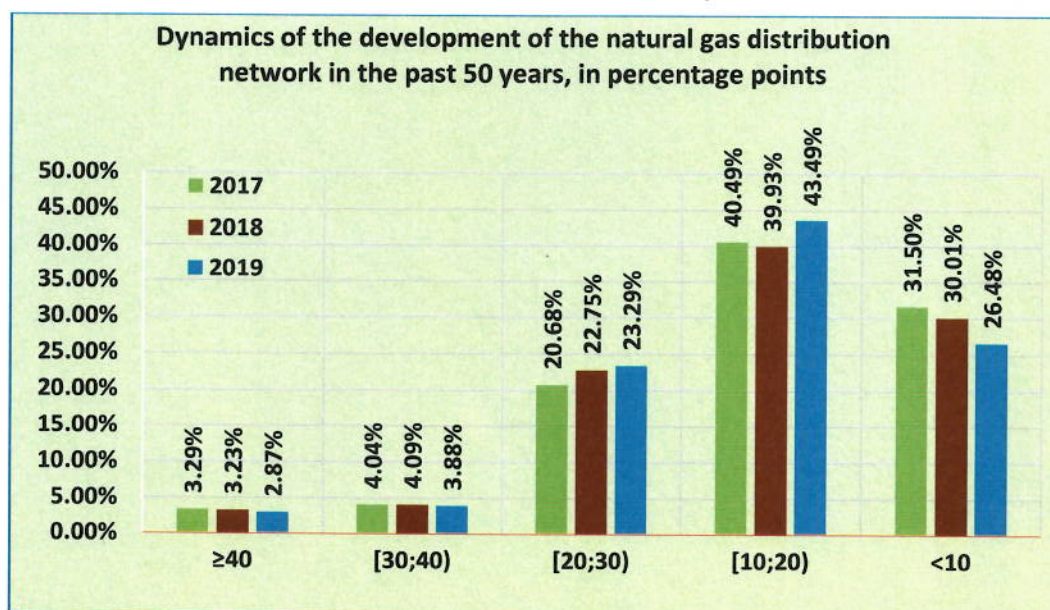
Network age (years)	OL share (%)	PE share (%)
≥40	2.87	0
[30;40)	3.88	0
[20;30)	21.14	2,15
[10;20)	6.86	36,62
<10	0.63	25,85
<b>Share out of the total (%)</b>	<b>35.37</b>	<b>64,63</b>

It is noticed an increase of approx. 5% of the share of the PE distribution networks compared to the preceding gas year, fact that express a modernization of the networks through the reduction of the number of pipes and connections made of steel.

The following table and chart present the dynamics of the development of the natural gas distribution network in the past 3 years, according to its age.

Network age (years)	In 2017	In 2018	In 2019
≥40	3.29%	3.23%	2.87%
[30;40)	4.04%	4.09%	3.88%
[20;30)	20.68%	22.75%	23.29%
[10;20)	40.49%	39.93%	43.49%
<10	31.50%	30.01%	26.48%

Positive aspects result as well from the data from above, in the meaning of the reduction of the share representing networks older than 40 years, which reflects the effort of the operators to renew aged pipes with an advanced degree of wear, fact which reduces the risk of occurrence of unscheduled interruptions, caused by the failures occurred on the sections of networks eroded in time, and improves the technical state of distribution systems.



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**Monitoring the duration of time necessary for connections in the transmission system**

The performance standard for the natural gas transmission and system service provides that in order to execute a new installation of connection to the TS or to modify/ relocate an existing installation, the TSO has the obligation to complete the works and commission the connection installation within the term set out in the contract for connection. Thus, at Transgaz level in the gas year 2018-2019 they have been registered 4 requests for connection, for which they have been issued the corresponding technical notices for connection.

In the gas year 2018-2019 Transgaz did not report any commissioning of any new connection installation, the main causes being the late obtaining of the necessary permits and notices, as well as the difficulties met once with the expropriation and indemnification of owners whose lands have been affected.

**Monitoring the duration of time necessary for connections in the distribution system**

In the gas year 2018-2019 it has been registered by all of the distribution operators (DOs) an increase of approx. 16% of the number of requests for connections compared to the period 01.10.2017-30.09.2018, average on which it relied as well the estimation of the volumes of works foreseen to be contracted with the economic operators who execute the works.

This volume of works grew, being generated mainly by the real estate development, but also by the increase in the consumption by guiding customers towards the use of natural gas instead of other traditional fuels, has had a significant impact on the capacity of the economic operators authorized to observe the contractual terms.

The procedure of conclusion of the contracts for acquisitions of works leads to a delayed contracting of the services and implicitly to a delay in the works; the terms for the issuance of the building permits, as well as of the notices, have led to delays in the issuance of the building permits, the legal terms being exceeded; this situation can be due as well to the growing number of requests for the obtaining of the building permits for buildings or infrastructure works (increase similar to that of the requests for connection to the natural gas distribution systems).

In this context, for the 29,066 connection that the distribution system operators have commissioned in the period 01.10.2018-30.09.2019, it resulted an average duration for their execution of 115 days, calculated from the date on which it has been registered the submission by the solicitor of the request accompanied by the complete documentation.

The improvement compared to the preceding gas year is major, of approx. 52 days, which represents a significant reduction of the duration of connection, following the implementation by the operators of some procedures and measures that led to the optimization of the entire process of connection.

On the other hand, for the 2,078 extensions/ resizing of the natural gas pipes/ objectives commissioned by the distribution system operators in the period 01.10.2018-30.09.2019, it has been registered an average term of execution of 216 days, calculated from the submission date by the solicitor of the request accompanied by the complete documentation, complying as such with the legal term of 270 days. In this case as well it has been registered an improvement of the waiting time of the solicitors, the difference compared to the preceding gas year being of 25 days.

**Monitoring the performance indicators of the natural gas transmission service**

The performance indicators for the natural gas transmission and system service refer to:

- the registration and settlement of the requests/ referrals/ complaints of the users with regard to the natural gas transmission and system service;
- the access to the natural gas transmission system;
- the connection to the natural gas transmission system;
- the restoration of the lands and/ or goods affected by the works to the infrastructure of the natural gas transmission system;
- the observance of the conditions for the delivery-acceptance of the natural gas;
- the limitation/ interruption of the service of natural gas transmission and system.

The transmission and system operator is exempted from the obligation to observe the performance indicators imposed by standard in emergency situations and in case of force majeure, declared in accordance with legal provisions, as well as in case they occur any partial or total technical restrictions of an upstream system.

The synthesis of the specific performance indicators of the natural gas transmission and system service and their evolution by comparison with the preceding gas year, is highlighted in the following table:

#### Synthesis of the performance indicators of the transmission and system service

Specific performance indicator	Reference value of the indicator (%)	Gas year analysed 2018-2019 (%)	Fulfilment of the performance condition %	Previous gas year 2017-2018 (%)	Evolution of the indicator (±%)
PI <sub>0</sub> <sup>1</sup>	90	91.84	yes	97.15	-5.31
PI <sub>1</sub> <sup>1</sup>	95	100	yes	100	0
PI <sub>1</sub> <sup>2</sup>	95	---	yes	100	---
PI <sub>1</sub> <sup>3</sup>	95	100	yes	99.38	+0.62
PI <sub>1</sub> <sup>4</sup>	95	100	yes	---	---
PI <sub>1</sub> <sup>5</sup>	95	---	-	---	---
PI <sub>2</sub> <sup>1</sup>	95	100	yes	100	0
PI <sub>2</sub> <sup>2</sup>	95	---	-	---	---
PI <sub>3</sub> <sup>1</sup>	95	100	yes	100	0
PI <sub>3</sub> <sup>2</sup>	95	---	-	100	---
PI <sub>3</sub> <sup>3</sup>	95	---	-	100	---
PI <sub>3</sub> <sup>4</sup>	95	---	-	100	---
PI <sub>4</sub> <sup>1</sup>	95	---	-	---	---
PI <sub>5</sub> <sup>1</sup>	98	100	yes	99.61	+0.39
PI <sub>5</sub> <sup>2</sup>	98	100	yes	100	0
PI <sub>6</sub> <sup>1</sup>	98	100	yes	100	0
PI <sub>6</sub> <sup>2</sup>	98	100	yes	100	0
PI <sub>7</sub> <sup>1</sup>	80	97.35	yes	97.27	+0.08
PI <sub>8</sub> <sup>1</sup>	98	100	yes	100	0
PI <sub>8</sub> <sup>2</sup>	98	---	-	---	---
PI <sub>9</sub> <sup>1</sup>	90	---	-	---	---

NOTE: Cases marked with (---) are those for which it was not possible to calculate the indicators, because there have been no requests or referrals based on which they could be determined.

To conclude, it can be noticed the fact that **all of the indicators** of performance of the natural gas transmission and system service corresponding to the gas year 1.10.2018 – 30.09.2019 have very good values and that their degree of the achievement in terms of compliance with the minimum thresholds provided in the standard is 100%. By comparison with the previous gas year (01.10.2017 – 30.09.2018) it is highlighted the fact that the level of the performance indicators is maintained, which expresses a maintenance of the quality of the service offered to the costumers and solicitors by S.N.T.G.N. Transgaz S.A.

### Monitoring the performance indicators of the natural gas distribution service

The performance indicators for the distribution and system service refer to:

- the registration and settlement of the referrals/ complaints/ requests of the users with regard to the natural gas distribution and system service;
- the contracting of the natural gas distribution service;
- the observance of the services of delivery-acceptance of natural gas;
- the connection to the natural gas distribution system;
- the restoration of the lands and/or goods affected by the execution of some works at the objectives of the natural gas distribution system;
- the limitation/ interruption of the service of natural gas distribution and system.

The natural gas distribution operators (DO) are exempted from the obligation to observe the performance indicators imposed by the standard in emergency situations and in case of force majeure, declared in accordance with the legal provisions, and when they occur some partial or total technical restrictions of an upstream system.

In order to highlight the quality of the service supplier by the distribution operators in the analyzed gas year, compared to the previous gas year, in the **following table** they are presented the recorded average values of the performance indicators in these two gas year.s

### Synthesis of the performance indicators of the distribution service – weighted average values per country

Specific performance indicator	Reference value of the indicator (%)	Gas year analysed 1.10.2018-30.09.2019 (%)	Fulfilment of the performance condition %	Previous gas year 1.10.2017-30.09.2018 (%)	Evolution of the indicator (±%)
PI <sub>0</sub> <sup>1</sup>	90	99.78	yes	93.49	+6.29
PI <sub>1</sub> <sup>1</sup>	90	99.52	yes	99.34	+0.18
PI <sub>1</sub> <sup>2</sup>	95	97.31	yes	98.02	-0.71
PI <sub>1</sub> <sup>3</sup>	95	100	yes	98.25	+1.75
PI <sub>1</sub> <sup>4</sup>	95	97.56	yes	95.16	+2.40
PI <sub>2</sub> <sup>1</sup>	Repealed	Repealed	-----		
PI <sub>2</sub> <sup>2</sup>	Repealed	Repealed	-----		

Specific performance indicator	Reference value of the indicator (%)	Gas year analysed 1.10.2018-30.09.2019 (%)	Fulfilment of the performance condition %	Previous gas year 1.10.2017-30.09.2018 (%)	Evolution of the indicator (±%)
PI <sub>3</sub> <sup>1</sup>	95	84.73	no	86.58	-1.85
PI <sub>3</sub> <sup>1-1</sup>	95	72.89	no	89.77	-16.88
PI <sub>3</sub> <sup>2</sup>	95	86.31	no	83.67	+2.64
PI <sub>3</sub> <sup>3</sup>	95	88.56	no	83.30	+5.26
PI <sub>3</sub> <sup>4</sup>	95	92.37	no	94.40	-2.03
PI <sub>3</sub> <sup>5</sup>	95	86.39	no	84.59	+1.80
PI <sub>3</sub> <sup>5-1</sup>	95	94.36	no	96.64	-2.28
PI <sub>3</sub> <sup>5-2</sup>	95	90.35	no	84.35	+6.00
PI <sub>4</sub> <sup>1</sup>	90	92.96	yes	92.86	+0.10
PI <sub>5</sub> <sup>1</sup>	95	99.49	yes	99.90	-0.41
PI <sub>6</sub> <sup>1</sup>	98	99.39	yes	99.97	-0.58
PI <sub>7</sub> <sup>1</sup>	80	92.79	yes	90.46	+2.33
PI <sub>8</sub> <sup>1</sup>	98	98.32	yes	97.71	+0.61
PI <sub>9</sub> <sup>1</sup>	90	96.33	yes	100	-3.67

The comparative analysis with the preceding year indicates, in general, a maintenance of the values of the performance indicators, their variations being mostly not significant. It is noticed a single decrease, of more than 16%, corresponding to the obligation of the operators to perform a technical and economic study within 30 days from acceptance date of the request for connection and the complete documentation. The main reason of this step backwards is the fact that the largest two operators had to draw up more than 6,500 technical and economic studies, to respond to the requests for the extension of the network received from the solicitors. This large volume of information, that needs to be analyzed and processed, concentrated mainly in the second half of the year, led to a significant decrease of the values obtained by the two operators in question under the minimum threshold provided in the standard and implicitly, to a significant decrease of the national average mean.

In general, the performance indicators of the natural gas distribution service have been observed or they are close to the minimum threshold provided in the standard. The indicators that refer to the connection to the system could not be achieved, which indicates the difficulties met by the operations in the connection process of the solicitors to the natural gas distribution system. This is the most important indicator on which the operators must intervene by taking the necessary actions aimed to lead to the reduction of the duration of connection.

In the **following table** it is presented the situation of the interruptions scheduled and not scheduled in the supply of the service of natural gas distribution and system and the performance indicators regarding the notification of the users affected by these interruptions.

#### **Situation of interruptions scheduled and not scheduled in the supply of the natural gas distribution and system service**

Line no.	DSO	Scheduled interruption	No. of users affected by scheduled interruptions	Degree of information in max. 12 hours	Unscheduled interruptions	No. of users affected by unscheduled interruptions	Degree of information with at least 2 days in prior
1	DELGAZ GRID	2,855	386,266	98.85	225	38,372	98.46
2	DISTRIGAZ SUD RETELE	3,201	317,097	100	326	50,674	100
3	Distributors for less than 100,000 users	842	28,218		435	27,370	
4	TOTAL	6,898	731,581	99.39	986	116,416	99.49

### Execution of the annual plan of maintenance in the natural gas transmission system

For the natural gas transmission and system operator SNTGN Transgaz S.A. to be able to fulfil its legal obligations with regard to the maintenance and rehabilitation of the operated system, under conditions of efficiency and environment protection, it must perform the specific operations of annual maintenance. They are performed in accordance with the *Technical rules for the design and execution of the natural gas transmission pipes*, approved by ANRE Order no. 2013/118, as further amended and completed. In 2019, the TSO has executed the scheduled works of maintenance presented in the following table. The non-execution of the corrective maintenance work might highlight the fact that they have not been necessary, which might be a positive aspect. Therefore, the operator must pay more attention to the establishment of the annual value of the maintenance plan, including of the break down by types of preventive/ corrective maintenance.

Year 2019	Scheduled (RON)	Executed (RON)	Degree of execution (%)
Total maintenance, of which:	80,283,390	43,064,763	53.64
Preventive maintenance	48,937,726	36,790,671	75.18
Corrective maintenance	31,345,664	6,274,092	20.02

### Execution of the annual plan of maintenance in the natural gas distribution systems

The operation, maintenance, reparation and rehabilitation of the natural gas systems are carried out in compliance with the *Technical rules for the design, execution and operation of the natural gas supply systems*, approved by ANRE Order no. 2018/89, as further amended and completed.

In the following table they are presented the values of the works of total, preventive and corrective maintenance, executed in 2019 by the two large national operators of the natural gas distribution system, with the mention that they met the condition provided in the Procedure related to the degree of execution of the maintenance works.

Operator	Scheduled total maintenance	Executed total maintenance	Degree of execution	Preventive maintenance	Degree of execution	Executive corrective maintenance	Degree of execution
	(RON)	(RON)	(%)	(RON)	(%)	(RON)	(%)

<b>Distrigaz Sud Rețele</b>	339,139,926	338,029,131	99.7	216,197,174	98	121,831,957	103
<b>Delgaz Grid</b>	217,488,910	250,603,609	115.2	149,027,340	152	101,576,269	85
<b>TOTAL</b>	<b>556,628,836</b>	<b>558,632,740</b>	100.4	<b>365,224,514</b>	<b>114</b>	<b>223,408,226</b>	<b>94</b>

In accordance with the provisions of the *Procedure* approved by ANRE Order no. 2019/38, the DO has the obligation to execute in 2019 works of preventive maintenance of minimum 95% of the value of the annual plan of preventive maintenance undertaken by the operator, and starting from 2020 it has the obligation to execute yearly works of maintenance in value of at least 90% of the total value of the annual plan of maintenance.

## 6.2. Operation of the natural gas market and competition

### General data

The annual natural gas consumption recorded a slight decrease compared to 2018, reaching the level of approximately 121.06TWh, with a decrease of 6.54% in 2019 compared to 2018.

The number of participants on the natural gas market from Romania changed constantly as the market has been liberalized, especially in the sector of the natural gas supply, comprising in 2019:

- one operator of the National Transmission System – Transgaz;
- 9 producers: Romgaz, OMV Petrom, Amromco Energy, Foraj Sonde, Hunt Oil Company of România, Mazarine Energy România, Raffles Energy, Serinus Energy România, Stratum Energy România;
- external suppliers who bring natural gas in Romania from external sources: AIK Energy Ltd, Axpo Solutions AG, Energiko EOOD, Engie Energy Management S.A. France, Engie SA France, Gazprom Schweiz AG, Imex Oil Limited, MET Austria Energy Trade Gmbh, MET Energy Trading Bulgaria EAD, MET Magyarorszag Zrt, MET International AG, Mytilenous, OMV Marketing&Trading Gmbh, Trafigura Nat Gas Ltd, Udinex SPLLC, Vitol Gas and Power B.V., Wiece Bulgaria EOOD and Wiece Hungary Kft, Nitrofer Gmbh, Elmu Emasz;
- 2 storage operators: Romgaz – the subsidiary for natural gas storage, Depogaz Ploiești S.R.L. and Depomureș;
- 32 distribution operators – the largest being Distrigaz Sud Rețele and Delgaz Grid;
- 94 active suppliers on the natural gas market, of which 34 suppliers are present on the regulated market of natural gas.

### 6.2.1. Wholesale natural gas market

The internal generation of natural gas in year 2019, the current production extracted from the storage which has been consumed represented approx. 78.00% of the total sources. The first two producers (Romgaz and OMV Petrom) covered together approximately 94.30% of this source.

### Type of natural gas sources entered in consumption in year 2019



The production extracted from the production perimeters in year 2019 and the one injected in the underground natural gas storages are presented in the following table:

Month	Current production (MWh)	Injected amounts from the internal production (MWh)
January	9,772,144.713	-
February	8,824,735.264	-
March	9,446,772.235	392,826.182
April	8,874,692.296	1,523,301.032
May	8,919,834.614	3,612,243.936
June	8,547,517.492	5,202,032.251
July	8,743,782.070	4,763,678.524
August	8,744,138.370	4,676,447.075
September	8,783,581.249	4,346,004.399
October	8,572,943.350	2,337,958.763
November	9,024,522.907	1,313,157.425
December	9,508,795.793	272,922.575
<b>Total 2019</b>	<b>107,763,460.353</b>	<b>28,440,572.162</b>

In year 2019, the generation of natural gas from Romania, has been ensured by a number of 9 natural gas producers: S.N.G.N. Romgaz S.A., OMV Petrom S.A., Amromco Energy S.R.L., Raffles Energy S.R.L., Foraj Sonde S.A., Stratum Energy LLC, Hunt Oil Company Of România S.R.L., S.C. Mazarine Energy România S.R.L and Serinus Energy România.

The amount of natural gas generated in year 2019 has been of 107.763TWh, as follows:

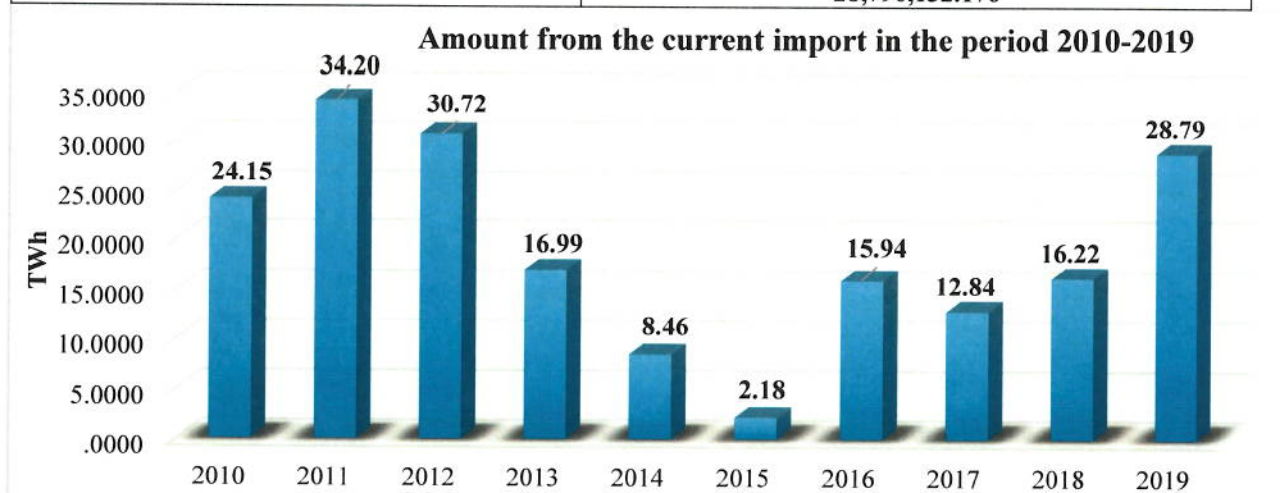
Amromco Energy	Foraj Sonde	Hunt Oil Company	Mazarine Energy Romania	OMV Petrom	Raffles Energy	Romgaz	Stratum Energy Romania	Serinus Energy	Total (TWh)
3.312	0.106	0.817	0.240	46.113	0.065	55.460	0.993	0.657	<b>107.763</b>

The current import consumed in 2019 represented 22% of the total sources. The first three internal importers – suppliers achieved together approximately 58.75% of these amounts.

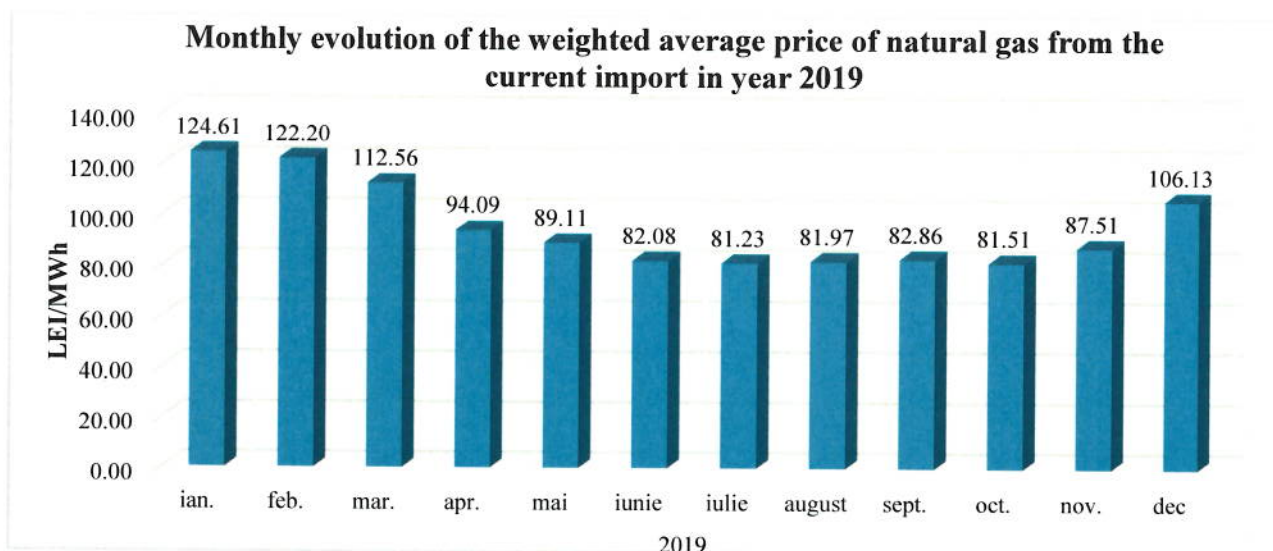
Month	Current import (MWh)
January	4,260,647.167
February	2,960,779.941
March	1,896,527.732
April	1,288,419.545

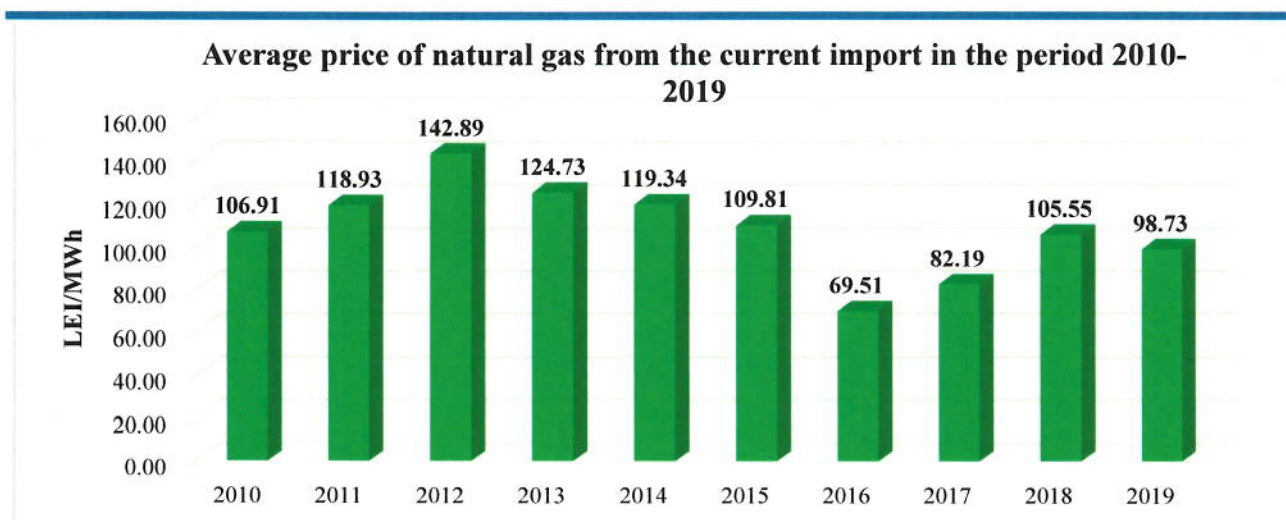


May	1,185,490.735
June	1,479,598.285
July	1,909,583.785
August	2,229,829.545
September	2,236,293.937
October	2,991,879.270
November	2,857,726.144
December	3,493,356.090
<b>Total 2019</b>	<b>28,790,132.176</b>



In year 2019, despite the decrease of the consumption compared to the preceding year, the current import is refreshed, compared to the past six years (as it results from the chart), due to the decrease of the price for imported natural gas, compared to the price of the natural gas from the internal generation.





Regarding the prices of the natural gas from the current import, we mention that they are determined by weighing the prices with the amounts delivered monthly, corresponding to the transactions of sale of imported natural gas, reported by the participants to the market, and they exclude the VAT, excise duties or other fees.

The amounts exported from internal production during 2019 have been the following:

Month	Exported amount (MWh)
January	7,447.851
February	6,727.092
March	27,223.699
April	0.000
May	0.000
June	0.000
July	0.000
August	2,732.671
September	0.000
October	0.000
November	0.000
December	18,866.245
<b>Total 2019</b>	<b>62,997.558</b>

### Storage of natural gas

The activity of storage of natural gas in the summer period is necessary for the operation of the Romanian market under optimal conditions, due to the fact that the current production and the current import cannot cover the necessary monthly demand from the winter period. Since the current production exceeds the consumption in the summer period, the storage even becomes a necessity for the natural gas producers, above the level of the obligation of minimum stock calculated yearly by ANRE, in the situation in which the suppliers do not purchase amounts for storage, necessary for the demand from the cold period.

Type of economic operators	Stock on the date of 31 October 2019 (MWh)
Producers	10,222,845.541
Other participants to the market	21,401,908.133

<b>Total stored</b>	<b>31,624,753.674</b>
---------------------	-----------------------

Following the application of the provisions of the ANRE Order no. 2016/35 approving the methodology on the annual determination of the level of the minimum stock of natural gas for the holders of licenses for the supply of natural gas, it has been calculated the obligation of minimum stock for the storage cycle 2019-2020, corresponding to each supplier who holds end customers in its portfolio. In the following table it is presented the annual evolution of the total minimum stock, that the holders of licenses for the supply of natural gas were ought to hold in the underground natural gas storages until the date of 31 October of each year:

<b>Level of the annual minimum stock of natural gas (MWh)</b>	
2013	24,248,110.943
2014	19,765,212.051
2015	17,477,030.807
2016	18,340,862.385
2017	18,649,242.677
2018	21,361,797.373
2019	<b>23,358,764.055</b>

In the following table it is highlighted the monthly evolution of the natural gas stock existing in the underground natural gas storages in year 2019

<b>Stock 2019</b>	<b>Total (MWh)*</b>
January 2019	8,546,951.788
February 2019	4,843,777.170
March 2019	3,705,125.768
<b>Stock at the end of the extraction cycle 2018-2019</b>	<b>3,705,125.768</b>
April 2019	4,814,630.760
May 2019	8,663,223.145
June 2019	14,575,343.494
July 2019	19,712,964.789
August 2019	24,746,614.779
September 2019	29,320,255.232
October 2019	31,624,753.674
<b>Stock at the end of the injection cycle 2019*</b>	<b>31,624,753.674</b>
November 2019	32,098,949.350
December 2019	29,474,717.737

\* they have been taken into consideration as well the extractions made during the summer

On the national gas market, they are active two operators of underground natural gas storage, Depomureş S.A. and S.N.G.N. Romgaz S.A. –the subsidiary for natural gas storage, Depogaz Ploieşti S.R.L. The total capacity and evolution of the use of this capacity is presented in the following table.

<b>Underground storage operator</b>	<b>Year</b>	<b>Storage capacity (MWh)</b>	<b>Stock after the activity of extraction* (MWh)</b>	<b>Injected amount (Apr.-oct.) (MWh)</b>
<b>Romgaz</b>	2013	29,503,400	6,704,0188.54	21,188,550.748
	2014		8,141,654.008	18,077,373.958
	2015		5,611,283.576	17,869,463.343
	2016		8,521,425.916	14,894,617.259

	2017		5,311,927.379	16,121,839.816
	2018		3,486,578.156	18,095,856.140
	2019		3,350,173.024	26,183,951.444
<b>Depomureş</b>	2013	3,154,550	330,006.289	3,024,810.381
	2014		570,191.740	2,587,221.864
	2015		272,360.874	2,883,003.902
	2016		378,675.860	2,084,214.398
	2017		172,135.518	3,021,150.985
	2018		664,282.762	2,362,868.907
	2019		354,952.744	2,579,950.000

\*it does not comprise the stocks of natural gas remained from the previous cycles of injection, after the activity of extraction.

### Structure of wholesale transactions of natural gas

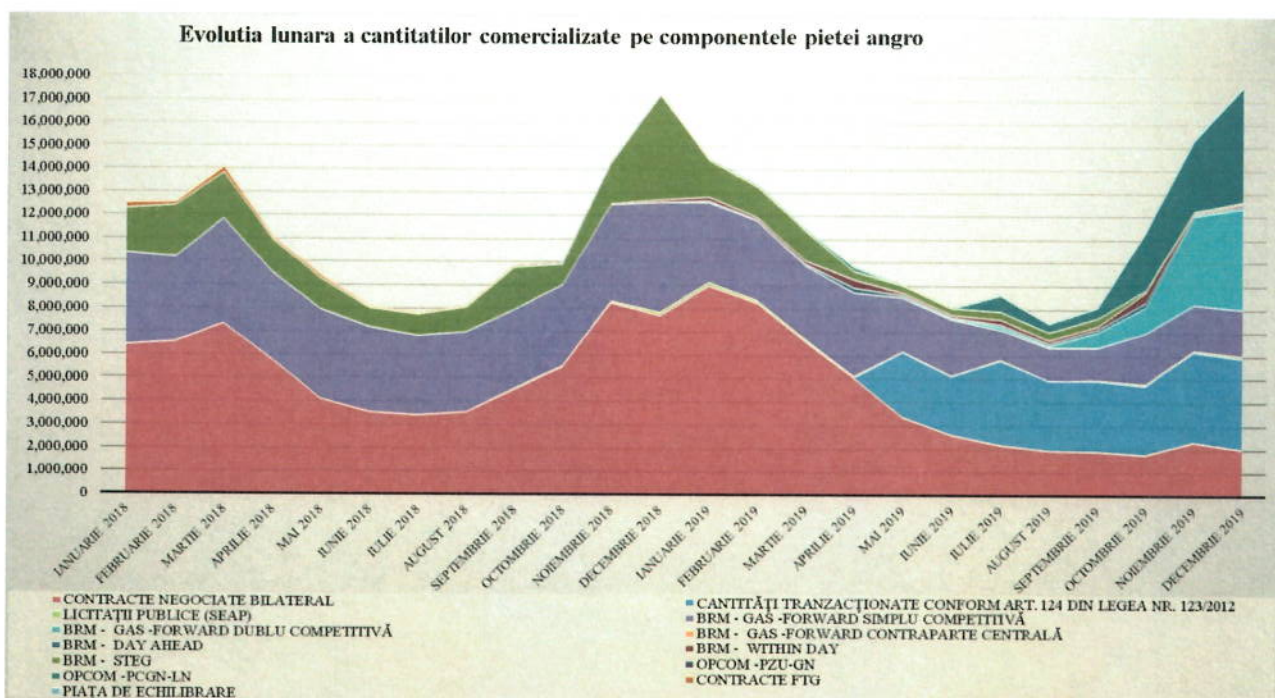
In the following table they are presented the amounts of natural gas delivered in 2019, compared to year 2018, following the transactions previously concluded on each type of market/ trading platform and the average prices obtained:

<b>TRANSACTIONS ON THE WHOLESALE MARKET</b>	<b>TOTAL 2018</b>	<b>TOTAL 2019</b>
<b>1.AMOUNTS TRADED ACCORDING TO ART. 124 OF LAW NO. 123/2012</b>		
Traded amounts (MWh)	<b>N.A.</b>	<b>25,637,551.089</b>
Price (RON/MWh)		<b>68.00</b>
<b>2. MARKET OF BILATERAL NEGOTIATED CONTRACTS</b>		
Traded amounts (MWh)	<b>67,148,214.905</b>	<b>47,648,014.462</b>
Average price (RON/MWh)	<b>82.00</b>	<b>98.33</b>
<b>3. PUBLIC TENDERS (SEAP)</b>		
Traded amounts (MWh)	<b>340,840.188</b>	<b>691,329.575</b>
Average price (RON/MWh)	<b>87.53</b>	<b>101.68</b>
<b>4. IMPORT</b>		
Traded amounts (MWh)	<b>16,036,664.431</b>	<b>27,341,292.558</b>
Average price (RON/MWh)	<b>105.79</b>	<b>100.35</b>
<b>5. BRM ORGANIZED MARKETS</b>	<b>66,794,538.226</b>	<b>48,649,650.360</b>
<b>5.1. Transaction method – SIMPLY COMPETITIVE GAS - FORWARD platform</b>		
Traded amounts (MWh)	<b>45,880,517.201</b>	<b>28,673,762.003</b>
Average price (RON/MWh)	<b>78.24</b>	<b>97.09</b>
<b>5.2. Transaction method – DOUBLE COMPETITIVE GAS - FORWARD platform</b>		
Traded amounts (MWh)	<b>N.A.</b>	<b>10,213,212.000</b>
Average price (RON/MWh)		<b>102.17</b>

<b>5.3. Transaction method – CENTRAL COUNTERPART GAS - FORWARD platform</b>		
Traded amounts (MWh)	N.A.	560.000
Average price (RON/MWh)		99.00
<b>5.4. Transaction method - DAY AHEAD platform</b>		
Traded amounts (MWh)	7,842.576	1,183,557.738
Average price (RON/MWh)	117.64	92.43
<b>5.5. Transaction method – INTRA-DAY platform</b>		
Traded amounts (MWh)	152,448.240	2,057,392.916
Average price (RON/MWh)	121.86	98.91
<b>5.6. Transaction method - STEG platform</b>		
Traded amounts (MWh)	20,753,730.209	6,521,165.703
Average price (RON/MWh)	89.24	103.33
<b>6. OPCOM CENTRALIZED MARKETS</b>	<b>145,808.550</b>	<b>12,406,087.000</b>
<b>6.1. Transaction method -DAM-GN</b>		
Traded amounts (MWh)	145,808.550	20,195.000
Average price (RON/MWh)	113.65	126.34
<b>6.2. Transaction method -PI-GN</b>		
Traded amounts (MWh)	0.000	0.000
Average price (RON/MWh)		
<b>6.3. Transaction method -PCGN-LN</b>		
Traded amounts (MWh)	0.000	12,385,892.000
Average price (RON/MWh)		105.89
<b>6.4. Transaction method -PCGN-LP</b>		
Traded amounts (MWh)	0.000	0.000
Average price (RON/MWh)		
<b>6.5. Transaction method -PCGN-OTC</b>		
Traded amounts (MWh)	0.000	0.000
Average price (RON/MWh)		
<b>7. NATURAL GAS BALANCING MARKET</b>	<b>N.A.</b>	<b>83,402.254</b>
<b>7.1. Ring PE_DA_CC</b>		
Traded amounts (MWh)	N.A.	2,163.920
Average price (RON/MWh)		68.00
<b>7.2. Ring PE_IMB_CC</b>		
Traded amounts (MWh)	N.A.	69,575.079
Average price (RON/MWh)		67.68
<b>7.3. Ring PE_IMB_PET</b>		
Traded amounts (MWh)	N.A.	6,632.174
Average price (RON/MWh)		67.95
<b>7.4. Ring PE_WD_CC</b>		
Traded amounts (MWh)	N.A.	277.283
Average price (RON/MWh)		68.00
<b>7.5. Ring PE_DA_PET</b>		
Traded amounts (MWh)	N.A.	4,750.238

Average price (RON/MWh)		<b>68.00</b>
<b>7.6. Ring PE_WD_PET</b>		
Traded amounts (MWh)	<b>N.A.</b>	<b>3.559</b>
Average price (RON/MWh)		<b>68.00</b>

The monthly evolution of the amounts of natural gas delivered in the period 2018-2019 following the transactions concluded before the delivery on the wholesale market of the natural gas is presented in the following chart:



The comparative situation with the preceding year of the amounts and prices corresponding to natural gas sold by the natural gas producers, participants to the wholesale market, for delivery in year 2019, obtained on each type of market/ trading platform/ participant is the following:

Type of transaction	2018		2019	
	Amount (MWh)	Price (RON/MWh)	Amount (MWh)	Price (RON/MWh)
Amounts purchased according to art. 124 of Law no. 2012/123	0.000	0.00	25,637,551.089	68.00
Negotiated at the producers	98,755.237	65.32	104,216.388	96.23
Negotiated at the suppliers	42,066,418.932	74.93	19,406,376.945	90.92
Negotiated at the TSO	105,272.948	97.41	488,537.133	85.29
Contracts on the centralized markets of the BRN of which	36,632,212.292	76.95	24,320,148.492	96.34
Simply competitive gas forward platform	35,495,318.319	76.93	21,295,073.973	93.40
STEG platform	1,130,182.373	77.24	1,057,259.000	97.27
Day ahead market gas platform	1,584.000	133.64	323,764.633	89.10
Intra-day market gas platform	5,127.600	133.60	606,939.257	96.86

Double competitive gas forward platform	0.000	0.00	1,478,891.000	110.62
Contracts on the centralized markets of Opcom SA of which:	23,372.000	104.21	2,815,225.301	112.29
<i>PCCB-LN</i>	0.000	0.00	2,797,880.301	112.18
<i>PCCB-NC</i>	0.000	0.00	0.000	0.00
<i>PC-OTC</i>	0.000	0.00	0.000	0.00
<i>DAM</i>	23,372.000	104.21	17,345.000	129.16

### Centralized markets

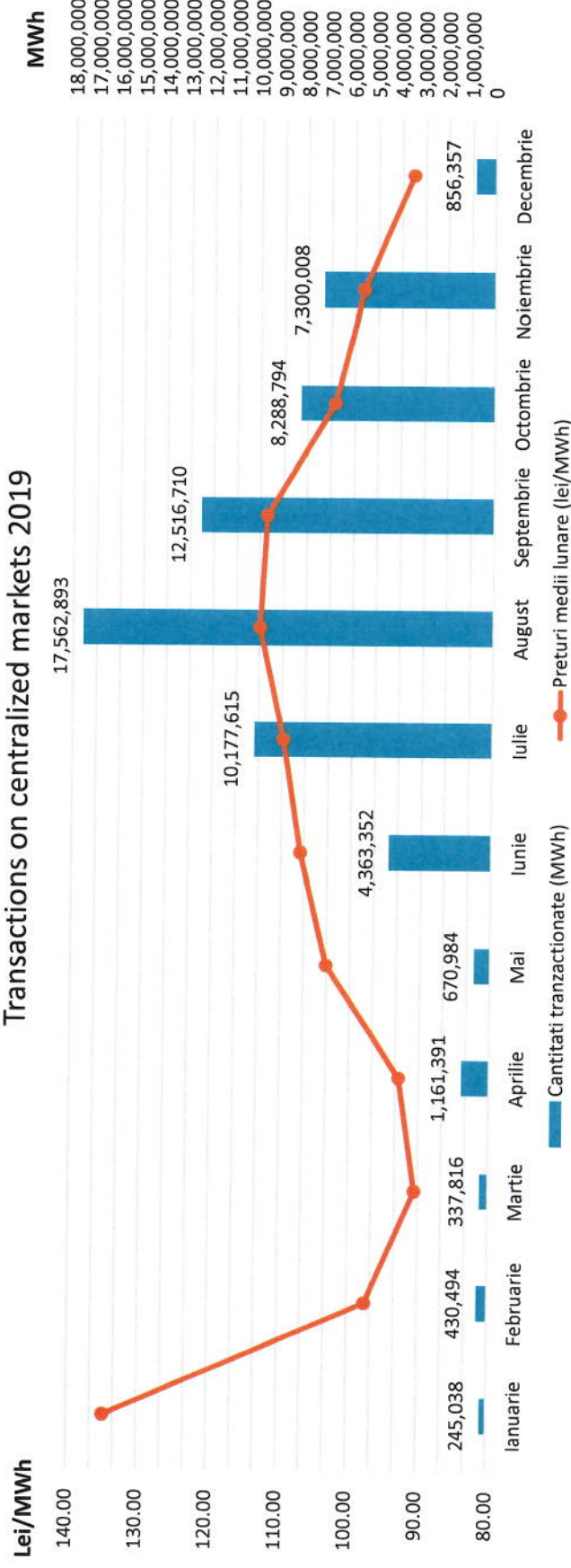
In 2019, the amounts traded on the centralized markets, on the platforms administered by the OPCOM and BRM operators, have totalized 63.91TWh.

The following table contains the amounts traded in 2019, on each of the trading platforms of the BRM: simply and double competitive Gas Forward, Central Counterpart Gas Forward, Intra-Day Market and Day Ahead Market of Natural Gas, respectively of OPCOM: Centralized market of bilateral contracts of natural gas – the trading method by Tender and Negotiation and the Day Ahead Market of Natural Gas, together with the corresponding prices, determined as weighted mean of the prices with the amounts of the transactions concluded on the respective platforms, the traded amount following to be delivered afterwards.

Monthly evolution of total amounts traded on the centralized markets in year 2019 and the corresponding average price is presented in the following chart.

Month	Simply and double competitive Gas Forward BRM (MWh)	Price of simply and double Gas Forward BRM (RON/MWh)	Central Counterpart Gas Forward BRM (MWh)	Price of Central Counterpart Gas Forward BRM (RON/MWh)	Day ahead BRM (MWh)	Price of day ahead BRM (RON/MWh)	Intra-day BRM (MWh)	Price of Intra-day BRM (RON/MWh)	DAM OPCOM (MWh)	Price of DAM OPCOM (RON/MWh)	PCGN-LN OPCOM (MWh)	Price of PCGN-LN OPCOM (RON/MWh)
<b>Total year 2019</b>	<b>29,830,434.584</b>	<b>109.35</b>	<b>560.00</b>	<b>99.00</b>	<b>1,192,499,786</b>	<b>92.46</b>	<b>2,057,288,862</b>	<b>98.91</b>	<b>19,695.000</b>	<b>127.11</b>	<b>30,810,974.000</b>	<b>108.24</b>

Transactions on centralized markets 2019





## 6.2.2. Retail market

In 2019 on the retail market of natural gas they were active 73 suppliers, of which:

- 34 suppliers - on the regulated retail market of natural gas; and
- 71 suppliers - on the competitive retail market of natural gas.

The total number of end customers of natural gas in the month of December 2019 was 4,019,819, of which 219,574 non-household customers (approx. 5.46%) and 3,800,245 household customers (approx. 94.54%).

The total demand for natural gas registered in 2019 was approx. 121.06TWh, recording a decreased of 6.54% in 2019 compared to 2018.

From the total demand of the natural gas sector, a part is represented by specific demands of activities from the sector or demands of operators in relation with the specific technological processes: technological demand, power demand and deviations owed to metering tools.



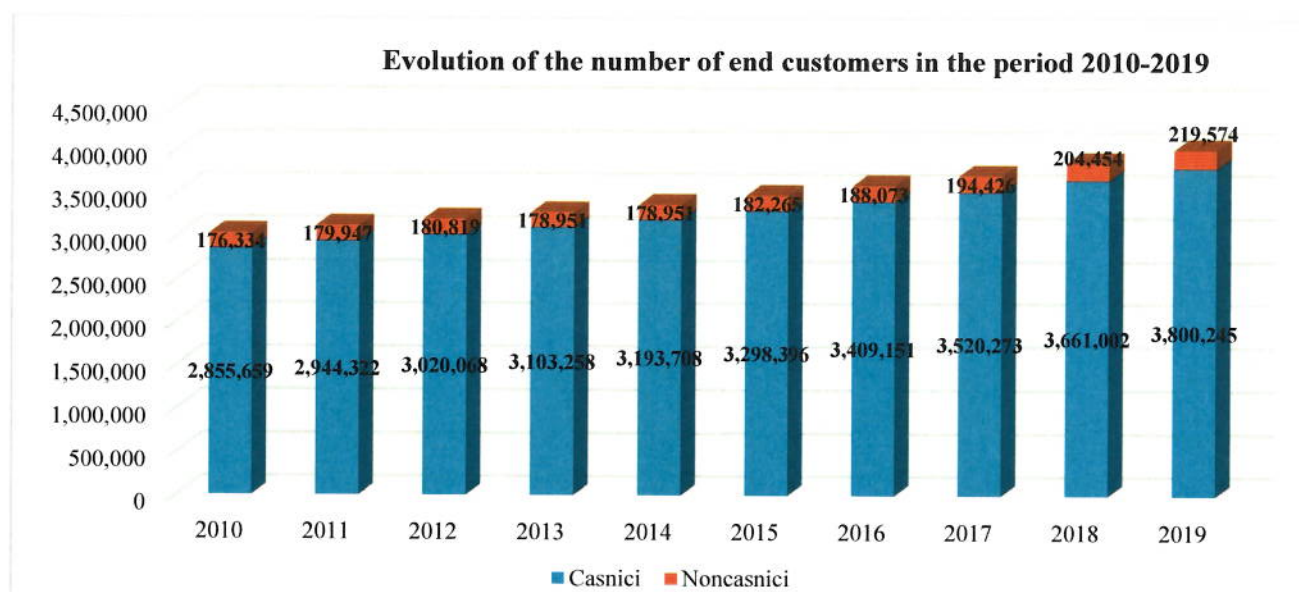
Except for the said specific demands, in year 2019, the demand of end customers ensured by the suppliers was approximately 113TWh of which approx. 78.81TWh represented the non-household demand, and 34.20TWh the household demand, as follows:

End customers	No. of customers	Demand* (TWh)	Share of the total demand
Household customers	3,800,245	34.20	30.26%
Non-household customers	219,574	78.81	69.74%
<b>Total</b>	<b>4,019,819</b>	113.01	

In year 2019, the share of amounts consumed by the household customers from the total final demand is **30.26%**, and the number of these clients represents **94.54%** of the total number of end customers of natural gas. Even though the number of non-household customers represents only **5.46%** of the total end customers of natural gas, the share of amounts consumed by them is **69.74%** of the total final demand.

Month	No. of customers	Total no. of customers	of	Total demand (MWh)
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<b>January</b>	Household	3,674,884	3,884,508.000	18,133,673.884
	Non-household	209,624		
<b>February</b>	Household	3,727,511	3,936,101.000	15,113,862.424
	Non-household	208,590		
<b>March</b>	Household	3,693,929	3,903,353.000	12,356,275.230
	Non-household	209,424		
<b>April</b>	Household	3,701,384	3,910,576.000	8,640,537.885
	Non-household	209,192		
<b>May</b>	Household	3,710,988	3,920,043.000	5,962,054.708
	Non-household	209,055		
<b>June</b>	Household	3,718,924	3,927,027.000	3,842,821.787
	Non-household	208,103		
<b>July</b>	Household	3,722,111	3,932,214.000	5,095,113.717
	Non-household	210,103		
<b>August</b>	Household	3,735,456	3,945,528.000	5,449,310.341
	Non-household	210,072		
<b>September</b>	Household	3,748,515	3,959,971.000	5,857,486.399
	Non-household	211,456		
<b>October</b>	Household	3,766,227	3,979,038.000	8,327,473.718
	Non-household	212,811		
<b>November</b>	Household	3,790,288	4,006,067.000	10,069,108.751
	Non-household	215,779		
<b>December</b>	Household	3,800,245	4,019,819.000	14,156,048.361
	Non-household	219,574		
<b>Total 2019</b>	-	-	-	<b>113,003,767.205</b>



The prices of sale by categories of end customers, depending on the connection system and the class of consumption are as follows; we mention that the average price of sale corresponding to each category of competitive customers does not contain the VAT, excise duties or other fees. The average prices of sale in case of customers supplied in regulated regime include all of the tariffs corresponding to the services, and the average prices of sale corresponding to the customers

supplied in a competitive regime do not include the tariffs corresponding to the transmission, distribution and storage services:

Customers from the regulated market in the period 1 January 2019 - 30 June 2019		
Connection system	Category of consumption	Price including fees (RON/MWh) *
Customers connected to the NTS	A1 (consumption up to 1,162.78 MWh/year)	110.62
Customers connected in the distribution system	B1 (consumption up to 23.25 MWh/year)	138.32
	B2 (consumption between 23.26 – 116.28 MWh/year)	136.90
	B3 (consumption between 116.29 – 1,162.78 MWh/year)	135.13
	B4 (consumption between 1,162.79-11,627.78 MWh/year)	133.47

Customers from the regulated market in the period 1 July 2019 - 31 December 2019		
Connection system	Category of consumption	Price including fees (RON/MWh) *
Customers connected to the NTS	B1 (annual consumption up to 280,000.00 MWh)	106.22
Customers connected in the distribution system	C1 (annual consumption up to 280.00 MWh)	131.56
	C2 (annual consumption between 280.01 MWh and 2,800.00 MWh)	126.44
	C3 (annual consumption between 2.800.01 MWh and 28,000.00 MWh)	123.77

\* according to the reporting obligations provided for by the ANRE Order no. 2013/5

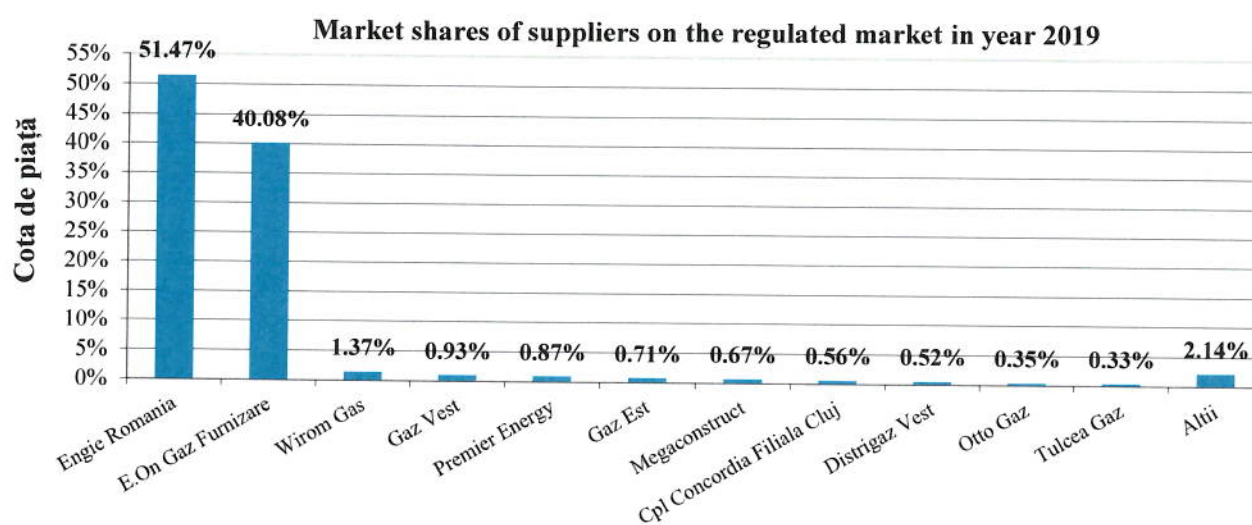
Customers from the competitive market in the period 1 January 2019 - 30 June 2019		
Connection system	Category of consumption	Price excluding fees (RON/MWh) *
Customers connected to the NTS	A1 (consumption up to 1,162.78 MWh/year)	110.68
	A2 (consumption between 1,162.79-11,627.78 MWh/year)	102.61
	A3 (consumption between 11,627.79-116,277.79 MWh/year)	100.87
	A4 (consumption between 116,227.80 and 1,162,777.87 MWh/year)	97.23
	A5 (consumption above 1,162,777.87 MWh/year)	84.20
Customers connected in the distribution system	B1 (consumption up to 23.25 MWh/year)	111.97
	B2 (consumption between 23.26 – 116.28 MWh/year)	116.40
	B3 (consumption between 116.29 – 1,162.78 MWh/year)	113.99
	B4 (consumption between 1,162.79-11,627.78 MWh/year)	109.70
	B5 (consumption between 11,627.79-116,277.79 MWh/year)	106.26
	B6 (consumption above 116,277.80 MWh/year)	94.71

Customers from the competitive market in the period 1 July 2019 – 31 December 2019		
Connection system	Category of consumption	Price excluding tariffs (RON/MWh)
Customers connected to the upstream pipes	A1 (annual consumption up to 280,000.00 MWh)	112.50
	B1 (annual consumption up to 280,000.00 MWh)	105.72

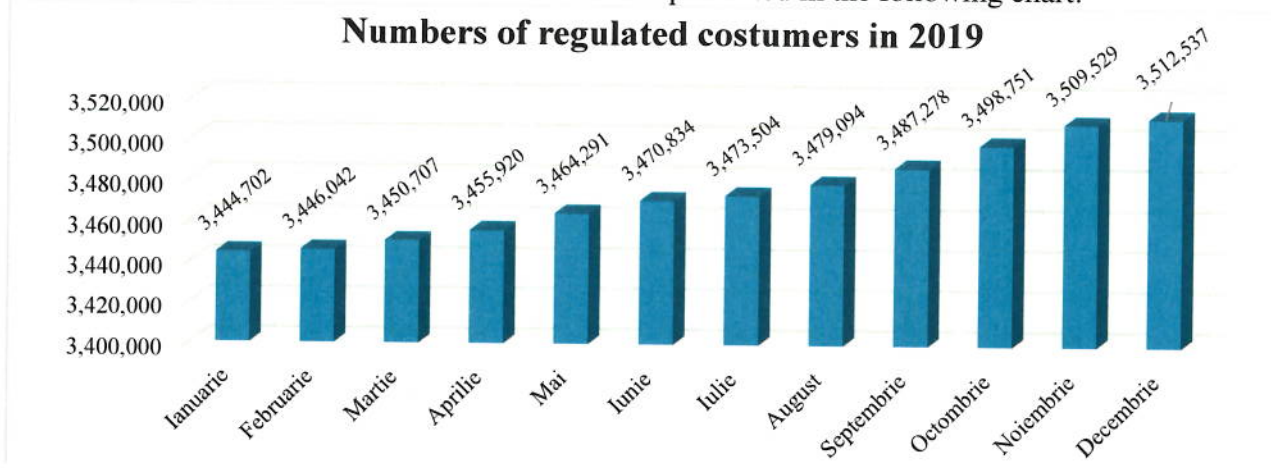
Customers connected to the NTS	B2 (annual consumption above 280,000.01 MWh)	86.77
Customers connected to the distribution system	C1 (annual consumption up to 280.00 MWh)	120.90
	C2 (annual consumption between 280.01 MWh and 2,800.00 MWh)	122.73
	C3 (annual consumption between 2,800.01 MWh and 28,000.00 MWh)	111.54
	C4 (annual consumption between 28,000.01 MWh and 280,000.00 MWh)	104.09
	C5 (annual consumption above 280,000.01 MWh)	79.56

## Regulated retail market

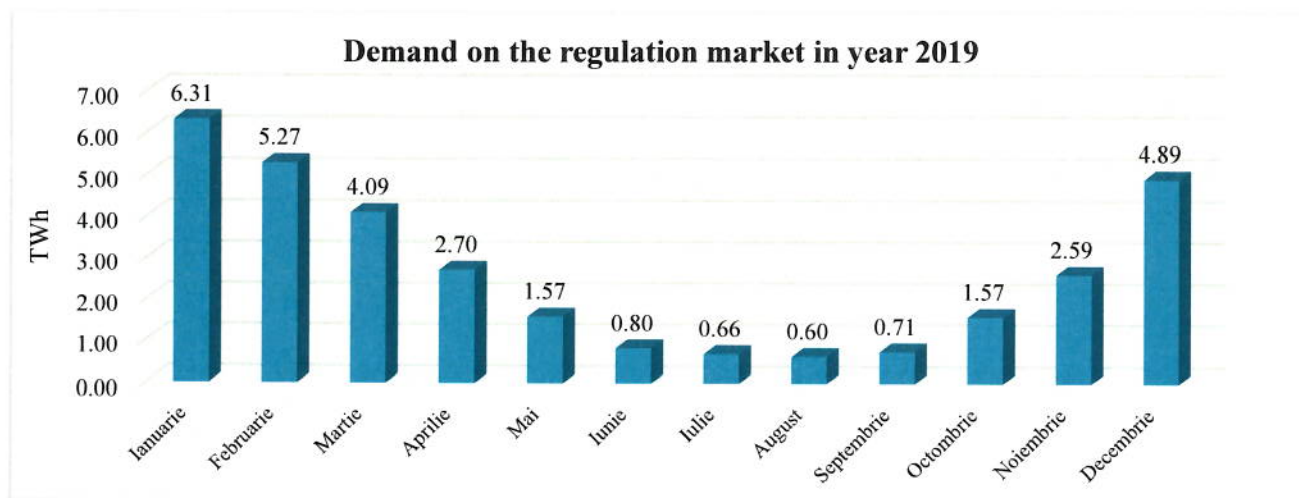
In year 2019, on the regulated market of natural gas they were active 34 suppliers, whose market shares are presented in the following chart:



The total number of regulated customers in December 2019 was 3,512,537, representing only household customers and their evolution in 2019 is presented in the following chart:

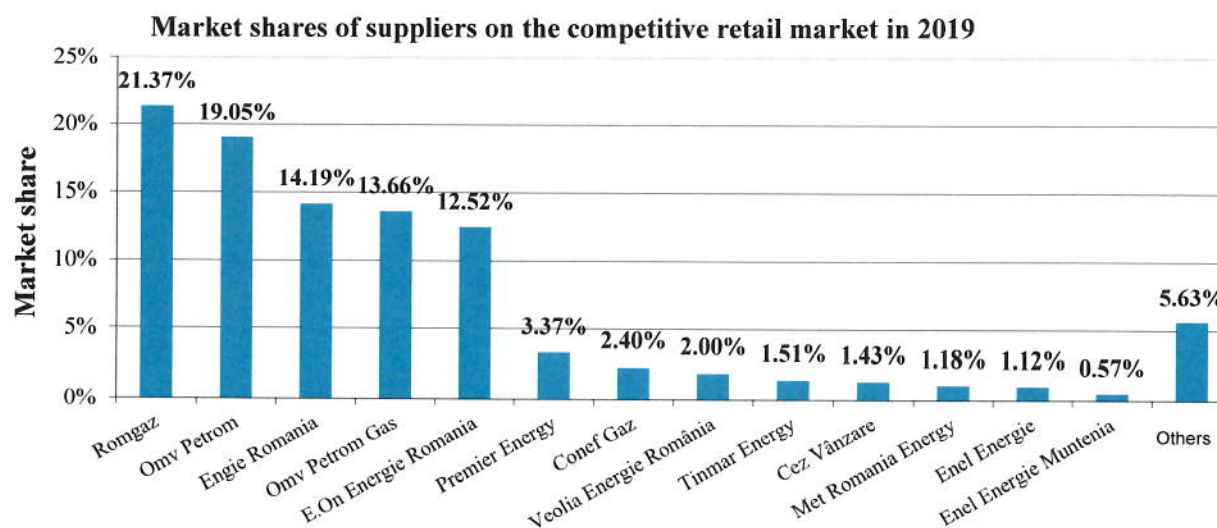


The demand of regulated customers in year 2019 has been of approximately 31.75TWh and it developed according to the following chart:



### Competitive retail market

In 2019 on the competitive retail market of natural gas they were active 71 suppliers, whose market shares are presented in the following chart:



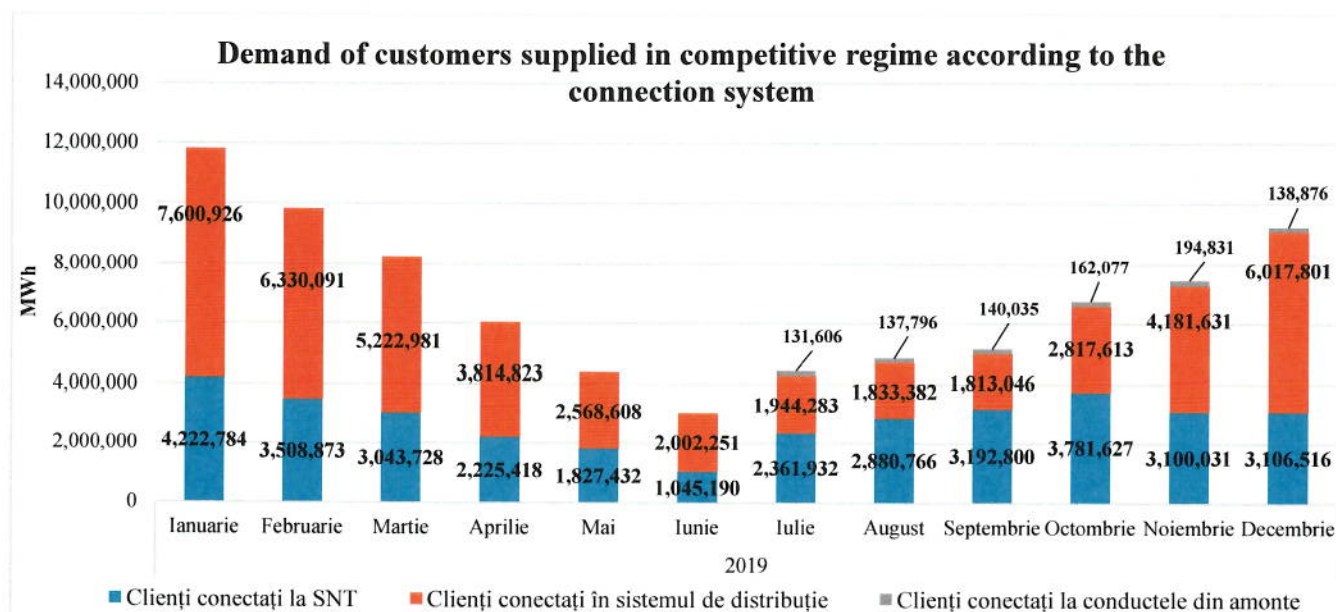
\* The category of others comprises 58 suppliers who hold a market share under 0.5% of the total deliveries on the wholesale market

The total demand of customers supplied in a competitive regime in year 2019 has been of 81,349,751.867 MWh.

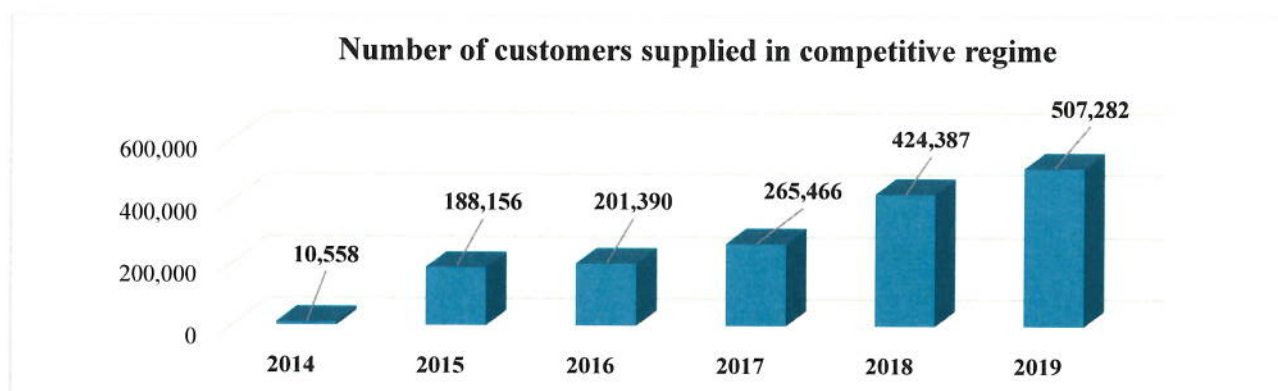
Analysing the following chart, which presents the monthly evolution of the demand for natural gas from the end customers supplied in a competitive regime in year 2019, highlighted separately according to the type of connection, more precisely, in the National Transmission System, the Distribution Systems and the Upstream Pipes, it can be noticed a smaller variation in the demand of costumers connected in the NTS and in the Upstream Pipes, compared to the one registered by the customers connected in the Distribution Systems.

We mention that out of the total number of customers connected in the NTS, the highest share of the demand corresponding to them is held by the industrial customers and a smaller share is held by other non-household customers who carry out economic activities.

It can be noticed a higher variation in the demand for natural gas corresponding to the customers connected in the Distribution Systems compared to the other connection systems, and this is due to the larger number of customers connected in the distribution systems, who include household and non-household customers, the latter including industrial customers and other non-household customers who carry out commercial, professional and social activities.



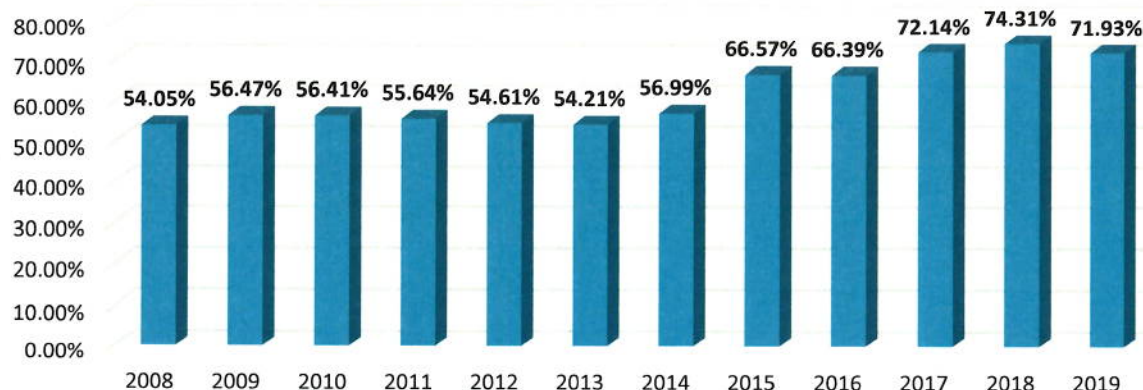
The total number of customers supplied in competitive regime in the month of December 2019 was 507,282. Being given that on the date of 1 January 2015, the internal market of natural gas has been liberalized entirely for non-household customers, in accordance with the provisions of art. 179 para. (2) letter a) of Law no. 2012/123 on electricity and natural gas, as further amended and completed, the total number of these customers increased steadily compared to the year prior to the liberalization, 2014. We present an annual evolution of their number, from that moment to date:



In year 2019 it is noticed a decrease with 2.38 percentage points of the real degree of opening of the natural gas market compared to year 2018 that reached to approximately 74% of the total demand of end customers.

The evolution of the annual degree of opening of the internal market of natural gas is presented in the following chart:

### Annual degree of opening of the internal market in the period 2008-2019



\* Ponderea clientilor finali pe piata eligibila raportata la consumul total al clientilor finali, care cuprinde inclusiv "citirea pe firul apei" a clientilor casnici, ce prevede regularizari trimestriale cu consumurile efective

\* on 1 January 2015 it has been removed the regulated price for all of the non-household end customers from the natural gas market

Retail market indicators (household)	2019
Demand (TWh)	34.196
Number of customers	3800245
Number of active suppliers	59
Market share of the first 3 suppliers by metering points (%)	96.27
Number of suppliers with a market share >5%	2
Rate of change of the supplier (metering points) (%)	2.93
Legal time for the change of the supplier	15
HHI by metering points	3779.67

Retail market indicators (non-household)	2019
Demand (TWh)	77.44
Number of customers	219574
Number of active suppliers	70
Market share of the first 3 suppliers by volume (%)	71.54
Number of suppliers with a market share >5%	5
Rate of change of the supplier – eligible volume (%)	20.74
Legal time for the change of the supplier	15
HHI by volumes	1498.018

## 7. CONSUMER PROTECTION AND DISPUTE SETTLEMENT

In accordance with the provisions of the **ANRE Order no. 2016/29 for the approval of the Regulation on the supply of natural gas to end customers**, as further amended and completed, each operator has the obligation to insert the demand facility codes (DFC) in its database of information related to the demand facilities from the own zone covered by the license for operation.

Based on identification data of the end customer/ supplier and the DFC/ address of the demand facility, the operator must ensure the free access, under conditions of security and privacy, to the demand data registered at least for the past 36 calendar months or for the period between the



conclusion of the first contract for the supply of natural gas for the said demand facility, if the latter is smaller, as follows:

- a) the end customer has access only to the data related to the own demand facility/facilities;
- b) the supplier has access only to the data related to the demand facility/facilities for which it has concluded with the said end customer a contract/some contracts in force for the supply of natural gas;
- c) any other supplier of natural gas, different from the current supplier, or a supplier of power services has access only if it presents the written consent of the end customer by which the latter delegates to the supplier the right of access to the data related to own demand facilities.

The operator has the obligation to put at the disposal of the end customer who has mounted at the demand facility a smart meter of demand data detailed according to the period of use for each day, week, month and year. This data is put at the disposal of the end customer by means of a web application or a meter interface, for a period of at least 24 prior months or for the period between the start date of the contract for the supply of natural gas or the mounting date of the smart meter, if the latter are dated maximum 24 months ago.

Starting from the date of 1 January 2018, by inserting the DFC, the demand data of that demand facility, as well as any other information related to it contained by the database of the operator, according to the legislation in force, will be possible to access by means of a secured web application, the link of which will be posted on the web page of the operator; the web application must allow the transfer of this data by means of a standard electronic format such as Excel or a machine-readable format such as XML.

### **Information provided in the invoice for the supply of natural gas**

In accordance with the provisions of the **ANRE Order 2016/29 for the approval of the Regulation on the supply of natural gas to end customers**, as further amended and completed, the supplier has the obligation to issue invoices with correct, transparent, clear, complete, legible and easy to understand information, aimed to provide end customers with the possibility to adjust their own demand and compare the commercial conditions for the supply of natural gas.

In the invoice and/ or in the documents attached to it they are included the following types of information:

- a) priority information that provide the end customer with all of the elements necessary to understand the manner in which it is invoiced the demand for natural gas, expressed in power units, and how much it must pay for this demand;
- b) additional information that do not refer to invoicing, but can be useful to the end customer throughout the implementation of the contract for the supply of natural gas;
- c) information regarding invoicing that gives the end customer, periodically, a comprehensive perspective on the effective demand and the actual cost of natural gas, to be able to adjust its own demand.

The supplier must include in the invoice issued to the end customers for the demand facility, on the first or second page of the invoice, at least the following priority information:

- a) the identification and contact data of the supplier;

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- b) the identification data of the end customer, the address of the demand facility and the invoice address, in case it is different from the address of the demand facility;
  - c) the customer code attributed to the supplier;
  - d) the demand facility code attributed to the operator - DFC,
  - e) the issuance number and date of the invoice;
  - f) the start date and the end date of the invoicing period;
  - g) the due date for payment;
  - h) the name of the products/ services invoiced, as the case may be, and their measuring units;
  - i) the unit price for the supply of natural gas, expressed in RON/MWh or RON/kWh, and the unit price/ tariffs/ fees applied for each product/ service which is invoiced separately besides the supply of natural gas, not being included in the unit price for the supply, as the case may be;
  - j) the type of unit price for the supply of natural gas (fixed/ variable);
  - k) the components included in the unit price for the supply of natural gas, with the mention of the regulated ones or a reference with regard to the place where it can be found their detailed descriptions;
  - l) the value to be paid for each product/ service invoiced;
  - m) the period of time and the method/s by which the customer may send the index of the metering equipment determined by self-reading, in case of the end customer at which the period of reading by the operator is longer than the invoicing period;
  - n) the index of the metering equipment used at the beginning and the end of the invoicing period for the determination of the amount of natural gas, expressed in m<sup>3</sup>; in case of the end customer at which the period of reading by the operator is longer than the invoicing period it will be mentioned the method by which the index has been determined, respectively reading by the operator/ self-reading by the end customer/ estimation on the basis of the convention for consumption;
  - o) amount of natural gas, expressed in m<sup>3</sup> corresponding to the invoicing period;
  - p) the upper calorific value corresponding to the invoicing period;
  - q) the amount of power expressed in MWh/kWh, representing the invoiced demand for natural gas;
  - r) the method of conversion of the amount of natural gas, expressed in m<sup>3</sup>, in the amount of power, expressed in MWh/kWh;
  - s) the information related to the excise duty applied on natural gas;
  - ș) the VAT value;
  - t) total value to be paid (VAT included);
  - ț) the methods to be used for the payment of the invoice;
  - u) the contact details of the customer service centre put at disposal by the supplier;
  - v) the telephone number put at disposal by the operator for the referral of the emergency situations with regard to the operation under safe conditions of the plants of the final customers or of the operator

In the situation in which the final customer does not pay an invoice within the due term, the subsequent invoice/s must comprise information on the previous debit not paid at the time of the issuance of the invoice and the meaning of each obligation of payment included in the invoice.

The supplier must put at the disposal of the end customers by means of the invoice and/ or the documents attached to it at least the following additional information:

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- a) information regarding the right of the end customer to change the supplier, free of charge, in compliance with the contractual conditions, according to the procedure approved by ANRE, with the mention that the “List of economic operators, holders of a license for the supply of natural gas” is published on the internet page of the ANRE;
  - b) information regarding the methods of transmission of the complaints by the end customers, as well as regarding the options they have in case they are not pleased with the settlement method of the complaints by the supplier, according to the framework-procedure on the obligation of the supplier to settle the complaints of the end customers, approved by ANRE;
  - c) information regarding the measures that the supplier is entitled to take, according to the concluded contract for the supply of natural gas, in the situation in which the end customer does not pay the invoice within the due term;
  - d) information regarding the right of the end customer to benefit from a minimum level of quality of the activity of supply and of the services corresponding to the supply of natural gas, the non-observance of which entails the payment by the supplier of the said service/ activity of a penalty/ compensation to the affected end customers, according to the performance standards approved by ANRE;
  - e) any other information provided by the legislation in force that the supplier is bound to put at the disposal of the end customer by means of the invoice and/ or the documents attached to it.

Additionally to the information provided above, the supplier shall put at the disposal of the household customers, by means of the invoice and/or documents attached to it, information related to the type of facilities put at disposal by the supplier to vulnerable customers or a reference with regard to the place where they can be consulted.

The supplier must put at the disposal of the end customers by means of the invoice and/ or documents attached to it at least the following information related to invoicing:

- a) the actual price and the real demand for natural gas;
- b) comparisons between the actual demand of the end customer and the demand corresponding to the same period of the previous year, in so far as this information is available, preferably in graphic form;
- c) information on the concept of power efficiency, respectively the contact details of some institutions with duties in the power sector, from where the end customers may obtain information with regard to the available measures of improvement of power efficiency, the profiles of reference regarding the individual consumption, and other technical specifications of power devices that can contribute to the reduction of the demand.

The information related to invoicing provided above is transmitted to the end customer by the supplier, at least every 6 months.

By derogation from the above provisions, the previous information related to invoicing is sent to the end customer by the supplier, at least quarterly, at the request of the end customer or in case the end customers have opted for the electronic invoice.

In case that the period for the reading of the index of the metering equipment by the operator exceeds the invoicing period, the supplier shall include in the invoice by which it settles the period comprised between two readings, additionally to the previous information, the following information:

- a) the clear indication that it is an invoice for settlement;
- b) the period for which the settlement is made;
- c) the index of the metering equipment determined by the operator by reading at the beginning and at the end of the period for which the settlement is made;
- d) the amount of natural gas expressed in m<sup>3</sup> demanded effectively in the period for which the settlement is made;
- e) the average upper calorific value of the period for which the settlement is made, calculated as the arithmetic mean of the upper calorific values for each day from the settlement period;
- f) the amount of power, expressed in MWh/kWh, representing the actual demand for natural gas made in the period for which the settlement is carried out;
- g) the amount of power, expressed in MWh/kWh representing the invoiced demand for natural gas in the period between the readings of the operator;
- h) the debit/credit balance at the end of the period for which the settlement is made, calculated on the basis of the difference between the actual demand and the invoiced demand in the period between the readings of the operator, respectively the amount that the end customer still has to pay to the supplier or the amount owed by the supplier to the end customer following the settlement carried out, as the case may be.

### Performance indicators for the activity of supply of natural gas

The performance standard for the activity of supply of natural gas (referred to hereinafter as the *Standard*), approved by ANRE President Order no. 2007/37, rules the quality of the activity of supply of natural gas, establishing:

- the performance indicators that characterize the quality of the activity of supply;
- the minimum levels of the guaranteed performance indicators;
- the compensations that the suppliers of natural gas pay to end customers in case of the failure to observe the levels of guaranteed performance indicators.

The guaranteed performance indicators, the conditions that must be met, as well as the compensations that the suppliers of natural gas have the obligation to pay automatically to the solicitors/ end customers, according to the provisions of the *Standard* are the following:

Line no.	Guaranteed performance indicators	Penalties	
1.	GPII – Contracting natural gas	Exceedance of the 15-day term from the acceptance date of the request	RON 30
		each additional day	RON 5

2.	<b>GPI2</b> – Requests regarding invoices	Exceedance of the 15-day term from the acceptance date of the request	RON 30
		each additional day	RON 5
3.	<b>GPI3</b> – Quality of natural gas	Exceedance of the 15-day term from the acceptance date of the request	RON 50
		each additional day	RON 10
4.	<b>GPI4</b> – Requests regarding metering	Exceedance of the 15-day term from the acceptance date of the request	RON 30
		each additional day	RON 5
5.	<b>GPI5</b> – Penalties owed for the failure to observe the obligations of payment of the supplier	Exceedance of the 20-day term from the date on which the obligations of the supplier have become due	RON 150

ANRE monitored the achievement of the guaranteed performance indicators – GPI based on the reports of the suppliers of natural gas, in the period 01.01.2019 – 31.12.2019 being registered a total number of 576,379 of requests of end customers, according to the following table:

Guaranteed performance indicator	Number of requests received		Number of requests solved within the terms imposed through the GPI		Number of solicitors/ end customers to whom they have been paid penalties		Amount of paid penalties (RON)	
	household	non-household	household	non-household	household	non-household	household	non-household
<b>IPG1-</b> Contracting natural gas	411,040	74,058	411,036	74,058	4	0	530	0
<b>IPG2-</b> Request regarding invoices	70,114	14,535	69,436	14,449	678	86	373,775	43,660
<b>IPG3-</b> Quality of natural gas	118	35	118	35	0	0	0	0
<b>IPG4-</b> Requests regarding metering	5,684	792	5,684	792	0	0	0	0
<b>IPG5-</b> Penalties owed for the failure to observe the obligations of payment of the supplier	3	0	0	0	3	0	450	0
<b>Total</b>	<b>486,959</b>	<b>89,420</b>	<b>486,274</b>	<b>89,334</b>	<b>685</b>	<b>86</b>	<b>374,755</b>	<b>43,660</b>

From the analysis of the information sent by the suppliers of natural gas, it has been found the fact that for the failure to comply with the guaranteed performance indicators, in year 2019, the suppliers of natural gas have paid penalties to 685 household customers and 86 non-household customers, in a total value of RON 418,415, as follows:

- for the failure to comply with the GPI 1 - *Contracting natural gas*, they have been paid penalties to 4 household customers, in a total value of RON 530;

- for the failure to comply with the GPI 2 - *Requests regarding invoices*, they have been paid penalties to 678 household customers and 86 non-household customers, in a total value RON 417,435
- for the failure to comply with the GPI 5 – *Penalties owed for the failure to observe the obligations of payment of the supplier*, they have been paid penalties to 3 household customers in value of RON 450.

The degree of achievement by the suppliers of natural gas of the guaranteed performance indicators in year 2019, broken down by household customers and non-household customers, is illustrated in the following table:

Guaranteed performance indicator - GPI	Degree of achievement of the guarantee performance indicators %	
	household customers	non-household customer
<b>GPI1-</b> Contracting natural gas	99.999	100.000
<b>GPI2-</b> Requests regarding invoices	99.033	99.408
<b>GPI3-</b> Quality of natural gas	100.000	100.000
<b>GPI4-</b> Requests regarding metering	100.000	100.000
<b>GPI5-</b> Penalties owed for the failure to observe the obligations of payment of the supplier	0.000	-
<b>Total</b>	99.859	99.904

The performance indicators for the activity of supply of natural gas represent the quantitative and qualitative expression of the activity of a supplier of natural gas by reference to served end customers, with whom it is about to conclude a contract or with whom it keeps in touch to provide information, model offers or to manage complaints, as well as the manner of mediation of the relation with the system operator.

### Comparator of model offers for the supply of natural gas

The “Comparator of model offers for the supply of natural gas” can be accessed on the ANRE website at <http://www.anre.ro/ro/info-consumatori/comparator-oferte-tip-de-furnizare-a-gn> or in the “ANRE” application available free of charge on online app stores App Store and Google play.

This interactive web application is implemented following the provisions of art. 5 of ANRE Order no. 2014/106 on the methods of information of end customers by the suppliers of natural gas with regard to the commercial conditions for the supply of gas, that created the necessary premises for the Romanian Energy Regulatory Authority to create and put at the disposal of the interested persons an independent and non-commercial tool aimed to allow the comparison between the

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prices of supply and the conditions offered by the suppliers of natural gas, before selecting a certain supplier or a certain model offer.

According to this legal act, all of the suppliers of natural gas who elaborate and publish model offers by own means have the obligation to insert related information in the database of this application as well. At the same time, the suppliers have the obligation to insert in this database any new model offer and any change in the existing model offers within 5 working days from the date of its release or change.

The use of the Comparator is intuitive and very easy, in only two steps: the users choose the criteria of selection and they receive a list of model offers. From all of the model offers inserted by the suppliers in the database, the Comparator displays those that meet the criteria inserted by the user and it lists them in ascending order according to the price of supply of natural gas corresponding to each model offer.

When the results are displayed, users can find other relevant details on the offers, respectively some conditions associated to the model offer (payment term, method of transmission of the invoice, duration of the contract and information related to the solicited guarantees, as the case may be), as well as the validity period of the model offer. Additionally, the user has the possibility to insert some data for comparison purposes, respectively the price of supply from the actual contract and the annual demand, situation in which it is performed a comparison with its actual costs.

In 2019, the Comparator put at the disposal of the customers on the internet page of the ANRE has been accessed by a number of 50,244 users who spent an average time of approx. 3 minutes on it. From these, approximately 95% of the users were from Romania, and the rest of 5% from abroad, of which we recall 1.57% from Germany, 0.74% from Great Britain, 0.38% from France, 0.29% from Italy and 0.27 from the U.S.A.

Throughout year 2019, ANRE monitored the observance of the provisions of ANRE Order no. 2014/106, by monitoring the model offers inserted in the application by 93 suppliers of natural gas. In the monitoring process, ANRE monitored:

- the provision of the model offers by the suppliers at least to the end customers (household and non-household) with an annual demand of natural gas under or equal to 28,000 MWh;
- the validity of the model offers on the internet page of the supplier;
- the validity of the model offers inserted in the database of the application;
- the introduction in the application database of the model offers published on the internet page of the supplier;
- the observance of the minimum set of information that the model offer must contain.

If there have been found any non-conformities, they have been sent some notices to the said suppliers, with the request that they ensure the compliance of the model offers with the regulations in force.

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## **Activity of the commission for the settlement of the dispute from the wholesale and retail market occurred between the participants to the natural gas market**

The commission performs its activity on the basis of the provisions of the *Regulation on the*

*organization and operation of the commission for the settlement of the disputes from the wholesale and retail market occurred between the participants to the electricity and natural gas market*, approved by ANRE President Order no. 2013/61, as further completed. During 2019 there have been received 10 requests for dispute settlement occurred on the natural gas market. Following the analysis of the files and the completion of the stages for the settlement of the disputes, the Commission has rejected 2 files and it has issued 8 decisions (the last of them was issued in the month of December 2019).

In view of empowering the suppliers of natural gas to inform correctly, completely and precisely their own end customers, the ANRE established a unitary reporting system related to the performance of the activity of information of the end customers of the suppliers of natural gas, in order to allow a more rigorous monitoring of the fulfilment of the obligation to inform them. The monitoring is carried out according to the provisions of the **Regulation on the activity of information of the end customers of electricity and natural gas, approved by ANRE Order no. 2015/16.**

The activity of information provided for by the Regulation is carried out mainly through the following methods:

- the creation, maintenance and periodical update of own internet page;
- the elaboration and distribution of the information materials to costumers;
- written replies, on paper or by email, or by telephone to the questions of the end customers;
- publishing in the national and/ or local written mass-media;
- displaying materials at the unique points of contact, including at the regional/ local points of information.

In year 2019, the share of the suppliers of natural gas who have drawn up and forwarded to the ANRE reports on the activity of information of end customers, according to the model provided for by annex no. 2 of the Regulation was 100%.

From the reports received it results that the activity of information of costumers during 2019 has been performed as follows:

- The information of costumers through the national and/ or local written mass-media has been carried out in a share of 57% by the monitored holders of licenses for the supply of natural gas. From those with over 1,000 end customers, 63% performed the information of the customers through the national and/ or local written mass-media.
- 91% of the customers have been informed by means of the information materials distributed by the holders of licenses for the supply of natural gas.
- The information of the customers by means of the internet page has been made in a share of 98% of the monitored suppliers, the rest of 2% having the internet page in construction or incomplete. 12



- The most usual methods chosen by the suppliers for information purposes have been: the displaying on the website of the information (29%), the distribution of information materials at the points of customer service/ information departments (28%) and telephone discussions (27%).

- The suppliers have paid increased attention to the information on invoicing, the content of the invoice, the means and terms of payment, balances (32%), information on the applied tariffs (the offers) for the activity of supply of natural gas, information with regard to the campaigns of the economic operator (31%), information on the mandatory revision/ technical inspection (every 2 years) of the natural gas plant (14%), information on the procedure, stages and documents necessary for the process of change of the supplier of natural gas (12%) and information on the connection of a new demand facility, the permit of access, the design of plant (11%). Compared to year 2018, in 2019 it is noticed an increase in the frequency of the questions of the costumers with regard to invoicing, the content of the invoice, the means and terms of payment, the balances.

In year 2019 they have been registered and settled a number of **9948** petitions, filed by natural and legal persons who benefitted from/ solicited the services supplied by the economic operators from the electricity, natural gas and thermal power sectors. From the total number of petitions registered by ANRE in year 2019, in the natural gas sector there have been registered **3901** petitions.

The evolution of the number of petitions is presented in the following table:

Line no.	Sector / Year	2015	2016	2017	2018	2019
1	Natural gas	986	1689	2473	3497	3901

The petitions have been transmitted for analysis and settlement to the address of the ANRE, directly or indirectly, forwarded by means of other public institutions.

#### MAIN CATEGORIES OF PROBLEMS IDENTIFIED IN THE SETTLED PETITIONS IN THE NATURAL GAS SECTOR

LINE NO.	MAIN SIGNALLED PROBLEMS	NUMBER OF PETITIONS	[%]
1	Connection to the system	1406	36%
2	Contracting, invoicing, quality	1182	30.3%
3	Plants of use (verifications/ revisions, detectors)	882	22.6%
4	Change of supplier	150	3.9%
5	Metering	101	2.6%
6	Access to the system	51	1.3%

#### Activity of settlement of precontractual misunderstandings

In year 2019, in the natural gas sector they have been registered requests for the settlement of some misunderstandings occurred at the conclusion of the contracts of supply.

## 8. SECURITY OF NATURAL GAS SUPPLY

In accordance with the provisions of art. 102 of Law no. 2012/123 on electricity and natural gas, the ministry of resort monitors the aspects regarding the safety of the supply, especially regarding the demand/offer balance on the national market, at level of the future request foreseen and the available reserves, at the additional capacity considered, scheduled or in construction, at the quality and the level of maintenance of the networks, as well as the actions necessary to handle peak requests and the shortage of supply of one or several suppliers. In this respect, it publishes every 2 years, until 31 July, a report that highlights the findings resulted from the monitoring of these aspects, as well as any action takes or foreseen in view of approaching them, and it forwards this report immediately to the European Commission.

## 9. CONTROL ACTIVITY

**The activity of control** has been carried out on the basis of the duties established by the legislation in force and it has been carried out in accordance with the annual control programme, approved by the ANRE president, through the control action of the type of **inspection** and, **additionally**, by actions of control of the type of **verification** and **supervision**.

In year **2019** they have been performed a **total** number of **1652** actions of control, of which:

- **505** actions of control of the type of **inspection**, carried out according to the **annual control programme**;
- **192** actions of control of the type of **verification**, carried out for the research/ analysis of some referrals received from third parties, of some referrals ex officio, as well as of some requests/ referrals received from the departments of the ANRE;
- **955** actions of control of the type of **supervision**, carried out in order to find the manner in which natural/legal persons fulfil their duties and legal responsibilities, dealt with continuously by the departments of ANRE, in the fulfilment of their specific duties, based on documents, data and information.

The themes of the actions of control carried out by the holders of licenses in the electricity and natural gas sectors, consisted mainly of the verification of the manner in which they have been observed the legal provisions in force with regard to:

- the responsibilities of the holders of a license for the supply of the electricity transmission and distribution service in the organization of the activity of maintenance;
- the achievement of the objectives of the activity of maintenance in the electricity transmission and distribution sector;
- the elaboration/ execution of the investment plans by the participants to the electricity market;
- the ensuring of the works of maintenance of the objectives corresponding to the National Power System;
- the verification of the performance of the commercial balancing by the users of the natural gas transmission network between the amounts of natural gas supplied to the National Transmission System (NTS) and the amounts received from the NTS by the customers from the portfolio;
- the provision of the electricity by the producers to the competitive market;
- the compilation of the minimum stock of natural gas by the suppliers of natural gas and the transmission and system operator;
- the obligation to trade natural gas on the centralized markets;

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- the existence of the bilateral conventions concluded between the natural gas Transmission System Operator and the producers of natural gas;
  - the obligation of the natural gas producers to observe the technological parameters corresponding to the physical points of entry/ exit in/ from the National Transmission
- System of natural gas;
  - the mounting of natural gas detectors;
  - the obligation to buy green certificates;
  - the obligation of power suppliers to constitute financial guarantees;
  - the performance indicators established through the performance standards for the electricity and natural gas distribution services, for the activities of supply of electricity and natural gas, for the electricity and natural gas transmission and system service;
  - the update of the technical characteristics of the natural gas distribution systems;
  - the activity of maintenance carried out by the producers of electricity;
  - the resale of electricity;
  - the connection to public power networks;
  - the connection to the natural gas distribution system;
  - the access to the natural gas transmission and distribution system;
  - the certification of the compliance of wind and/or photovoltaic electric plants;
  - the consistency between the technical characteristics existing in the field of main equipment that compose the electric plants accredited for the generation of electricity from renewable sources of power;
  - the design, verification, execution, acceptance and commissioning of the plants for the use of natural gas;
  - the design, verification, execution, acceptance and commissioning of electric plants;
  - the observance of the validity conditions of owned certificates and permits;
  - the energy efficiency of large power consumers;
  - the efficiency and power labelling for the placing on the market of the electric devices.

Following the actions of control carried out, in year 2019 they have been drawn up 840 reports of findings and sanctioning of contraventions (412 in the electricity sector, 357 in the natural gas sector, 3 in the thermal power sector and 70 in the energy efficiency sector) being applied for the irregularities found a number of **1601** civil sanctions, distributed as follows:

- **943** in the electricity sector;
- **565** in the natural gas sector;
- **13** in the thermal power sector;
- **80** in the energy efficiency sector.

Through the reports of findings and civil sanctions they have been applied fines in a total amount of **RON 24,427,300.37**.

From the total of 840 reports of findings and civil sanctions, 16 have been applied to natural persons and 824 have been applied to economic agents.

The distribution method of civil sanctions and the amount of the fines applied is highlighted in the following table.

<b>Distribution of the sanctions by types of economic operators</b>		
<b>Type of economic operator</b>	<b>Total number of sanctions applied</b>	<b>Total amount of fines applied (RON)</b>
Licensed for EE	901	13,582,018.54
Licensed for NG	508	9,930,164.53
Certified for EE	17	135,000.00
Authorized for NG	55	495,000.00
Accredited for CV	13	0
Thermal power	13	70,000.00
Energy efficiency	80	116,117.30
Other EE (natural person, authorized natural person, Developers, DO)	12	79,000.00
Other NG (natural person, authorized natural person, Developers, DO)	2	20,000.00
<b>Total</b>	<b>1601</b>	<b>24,427,300.37</b>

The main facts committed by the persons subject to the actions of control, for whom they have been applied civil sanctions in year 2018, consisted of the non-compliance with the legal provisions related to:

- the obligation of the users of the natural gas transmission network to ensure the commercial balancing between the amounts of natural gas supplied to the National Transmission System (NTS) and the amounts received from the NTS by the customers from the portfolio;
- the existence of bilateral conventions concluded between the natural gas Transmission System Operator and the producers of natural gas;
- the legal obligation to ensure the operation of the stations of adjustment-metering-delivery, of take-over of natural gas from the upstream supply pipes, corresponding to the physical points of supply to the National Transmission System of natural gas;
- the obligation of the producers of natural gas to observe the technological parameters corresponding to the physical points of entry/exit in/from the National Transmission System of natural gas;
- the invoicing of the consumption of natural gas at the end customers;
- the obligation to perform the works of maintenance of the electricity network of transmission;
- the obligation to observe and apply (execute) the development (investment) plan of the electricity network of transmission;
- the activity of maintenance carried out by the producers of electricity;
- the non-fulfilment of the obligations of the suppliers in the process of change of the supplier of electricity;
- the obligation to purchase natural gas for the end customers from the portfolio;
- the mounting of natural gas detectors;
- the obligation to provide financial guarantees to the suppliers of power;

- the performance of the commercial activities without holding a license, in accordance with the legislation in force;
- the obligation to buy/ pay the consideration of the green certificates not purchased by the economic operators licensed in the electricity sector;
- the provision of financial guarantees by the suppliers of power for the payment of the consideration for the service of distribution of electricity;
- the performance indicators established through the performance standards for the services of distribution of electricity and natural gas, for the activities of supply of electricity and natural gas, for the service electricity and natural gas transmission and system;
- the access to the natural gas distribution systems;
- the connection to the electricity networks of interest;
- the connection to the natural gas distribution system;
- the design, verification, execution, acceptance and commissioning of the plants for the use of natural gas;
- the supply of electricity to household end customers, using the electricity plants executed for the connection of the site organization;
- the transmission of the activity reports by the economic operators authorised in the natural gas sector;
- the non-observance of the submission term for the technical documentation in view of obtaining the authorizations for the execution of the works of connection to the natural gas distribution system;
- the design, verification, execution, acceptance and commissioning of electricity plants;
- the elaboration and transmission of activity and information reports addressed to costumers;
- the energy efficiency of large power consumers.

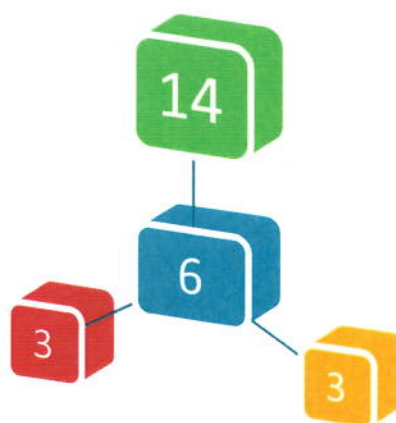
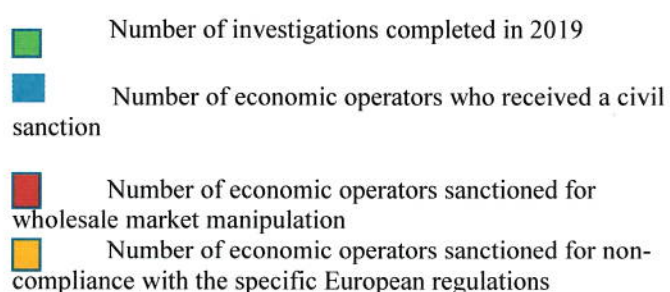
## 10. INVESTIGATIONS

The activity of investigations is carried out on the basis of the provisions of art. 9 para. (1) letters y) and z), as well as of art. 10 para. (1) letter b) and para. (6) letter d) of Government Emergency Ordinance no. 2007/33 on the organization and operation of the Romanian Energy Regulatory Authority, approved with amendments and completions by Law no. 2012/160, as further amended and completed, respectively of the provisions of art. 84 and art. 183 of *Law no. 2012/123 on electricity and natural gas (Law)*, as further amended and completed.

In year 2019, ANRE completed a number of 14 investigations at the producers and suppliers of electricity and natural gas, holders of license, who perform activities on the wholesale power market, 8 of them being initiated in 2018. The purpose of the investigation carried out by ANRE consists of verifying if the participants to the wholesale market of power comply with the provisions of the *Regulation (EU) no. 2011/1227 of the European Parliament and the Council from 25 October 2011 on the integrity and transparency of the wholesale market of power (REMIT)*, as well as of other specific European regulations.

Following the 14 actions of completed investigation, ANRE sanctioned 6 participants to the wholesale market of power, for the electricity sector, with fines in a total amount of RON 4,400,000. These economic operators have been sanctioned for the failure to observe the following provisions:

- a) art. 5 of the REMIT; the economic operators performed on the electricity wholesale market, transactions qualified as “*market manipulation*”, being intended to offer false or misleading indications with regard to the “*offer, request or price of wholesale power products*”, according to the provisions of art. 2 point 2 letter a) subpoint i) of the before-mentioned legal act; such transactions contribute to the increase in the price incurred by the end customer, who is therefore prejudiced;
- b) art. 15 of the Regulation (EC) no. 2009/714 of the European Parliament and the Council from 13 July 2009, in conjunction with the provisions of Regulation (EU) no. 2013/543 of the Commission from 14 June 2013; the economic operators have not fulfilled the obligation to publish and send in a timely manner the privileged information owed to the operational request for withdrawal from operation of the power equipment, creating an imbalance at level of the operation of the National Power System, being affected the reserves necessary for its operation in conditions of safety and inducing the risk to not be ensured the amounts of power necessary for the supplier of electricity for end customers.



At present, the contraventions found by ANRE, due to the violation of the provisions of art. 5 of the *REMIT*, according to which “*It is forbidden the manipulation or the attempt of manipulation of the market on the wholesale market of power*”, as well as of the provisions of the European regulations, are sanctioned for the electricity sector, according to the provisions of art. 93 para. (2) point 2 letter c) of the *Law*, with a fine from RON 20,000 to RON 400,000, respectively for the natural gas sector, according to the provisions of art. 195 para. (1) point 2 letter d) of the same legal act, with a fine from RON 100,000 to RON 500,000.